Seattle Public Utilities

Combined Meeting of Water System Advisory Committee (WSAC)
And Creeks, Drainage, and Wastewater Advisory Committee (CDWAC)
September 9, 2015 Meeting Notes
Seattle Municipal Tower, 700 Fifth Avenue
Room 4901
5:30 pm – 7:30 pm

Committee Members & CAC Staff	Present?	SPU Staff & Guests	Role
WSAC		Alex Chen	SPU Water Planning and Program Manager
Tom Grant	Y	Julie Crittenden	Interim DWW Planning & Program Manager
Jessy Hardy	N	Madeline Goddard	SPU Drainage and Wastewater Deputy Director
Chelsea Jefferson	N	Tracy Tackett	SPU DWW GSI Program Manager
Kelly McCaffrey	Y	Clifford Armstrong	Guest
Kyle Stetler	Y	Chris Clark	Guest
Rodney Schauf	Y	Patrick Jablonski	Guest
		Evan Osborne	Guest
CDWAC			
Kendra Aguilar	N		
Marilyn Baylor	y		
Suzie Burke	Y		
C'Ardiss Gardner Gleser	N		
Schyler Hect	Y		
Kaifu Lam	Y		
Seth McKinney	Y		
Noel Miller	Y		
Devin O'Reilly	Y		
Heidi Fischer, CAC Program Support	Y		
Joan Kersnar, WSAC Policy Liaison	N		
Sheryl Shapiro, CDWAC Policy Liaison and CAC Program Manager	Y		

Action Items:

- ✓ Rodney will share some information he has about the worldwide water situation with the group.
- ✓ Sheryl will send out a list of outreach opportunities to the group.
- ✓ Sheryl will get more information about field trip possibilities and be in touch with the group over email.

Regular Business

- Committee Members, SPU staff, and guests introduced themselves.
- CDWAC/WSAC August meeting notes are approved.

Water Supply Update, Alex Chen, SPU Water Planning and Program Manager

Alex began by passing out copies of the 9/9/15 SPU news release on the water supply.

- There are four stages in water curtailment employed in a drought: advisory, voluntary, mandatory, and emergency.
    - It's been four weeks since we moved to the voluntary phase of water use reduction.
    - Customers were asked to reduce their water usage by 10%.
    - The news release explains that that we have exceeded that goal. Along with the Tacoma and Everett water districts, we have reduced water usage by 14%, saving 1.2 billion gallons of water. Seattle alone reduced usage by 700 million gallons of water.
- Alex showed four graphs that can be found each week on the SPU website at (latest version): http://www.seattle.gov/util/cs/groups/public/@spu/@water/documents/webcontent/spu01_005041.pdf
    - The graphs show the Seattle water service area's cumulative precipitation, snowpack, combined reservoir storage, and the average 7-day water consumption.
    - The information is updated every week.
    - There are three seasons in water management;
        - From October to March is usually flood season, so we try to keep storage in the reservoirs down to make room for water to mitigate flooding.
        - We start to get less rain in March and April, so that begins refill season, which goes until the summer.
        - Summer is drawdown season, when we use more of the stored water for people and fish.
    - With regard to the graph showing combined reservoir storage, the blue line represents average water storage from 1984-2014, the green line represents water storage over 2014, and the red line represents water storage in this year, 2015.
        - You can see that in 2015, water storage dropped earlier and lower than in 2014 and compared to the average of 1984-2014.
        - Now we can see that the red line is leveling out.
            - We've saved some water with the voluntary reductions that customers are making.

- Another reason the red line has leveled out is that on one river, required summertime flows for fish are less than spring and fall flows. We did receive 5.5 inches of rain in the Cedar River over a 10 day period.
    - This is helpful but not enough to return us to our seasonal storage average, so we are still asking people to save water.
    - Now that we are moving into fall, less water is being used for outdoor irrigation.
    - We are asking people to use water saving practices indoors. The recent press release has some ideas:
        - Encourage reduced showering times at your facilities
        - Serve water only on request
        - Check for and fix leaks
        - Wash only full loads of laundry and dishes
        - Provide new towels only on request
        - Check cooling towers for overflow and excessive blowdown
        - If purchasing fixtures/equipment, choose water-efficient models

❖ Committee Member Question: With regard to the up spikes for 2014 on the graph showing combined reservoir storage, are those increases the result of a storm event or a choice to retain more water?

➢ Answer: What are not shown in this graph are the storage targets for each particular reservoir. A number of factors influence those. The spikes representing increases in the combined reservoir storage could be due to a combination of factors at different reservoirs. Depending on conditions, storms that result in a sudden rise in reservoir storage may require us to purposely reduce water storage at some reservoirs.

❖ Committee Member Question: Do we always fill the reservoirs back up in the spring?

➢ Answer: The target date for having the reservoirs refilled is early June. The target for reservoir elevations in fall and winter is less (because we are usually in flood season, and want to leave room in the reservoirs to mitigate flooding). Every year we plan to fill the reservoirs by the beginning of summer, but we haven't achieved that every year. We didn't meet that goal in 1992. The weather was quite dry and we were using different operational guidelines, so we had to go to the mandatory phase of water use reduction in May, and we stayed in that phase through October until the fall rains returned. This year we planned for low snow pack and filled the reservoirs with rain, but the historically hot and dry summer months resulted in more water usage than normal, driving down our reservoir storage. August has brought more typical weather conditions. It's possible that we'll move quickly into flood control season, depending on the timing of return of fall rains.

- ❖ Committee Member Question: I recently saw an article about melting glaciers in the Cascade Mountains. Do we have glaciers that feed the Seattle watershed?
- ➢ Answer: No. However, the melting glaciers are tied to climate change, which does affect our watershed. We've done climate studies to determine weather models and to explore when we might need an additional water supply for the region. In 2007 in we ran three climate models. Now, we are in the process of running 40 climate models, which we should finish sometime next year.

- Kyle Stetler, chair of WSAC, then gave a brief update on the Water Shortage Advisory Group (WSAG), the recently convened committee of which he is a member.
    - WSAG's Members are comprised of a diverse group of stakeholders, including nurseries, the Department of Ecology, the Department of Fish and Wildlife, the Army Corps of Engineers, and tribes.
    - At the last meeting there was lots of discussion about long term conservation.
    - There was also discussion about messaging to maintain the recently achieved 10% water use reduction.
        - SPU has updated the messaging in their recent notices.
            - They are changing the focus from outdoor water use conservation to indoor water use conservation due to the changing season.

Drainage and Wastewater LOB Updates, Madeline Goddard, SPU Drainage and Wastewater Deputy Director

- Madeline began by sharing some information about her professional experience.
    - She has been working in drainage and wastewater for over 30 years.
    - Most recently, she was in charge of operations and engineering for the city of New Orleans.
    - Before that, she spent 18 years with the city of Phoenix.
- Madeline referred to power point slides on the recent Lake Washington dry weather sewer overflow, the topic of her presentation today.
    - She would like feedback about this presentation from Committee Members.
- On August 26, about 12,000 gallons from an underground sewage tank flooded into Lake Washington.
    - The storage tank in question has two gates.
        - One of these is normally open, so that storm water and sewage can flow in and out to the treatment plant.
    - Crews shut off a nearby PLC (electronics) cabinet to relocate it for the Genesee Combined Sewer Overflow Project. The cabinet had been overheating.
    - But when crews shut off the PLC cabinet, programming caused the storage tank's open gate to close.
    - Sewage then backed up and went out the overflow outfall into the lake.

    - Crews did not know the programming would cause the gate to close because the engineering diagram inside the PLC cabinet was not up to date.
- The spill began at 9:15am when the gate closed.
    - We have automatic monitors at the outfall and ADS, our vendor received an alarm at 9:40am.
    - SPU's Operations Response Center was notified at 10:32am.
    - They sent a machinist who arrived at 10:57am and began work.
    - The machinist reopened the gate at 12:05pm.
    - Then we sent a spill response crew.
- Initial calculations indicated that 1200 gallons of sewage had spilled. However, when more comprehensive calculations were done by the engineering staff, we realized that 12,000 gallons had spilled.
- We experienced some delay in connecting with King County Public Health, but got the Seward Park swimming beach closed by 3:45pm, and a news release out at 5:02pm.
    - SPU worked with the harbor patrol to make sure people on the beach and out in the waters were notified.
- We started sampling the water to determine whether it was safe for swimming.
    - Two consecutive days of good test results are required before the beach can reopen.
    - We had one day of good results, followed by one that indicated a problem at one of the sampling site near the outfall.
    - So we kept parts of the beach closed while we continued testing (total of five consecutive days) and confirmed good sampling results for two consecutive days.
- We learned a lot from this incident and plan to make improvements.
    - We need to get the correct set of diagrams in the PLC cabinet.
        - We have a project group working on this now, and another one to verify accuracy.
    - We are speaking with our alarm detection service about being notified faster when an alarm sounds.
    - Going forward, we plan to post information on these kinds of events immediately.
    - We're also working on getting the more comprehensive engineering calculations done faster.
    - We need to identify clear roles and responsibilities in the Incident Command System, clearly identify key stakeholders, and streamline internal and external communications.

❖ Committee Member Question: What is the process for getting in touch with King County Public Health?

➢ Answer: We contact them by telephone, but had some difficulty in connecting with the right staff.

❖ Committee Member Question: Why the delay in dispatching the spill response team?

- Answer: All incidents are initially handled by SPU's Operations Response Center (ORC). They sent out a work order when they were notified of the problem. We have three drainage and wastewater machinists, and one of them was sent out to investigate the problem.
    - One Committee Member commented that alarms are often not accurate.
    - Another Committee Member explained that in the hotel business, alarms always draw an immediate response, even though they may be inaccurate.

- Committee Member Question: How long would it take to open the gate manually?
- Answer: Crews had to disconnect the gate electronically before they could close it manually, which took longer than it should have. We will fix that.

- Committee Member Question: How often does an alarm like this go off?
- Answer: Often. Today Madeline was notified about five spills. Many things can set them off, including grease in the drain.

- Committee Member Question: What is King County Public Health's role in an incident like this?
- Answer: They have guidelines which we follow, some of which may need to be updated.

- Committee Member Question: Does SPU do drills on these kinds of incidents?
- Answer: These dry weather sewage overflows are very unusual, so we don't do drills on this specific kind of incident. When they occur, we follow established procedures.

- Committee Member Question: To whom will you be giving this presentation?
- Answer: Neighborhood groups.

- Committee Member Comment: With regard to the presentation itself, people may not know what a dry weather overflow is. You may want to say sewage or wastewater.

- Committee Member Comment: People may not know what the department designators are. Also, you may want to say "electronics cabinet" rather than "PLC".

- Committee Member Comment: The "What Was the Cause?" slides are good at communicating amid the complexity of the situation.

- Alex Chen, SPU Water Planning and Program Manager, suggested that it might be worth explaining why we tend to have more open pipes in the drainage system than we do in the drinking water supply system.

- Committee Member Comment: We used to have sewage overflows so much more often, before Metro was created to clean up Lake Washington. Now things are so much better.

- Committee Member Comment: It might be good to have a picture of what the gates look like.

Natural Drainage System Partnership: Project Site Selection and Weighing Criteria, Tracy Tackett, SPU DWW GSI Program Manager

- Tracy is here today to get CDWAC's and WSAC's input on how to prioritize criteria in deciding where to install green storm water infrastructure (GSI).
- She began by giving some background about GSI and referred to a power point presentation.
    - In about 1/3 of Seattle, polluted storm water runoff from the right-of-way discharges directly into creeks untreated and is eventually released into larger water bodies like Puget Sound, Lake Washington, and the Duwamish River.
    - Polluted storm water runoff is the greatest threat to water quality in our city and region, so addressing this issue is a high priority.
        - Among other things, storm water runoff is polluted with hydrocarbons, as well as heavy metals from car brakes.
    - As part of our Integrated Plan to Protect Seattle's Waterways, we're doing a number of things to address this problem:
        - Protecting and restoring forests and buffers near creeks
        - Removing pollutants from roadways via street sweeping
        - Enforcing environmental regulations
        - Building new and/or improved drainage infrastructure, including natural drainage systems, like green storm water infrastructure (GSI).
            - GSI helps to slow storm water runoff, allow it to soak in (infiltrate), get cleaned, and evaporate. As a result, more pollutants are kept out of waterways, and less storm water enters the drainage system, which helps to reduce sewage overflows.
- There are numerous factors to consider when deciding where to install GSI.
    - GSI requires a slope of 7% or less.
    - GSI needs space – desired areas are areas with a wide section for planting strip, few driveways and not too many trees.
    - GSI installation also consider existing utilities locations
    - A focus for selecting project blocks for installing GSI is in areas where there's an opportunity to improve the streetscape along with the GSI installation to achieve other city benefits, especially if the area has no sidewalks or formal drainage system).
- GSI has multiple community benefits.
    - Can add sidewalks along with GSI
    - Can provide better access for bikes and pedestrians
    - Can enhance a neighborhood's appearance
    - Can calm traffic
- Our current GSI program is focused on improving the water quality of our three major creek watersheds (Pipers Creek, Thornton Creek, and Longfellow Creek).

- The main goal is to improve water quality by reducing roadway pollutants. Reducing the actual volume of water that enters the drainage system is a secondary goal.
- We are considering a number of plans and goals in determining where in the creek watersheds GSI installation will yield the most benefits:
    - Neighborhood planning, multi-modal planning, and the Bike master Plan
    - Grassroots plans and grants
    - The Pedestrian Master Plan
    - Localized flooding where GSI could be a potential solution
- The goal is to install GSI on about 66 blocks.
- In considering where these blocks will be located, we are also considering:
    - The amount of polluted runoff that can be treated at a site
    - A site's ability to reduce volume of runoff (infiltration potential)
    - How much each possible site would cost and how much potential there is for cost sharing with other City departments (like the Seattle Department of Transportation) or community organizations
    - Whether installing GSI at a site would help meet the City's equity goals
    - Whether GSI installation could be installed along with other needed drainage infrastructure
    - Whether installing GSI at a site would provide multiple community benefits
    - How much neighbor support GSI installation has on blocks where it might be built

❖ Committee Member Comment: There are a couple of issues you want to tackle and different approaches for each. For each goal you might want to have a matrix of pros and cons.

➢ Response: Yes, when SPU evaluates a given D/WW problem we conduct an Options Analysis and establish pros and cons of solutions. This project, NDS partnering, is focused on providing water quality treatment.

❖ Committee Member Question: How did SPU decide on how many resources to put into this project? Why not 120 blocks? How does it relate to the Consent Decree?

➢ Answer: The Consent Decree is an agreement that the City of Seattle entered into with the United States Environmental Protection Agency, the U.S. Department of Justice, and the Washington State Department of Ecology to reduce sewer overflows (from the sanitary sewer system and from storm water) into Seattle's receiving water bodies and to improve water quality.

Cleaning storm water with green storm water infrastructure (GSI) provides a lot of benefit in improved water quality for a relatively low cost. SPU is using GSI along with other technologies to meet the goals for improved water quality required by the consent decree. We came up with the target of installing GSI along 66 blocks by calculating the water quality pollutant load reduction that would occur through the CSO projects proposed for deferral, and how much SPU's proposed projects (like street sweeping and NDS partnering) will improve water quality. The number of blocks proposed for GSI was defined to help ensure the water quality

improvement achieved through the integrated plan were sufficient for the plan to be accepted by our regulators. That number is of blocks associated with the NDS partnering program proposed to our regulators is about 66 blocks.

- ❖ Committee Member Comment: One of SPU's priorities should be to address areas where people's homes are getting flooded. I hope that concern is also addressed in deciding where to install GSI.
- ➢ Response: Flooding in people's homes is a priority for SPU, and we are doing work to address this problem. The GSI program's main goal is to reduce pollutants in the creek watersheds. It may also mitigate some flooding into homes.

- ❖ Committee Member Comment: Some earlier diagrams of GSI showed the infiltration going to a new drain pipe.
- ➢ Response: Yes, we add that feature, and underdrain pipe, if the site does not allow for adequate infiltration, along with sometimes also lining the cells. But areas that required lining the cells would be less of a priority for receiving GSI.

- Tracy handed out a chart listing the site selection criteria and how SPU is currently prioritizing it. The criteria are:
    - Water quality/flow performance
    - Infiltration potential
    - Cost sharing opportunity
    - Race Equity and Social Justice
    - Existing Infrastructure
    - Co-Benefits
    - On Block Support
- Tracy then asked each Committee Member to prioritize the criteria. Members took a few minutes to fill out their charts, and then Tracy tabulated the results and reported them to the group.
- Here are the criteria, and the average weight given by the Committee Members, as well as the minimum and maximum weight each criterion received from a Committee Member. SPU will combine the Committee members weights with the teams weights to develop the final program weights:

Criterion:	Average Weight	Minimum Weight	Maximum Weight
Water quality/flow performance	23.1	10	30
Infiltration potential	17.7	10	25
Cost Sharing Opportunity	13.8	5	20
RSI Equity & Social Justice	11.9	2.5	25
Existing Infrastructure	12.7	5	20
Co-Benefits	9.4	2.5	15
On Block Support	11.4	5	30

- The group then discussed the different weighting.
    - One Member noted that block support is very important for this project.
        - Julie Crittenden, Drainage and Wastewater Planning & Program Manager, added that service equity is a consideration with regard to on block support. Some underserved communities cannot marshal such support because of language barriers or busy work schedules.
    - Tracy noted that the Committees had rated cost sharing opportunities lower than SPU did.
        - One Member responded that the cost sharing considerations should be balanced with calculations of infrastructure needed.

    - Sheryl Shapiro, the CDWAC Policy Liaison and CAC Program Manager, noted the large range of RSJ Equity and Social Justice weighting by Committee Members: 2.5 to 25.
        - One Member said that RSJ was a co-benefit.
        - Another Member asked what factors were used to evaluate for RSJ.
            - Tracy responded that geographic information is used, as well as other information that is more block specific, based on knowledge about communities. Also, if earlier phases of the program do not have expected distribution within underserved populations, outreach and project selection criteria will be adjusted for later projects.
            - Another Member added that lots of events and service needs might be underreported in some areas, so SPU should not make such reports the only information about what an area needs.
        - Another Member added that considering existing infrastructure should result in more equity.
- One Member asked whether some criteria could be weighted, while others could simply be a "yes" or "no."
    - Tracey responded that it was a good option to explore.

- She added that SPU is working on an outreach plan in addition to prioritizing the siting criteria.

Around the Table

- Sheryl thanked Rodney, WSAC Member, for sending out the link (www.savingwater.org) for SPU's water saving tips to all of the hotel engineers in his professional association.
  - These went to leaders at the Sheraton, Westin, and W Seattle Hotels, as well as the Westin Bellevue who in turn will distribute the information to their teams (about 1500 to 1600 people) as well as to the Puget Sound Hotel Engineers Association (33 additional area hotels).
    - Rodney noted that many of the engineers had posted the notice, and he received some good feedback about it.
    - Sheryl also noted that a SWAC Member had sent the saving water brochures to SHA's property managers for 100 buildings.
      - There are about 10,000 people including children in these residences; 4,893 units of housing.
    - The brochures are available in 9 languages at www.savingwater.org
    - SPU is also doing outreach to our large customers about water conservation.
    - One Committee Member commented that we should have someone on the advisory committees who can represent hospitals, since they have significant water needs.
- One Member reported that he had spent the day at Rainier Beach with kids (he's a teacher).
- Another Member, who's an engineer at a local hotel, reported that hotels are concerned about what is going on with water worldwide.
  - ✓ He will share some information he has on this with the group.
- Another Member reported that there would be more conversation about the Ship Canal Water Quality Project at the next meeting of the North Seattle Industrial Association, and that we should never underestimate how much industrial people care about drainage.
- Sheryl showed the pictures from CDWAC and WSAC's field trip to the Maple Leaf Reservoir.
- Julie Crittenden reported that the City's Integrated Plan to Protect Seattle's Waterways was formally approved by both the U.S. Environmental Protection Agency and the Washington State Department of Ecology.
  - One Member noted that the process had taken 8 years.
- Sheryl reported that all the CACs are starting to get engaged in community outreach events.
  - ✓ She will be sending out a list of outreach opportunities to the group.
  - In October and November, these events will emphasize the creeks, such as Pipers Creek Annual Salmon Watching and Salmon Steward Training.

CAC Logistics

- The next Joint CAC Meeting will be Wednesday, September 30, 5:30 – 8:30pm.

    - The topic is the SPU website and usability, as well as our CAC webpage. It will be a very interactive session.
- The next CDWAC/WSAC Meeting will be October 21st.
- Another Joint CAC meeting will take place on Tuesday, October 27th.
    - The topic will be an analysis of the City's Draft Comprehensive Plan, Seattle 2035, and will feature the Equity Analysis which focuses on analyzing impacts on displacement and opportunity Related to Seattle's growth strategy.
- We have two dates for a possible field trip: October 3rd or October 10th.
    - We have two options: a fish related trip to the Cedar River, including the hatchery, or water supply related trip to see the floating pumps in the reservoir.
    - We can't do both in one day.
    - ✓ Sheryl will get more information and be in touch with the group over email.

Meeting adjourned, 7:34pm.