CITY COUNCIL
CITY OF NEW YORK

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TRANSCRIPT OF THE MINUTES

Of the

COMMITTEE ON ENVIRONMENTAL PROTECTIONS
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B E F O R E: DONOVAN J. RICHARDS
Chairperson

COUNCIL MEMBERS:
STEPHEN T. LEVIN
RORY I. LANCOUNCIL MEMBERAN
ERIC A. ULRICH

A P P E A R A N C E S (CONTINUED)

Angela Licata
Deputy Commissioner of Sustainability for the New York City's Department of Environmental Protection

Jim Mueller
Acting Deputy Commissioner for the Bureau of Engineering Design and Construction

Mikelle Adgate
Director of Storm Water Management Outreach for The New York City Department of Environmental Protection

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Student from PS 15, Patrick F. Daly School in Red Hook, Brooklyn

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Debby Lee Cohen
Executive Director and Founder of Cafeteria Culture

Liam Daretany
Junior at the Urban Assembly New York Harbor School

Mahambe Toure
Senior at the New York Harbor School Professional Diving School

A P P E A R A N C E S (CONTINUED)

Blyss Buitrago
Testifying on Behalf of the Billion Oyster Project

Carter Strickland
New York State Director of the Trust for Public Land

Jaime Stein
Storm Water Infrastructure Matters Coalition Steering Committee Chair, SWIM

Lawrence Levine
Senior Attorney with Natural Resources Defense Council

Sean Dixon
Senior Attorney with Riverkeeper and on Steering Committee of the SWIM Coalition

Tim Eaton
Associate Professor of Hydrology and Earth and Environmental Sciences at Queens College

Judith Weis
Professor Emerita at Rutgers University and Co-Chair of the Science and Technical Advisory Committee of the New York/New Jersey Harbor and Estuary Program

Rob Crauderueff
CEO and Founder of Crauderueff and Associates

Greg O'Mullan
Tenured Professor in the School of Earth and Environmental Sciences at Queens College

Annel Hernandez
Testifying on Behalf of New York City Environmental Justice Alliance, NYC-EJA

A P P E A R A N C E S (CONTINUED)

Lisa Bloodgood
Education Coordinator for Newtown Creek Alliance

Matt Malina
Director and Founder of NYC H2O

Catherine McVay Hughes
Co-Chair of New York Rising Community Reconstruction Program for Southern Manhattan, Founding Member of CBI's Manhattan Tip Resiliency Task Force, Member of the New York Harbor Regional Storm Surge Barrier Working Group

Karen Argenti
Bronx Council for Environmental Quality

Laura Spalter
Chair of the Environment and Sanitation Committee Of Bronx Community Board Eight

Harvey Simon
Public Member of Queens Community Board Two

Michele Langa
New York/New Jersey Baykeeper

Willis Elkins
Greenpoint Resident, Chair of Environmental Committee for Brooklyn Community Board One, Co-Chair of the Newtown Creek Superfund CAG, Program Manager for the Newtown Creek Alliance

Michelle Luebke
Ecology Director for the Bronx River Alliance, Member of the Bronx Community Board Two Environmental Committee

Alex Herzan
Representing Guardians of Flushing Bay

A P P E A R A N C E S (CONTINUED)

Aziz Dehkan
Executive Director of the New York City Community Garden Coalition

Eleanor Rae
President and Founder of Hutchinson River Restoration Project

Rob Buchanan
Representing New York City Water Trail Association

Andrea Parker
Executive Director at the Gowanus Canal Conservancy

Carmen Melian
Board Member of Empire Dragon Boat Team

Jose Soegaard
Director of Policy for Waterfront Alliance

Tracy Brown
Director of Save the Sound

Michael Higgins Junior
Community Organizer at Families United for Racial And Economic Equality, FUREE

[gavel]

CHAIRPERSON RICHARDS: Alright, good morning. I am Donovan Richards, former Chair of the Environmental Protection Committee and I'm sitting in for my colleague, Costa, the Chair today who is unfortunately sick. Today the Committee will hold an oversight hearing on our wastewater infrastructure and our plans for achieving compliance with the Clean Water Act. The Clean Water Act of 1972 was enacted to protect and restore waters of the United States. The Clean Water Act aims to prevent, reduce and illuminate pollution in waters across the nation in order to restore and maintain the chemical, physical and biological integrity of the nation's waters. The goal of the Clean Water Act is to make the nation surface waters fishable and swimmable. The US Environmental Protection Agency, EPA oversees compliance of the Clean Water Act which regulates certain types of storm water discharges as well as waste water discharges into water bodies nationwide. The New York City Department of Environmental Protection, DEP manages the city's more than 7,500 miles of wastewater infrastructure. Some areas of the city however have a separate sewer system consisting

of two different systems of sewer pipes. One system of pipes carries wastewater from buildings to waste… water treatment plant, plants the other system of pipes known as municipal separate storm sewer system, MS4, carries water from the streets to local waterways. When it rains in the areas that are served by an MS4 system, storm water collects and flows across impervious services including sidewalks, streets and parking lots picking up pollutants such as oil, chemicals and pathogens along the way. Since 1990, large cities such as New York City have been required to obtain a permit to discharge storm water from MS4's and since 1999 all urban areas have been required to obtain such a permit. New York City has some 522 miles of shoreline and the DEP is tasked with improving water quality of our city's waterways. In certain areas of the city the, the sewer in storm water… sewer in storm water systems are combined. In fact, approximately 60 percent of the city's sewer system is combined and 65 percent to 90 percent of the combined water, waste water and storm water flow is captured at treatment plants. However, heavy rains occasionally exceed the capacity of the waste water treatment plants causing direct discharge of

untreated sewage into rivers, streams and other local water bodies. Under a 2005 consent order, DEP is required to reduce combined sewer overflow, CSO's from New York City's sewer system in order to improve the water quality of it's surrounding waterways. In 2012 the city signed a new consent order with the DEC to address direct discharge of untreated sewage into water bodies and DEC proposed a number of measures to comply with the consent order. These measures include the development of 11 long term control plans and the installation of a hybrid of grey and green infrastructure. LTCP's use green and grey infrastructure in order to address, measure and reduce the effect of CSOs. Grey infrastructure includes large scale centralized or end of pipe controls such as retention tanks or sewer modification. Some of the Long-Term Control Plans have not been developed yet, for others the use of chlorine has created concern among advocates. The DEP is currently committing to spending four million dollars a week every week for the next 25 years to make New York City's surface waters fishable and swimmable, but more can always be done. Today we will hear from the administration and the advocates

regarding additional steps that may be taken that are equitable, scientifically sustainable and achievable to meet the goals of the Clean Water Act. And now we'll go to Council Member Koo who has a statement, he wants to read, he represents Flushing and then we will begin with the hearing.

COUNCIL MEMBER KOO: Good morning, thank you Chair, acting Chair Donovan Richards and thank you for all the Commissioners and Engineers in here to testify. My name is Peter Koo, I represent Council District 20, we have the Flushing Creek which is known as one of the city's most polluted waterways. The Flushing Bay and the creek combined have the highest amount of CSO overflow in the city, about three billion… three billion gallons per year… no bill… not million, three billion with a B. The city has proposed connecting 25 million storage tunnels to the Flushing Bay to handle the… handle, handle this overflow but the Flushing Queens is being overloaded, instead of capacity the Flushing Creek will be chlorinated and improving toxic solution that just covers up the raw sewage with another toxic chemical except this one smells better. You use chlorine in a swimming pool to kill bacteria not a creek where you

want to encourage wildlife. There's a worldly based principle of urban planning that I feel like is being ignored when it comes to addressing the pollution in the Flushing Creek. The surrounding community is undergoing a wave of unprecedented development without any insight being put into how the surge in new population will affect our sewers. Flushing Creek cannot bear this burden, I will not bear this burden either as a Council Member. We want to develop the waterfront, we want to create open spaces that can be enjoyed by our community, we want to create access none of this can happen unless this administration commits to capturing overflows. As of today, there's zero access to the creek so it's easier to get away with a plan that allows pollution to flourish away from the public eye but I'm here today to say that the future is now and the future to create a sustainable waterfront is now. So, Mr. Chair can I ask a few questions before I leave for my committee meetings? Okay, give it to them first, okay, yeah, alright.

CHAIRPERSON RICHARDS: Alright, you may begin. Please state your name for the record and Samara will swear you in.

COMMITTEE CLERK SAMARA: Can you please raise your right hand? Do you swear or affirm to tell the truth, the whole truth and nothing but the truth today?

JIM MUELLER: Yes.

ANGELA LICATA: I do. Good morning Council Members Richards and Koo. I am Angela Licata, Deputy Commissioner of Sustainability for New York City's Department of Environmental Protection and joining me today are Acting Deputy Commissioner Jim Mueller and Mikelle Adgate, Director of our Storm Water Management Outreach as well as other members of the Department, namely Deputy Commissioner Pam Elardo. Thank you for the opportunity to testify on the current condition of future plans of New York City's wastewater infrastructure. Protecting the waterways and environment and public health of New York City are central to DEP's mission. Today, water quality in New York Harbor is better than it has been in over 100 years and crucial to bringing the Harbor to its current state has been over 12 billion dollars in investments that DEP has completed since 2002. These projects include wastewater treatment plant upgrades, sewer separation and sewer system upgrades,

combined sewer overflow abatement, green infrastructure, wetland restoration, nutrient removal from wastewater and hundreds of, of additional projects. In approximately 60 percent of the city, the sewers combine sanitary flow, created each time we turn on a tap, flush a toilet, or use a water discharging appliance, when that mixes with storm water and enters the sewer system when it rains a combined sewer overflow may be created. This system serves an essential role in protecting public health and the environment. During some rain events, while functioning as designed, the system becomes overburdened. When this occurs, the mix of storm water and untreated waste water may discharge as we stated to create a combined sewer overflow to protect the treatment plant processes. Between the 1970's and 2011, over 40 billion was invested to build two wastewater treatment plants and upgrade treatment processes in the other 12 wastewater treatment plants in New York City. These projects were critical for the growth and development of the city and reduced CSO volumes flowing into the Harbor by 82 percent. We see the benefits of these investments as the city's residents reconnect with the waters, and marine life

and oyster restoration projects once again begin to thrive in our surrounding waterways. Ideally, we would like to reduce CSOs by 100 percent. However, we acknowledge that CSOs still present a challenge especially for smaller, man-made tributaries that have no natural currents or tidal flows. DEP, working under a 2012 consent order with the New York State Department of Environmental Conservation, is required to develop 11 long term control plans, which are comprehensive evaluations of long term solutions to reduce CSO events and to continue to improve the water quality in New York City's water bodies. Each Long-Term Control Plan or LTCP is unique and built upon earlier investments and projects to develop approaches for each water body to achieve applicable New York State water quality standards. LTCPs are or will be implemented using a hybrid green and grey infrastructure approach to address, measure and mitigate the effects of combined sewer overflows. Prior to the Long-Term Control Plan submittals, DEP committed over 4.1 billion towards combined sewer overflow control. This includes 2.6 billion in commitments towards grey infrastructure and 1.5 billion towards green infrastructure. Grey

infrastructure projects include tanks, tunnels, sewer separations, weir modifications and floatable litter control. In 2017, DEC approved seven our Long-Term Control Plans and two plans are currently under review by the state. With these nine plans, DEP is prepared to spend an additional 4.4 billion over the next 25 years to continue to mitigate the impacts of combined sewer overflows. That means total investments and CSO abatement are at least 8.5 billion dollars. Two additional plans are under development for submittal in calendar year 2018 and the cost associated with those plans to mitigate CSOs has yet to be determined. The nine submitted plans include a wide range of CSO mitigation projects including two storage tunnels, one for Flushing Bay and the other for Newtown Creek ranging in diameter from 18 feet to 30 feet. These tunnels provide both for both conveyance and storage of combined sewer overflow and the contents of the tunnels will be pumped back to the waste water treatment plants after storm events. These projects require less permanent above ground property than storage tanks and we minimize surface construction impacts through this method. Two sewer system improvement projects are

proposed, one for the Bronx River and the other is a component of the Newtown Creek Long Term Control Plan. In Newtown Creek we have proposed expanding the existing Borden Avenue Pump Station to increase capture rates and direct more flow to the plant. For the Bronx River, sewer modifications will create additional capacity while reducing overflows into the river. Both of these projects leverage existing infrastructure in order to control cost and enhance capture rates. The Long-Term Control Plans for Alley Creek, Flushing Creek, and Hutchinson River utilize disinfection of combined sewer overflow discharges with chlorine during the recreational season and DEP will also construct dichlorination facilities to remove any excess chlorine residual. It is important to highlight that in Alley Creek and Flushing Creek early investments in CSO storage tanks resulted in substantial reductions in CSO volumes and leveraging these existing tanks as chlorine contact tanks enables the disinfection process to have adequate detention times to achieve bacterial kills, also makes these alternatives extremely cost effective. Disinfecting CSO’s will further reduce bacterial into all three water bodies and will significantly improve

water quality during the recreational season. Many municipalities across the country including cities in Vermont, Michigan, California, and Washington disinfect combined sewer overflows using chlorination or a combination of chlorination, dichlorination. Based on our data and modeling, the Long-Term Control Plan projects identified thus far will bring key water quality indicators such as dissolved oxygen, which is important for ecological health and fecal coliform, an indicator of sewage related pollution into compliance with existing state water quality standards nearly 100 percent of the time during the recreational season. All nine water bodies will be fishable, swimmable under existing standards for those time periods. DEP's 1.5-billion-dollar green infrastructure program is one of the most ambitious green infrastructure programs in the country. DEP works with the Departments of Parks and Recreation, Transportation and Design and Construction and the Economic Development Corporation to saturate priority water sheds with rain gardens in city owned streets and sidewalks. As part of the program, DEP has also invested in green jobs, creating over 50 new maintenance positions and training staff to care for

the rain gardens. DEP also conducts research and development and tracks the performance of green infrastructure to better understand how it works to reduce the urban heat island effect and improve air quality. In addition, working with partner agencies, DEP has 54 sites where often large green infrastructure projects are in construction or completed at parks, playgrounds, schools and New York City Housing Authority complexes. DEP has hundreds of other sites that are in design or under construction for… with partner agencies. These partnerships with our sister agencies are critical; not only are we reducing impervious area and managing storm water, we are contributing to important community, community amenities and programs such as the Parks Department's Community Parks Initiative. DEP has also distributed over 15 million through it's grant program to private property owners and is developing new private incentive programs to encourage green infrastructure on non-city owned property. Many remarkable projects have been completed thus far as part of the green infrastructure grant program, including Brooklyn Navy Yard, Green Roof and Farm, Queens College common spaces, Bishop Loughlin High School green roof and

the New School green roof. In addition to the works to reduce CSO's, DEP is also leading a multi-agency effort to develop a New York City Storm Water Management Program to control storm water runoff in the 40 percent of the city that is served by separated sewers. In these areas, one pipe sends sanitary waste to the treatment plant for treatment while the other sends storm water to a nearby water body. As you can imagine, this storm water can pick up many pollutants as it washes over industrial properties, streets and sidewalks or construction sites. This program known as the MS4 combined with our Long-Term Control Plan efforts, reflects integrated watershed management that relies on highly scientific data collection and analysis, creative urban planning assessments, foundational engineering practices and principles from around the country, and innovative financing as we seek to leverage existing capital projects and programs while maintaining a state of good repair. In summary, we have committed 4.1 billion including green infrastructure to reducing CSOs and are now prepared to spend an additional 4.4 billion on the approved Long-Term Control Plans on what we believe to be cost effective

projects that achieve significant water quality benefits. In an ideal world with unlimited resources and with consideration of the impact on water rate and our rate payers, we could consider investing even more rate payer dollars to further reduce CSO discharges. Whoever it is important to note that our best estimate show that achieving 100 percent CSO control would cost nearly 30 billion dollars yet still not achieve all of the applicable water quality standards due to a number of factors, including the nature of our urban tributaries. This would impose a substantial burden on our rate payers with limited benefits and as I will describe would crowd out investing in other projects to ensure that our current assets are properly maintained and to protect our critical water supply needs. As we celebrate the 175th anniversary of the opening of the Croton Aqueduct, and supply over a billion gallons of water to nine million New Yorkers every day, it is not surprising that DEP oversees a capital-intensive process in one of the largest capital programs in the region. In April 2017, Mayor De Blasio announced DEP's 18-billion-dollar capital plan for Fiscal Years 18 through 27, which represents a three billion

dollar increase over the 2015 Ten-Year Plan. The additional funding is primarily for service improvements, regulatory mandates and sustainability. For example, the costliest dependability projects in our FY ’18 through FY ’27 Ten-Year Plan are; the Kensico Eastview Connection Tunnel at 1.2 billion; completion of City Tunnel Number Three’s Stage two in Brooklyn and Queens at 600 million and the Catskill Aqueduct Repair and Rehabilitation at 155 million. While DEP is making and planning considerable investments in important capital projects, including reducing CSOs, we also look to keep our rates as affordable as possible. Nevertheless, rates have risen and at the same time household incomes has been stagnant for nearly 30 years. We need to keep in mind our rate payer’s ability to fund our operations and investments without putting undue burden on them. This is especially challenging as regulations and mandated projects have increased and federal assistance has declined to nearly zero. Rates were relatively flat until 2000 when DEP was required to embark on a number of mandated projects and the system needed critical state of good repair projects. Adjusted for inflation, rates have risen 160 percent

since 1990 and rates nearly doubled between 2006 and 2016. Beyond stagnant incomes, other costs for DEP customers have risen too. Housing, food and health care have all risen faster than inflation. This is all a significant challenge to our customers. Currently, approximately 20 percent of households pays more than 4.5 percent of their income for water and sewer and by the year 2030 this number could rise to more than 30 percent of households paying over 4.5 percent of household income on water and waste water services. The system maintains a four-year forecast of anticipated increases in water and sewer rates. The current forecast, which spans Fiscal Years 2019 through 2022, indicates an annual water and sewer rate increase of nearly 3.3 percent totaling a 13.8 percent rate increase during this four-year period. This means that over the next four fiscal years, our rates are expected to grow faster than the federal reserves two percent annual inflation target which would mean accumulative increase of 8.2 percent over four years. The current rate forecast is based on the city's four-year capital plan for DEP released in April 2017. Additions to this capital plan, such as funds for an expanded set of CSOs would result in

higher forecasts for future rate increases. In addition, since approximately 60 percent of the system revenues are applied toward debt related service, the level of future rate increases also depends on the cost to the system of issuing debt. Higher market rates of interest or unfavorable changes to the federal income tax code would also result in higher than forecasted increases to water and sewer rates. DEP looks to control costs and structure debt in a conservative manner that reduces the financial impact of significant investments such as the five billion Newtown Creek Wastewater Treatment Plant upgrades on our rate payers. As a result, DEP has been able to keep water and waste water charges to a little over one cent per gallon, about average for US cities. That said, legal mandates have real and significant impacts on rate payer's pocketbooks. Mandated projects can also compromise consistent investment in state of good repair and other important investments as we look to control costs. In fact, in FY 2017, mandates cost average homeowners approximately 229 dollars per year of their total water bill, water/wastewater bill. As the nation's largest water utility, we work to be

good stewards of the environment around us by maintaining and expanding the network of mains, sewer pipes and wastewater treatment plants that comprise this city's sewer system while remaining conscious of the rates our customers pay. Balancing the cost and benefits of each planned project is critical to our work and we are confident that we will continue to see significant improvements in all of the waters where New Yorkers live, work, learn and play. Again, thank you for the opportunity to testify and we will be glad to answer any questions.

CHAIRPERSON RICHARDS: Well thank you for your testimony, I'm going to go to Council Member Koo because he has a hearing at 11 so I wanted to give him an opportunity to ask a few questions.

COUNCIL MEMBER KOO: Thank you Chair Richards. Thank you. Indeed New York City waterways and sewage systems are very complicated, you know. I recently went to Hong Kong, which is I think similar in size to New York City and is surrounded by all waters too and, and whenever it rains there it, it doesn't cause a panic like, like here so I ask people why and they say oh it… we don't see like water damage after a hurricane and you know compared with a

20 or 30 years ago, so they did very good improvements there. So, I hope New York City can learn from them and do something similar. So, I have a few questions, just five of them pertaining most to my local area which is Flushing Creek. So, the first one is how does the city determine whether to chlorinate or build infrastructure, this is really easy…

ANGELA LICATA: Yes and no. It's a simple question but a little bit more difficult to explain, we do a very thorough cost benefit analysis and in the case of Flushing Creek we looked at the existing storage that we have in place and the potential for us to meet the targeted water quality criteria using a cost-effective disinfection and dichlorination process.

COUNCIL MEMBER KOO: Okay, so, so how much money would it take to bring CSOs in Flushing Creek under control and what has to be done to allocate that money?

ANGELA LICATA: We actually… we actually have projected what it would cost to get 100 percent CSO control citywide and that was the 30 billion dollars estimate that I gave you, but we did look at

alternatives for Flushing Creek as well and if I, I can find that number… yes, so the 100 percent treatment or capture for Flushing Creek would have been five billion alone.

COUNCIL MEMBER KOO: Five billion dollars so… so, what it takes to do it, is it very hard to allocate that money, that amount of money?

ANGELA LICATA: So, you… one of the things I think we all notice is that we are a water rich city as you indicated Council Member, there is over 520 miles of waterway, of waterfront in New York City and one of the issues and challenges, I mean that's a great gift that we have so much water surrounding our city, but the challenge is that the spending and investments that we make it dispersed citywide. So, the amount that we're spending on the overall CSO program is in excess of eight billion dollars at this point in time so adding an additional five billion let's say and we would discount by the investments that we're already making in Flushing Creek would bring that figure to around 13 billion dollars and, and that's what we're trying to control, we're trying to control those costs and we're trying to make those investments citywide as much as

possible and bring all of our water bodies forward into a state of water quality improvement.

COUNCIL MEMBER KOO: Okay, so, so… how about the city's opinion on chlorinating differences so greatly from… when there are other professors and scientist of environmental and water quality who advise against it?

ANGELA LICATA: Well we acknowledge that chlorinating storm flows will be challenging and that's why we are also proposing the dichlorination so that we can minimize chlorine residual levels as we are concerned about the ecosystem health in these water bodies. As you indicated that is one of the main reasons why we're making these improvements is to increase the habitat value in the water bodies as well as increase human access to the water bodies. As part of the project we will be undertaking an environmental impact assessment and as part of that process we'll do a thorough reevaluation of risks and benefits.

COUNCIL MEMBER KOO: So… so, I, I only have one more question. So, what evidence do you have that shows chlorination will not have a detrimental effect on wildlife like oysters and fishing

populations and for, for human beings, we always worry about like over killing the bacteria's, you know the chickens or… with antibiotics, our cattle are being fed with antibiotics and, and if you do… dump chlorine in the… in the waterway it only kills bad bacteria, it also, also kills all the good bacteria, all the living organisms, the one… the one from the group which is good for nature just not our body, we overkill with antibodies and now everybody is taking probiotics, you know so there's a… maybe… that's not good, you know because now we… you know we have to take probiotics every day because we take antibiotics too much so this, this, this is the same concept that's right in our face, you know if you use too much chlorine in the water creek, you know so how do we end it there?

ANGELA LICATA: So, again, you know we are proposing to dechlorinate as well and we will be measuring and for a period of time establishing very stringent protocols for how to apply the… and the, the dosage rates of the chlorine and how effective the dichlorination is in order to maintain the minimal residual chlorine rates in the receiving water body so that will have to be very carefully

balanced, there will have to be very stringent protocols applied to that application and we will have to monitor the receiving waters residual chlorine.

CHAIRPERSON RICHARDS: Thank you Council Member Koo. Okay, let's hop into… so, I, I feel like we're… and I want to thank you for the work that you, you obviously are doing, I feel like we're, we're chasing our tail though. How much would it cost the city to actually rebuild the entire sewage system in the city so that waste water and storm water systems are completely separate, how much would that cost us and how long would it take for something like this to happen because, you know chlorine and all of these things are… I don't want to say the word but they're, they're good remedies but obviously the issue is our system and the way the system is designed so has there been any thought process in how we completely stop wasting money to a great degree and really think of a, a, a real strategy on how to make sure the system is different?

JIM MUELLER: That's a great question. Again, my name's Jim Mueller, Acting Deputy Commissioner to the Bureau of… [cross-talk]

CHAIRPERSON RICHARDS: If you could speak a little higher… [cross-talk]

JIM MUELLER: …Engineering and Design and Construction… sure, can you hear me?

CHAIRPERSON RICHARDS: Yes.

JIM MUELLER: Okay…

CHAIRPERSON RICHARDS: Louder… [cross-talk]

JIM MUELLER: So, it… in terms of separating the system it's something we've looked at in a lot of different places, driven by a lot of different issues sometimes flooding might drive that and, and trying to relieve that in local areas. In terms of CSO its something we've also looked at in terms of sewage separation and right now our recommended plans are very similar to the question on storage versus disinfection, its opportunistic so we'll do high level storm sewer separation. We're driven by topography, the, the local geography and the low points and the high points and where we can outlets and sometimes it's just not feasible to build a separate outlet system into waterways because of… there could be a subway in the way, there could be… you know… [cross-talk]

CHAIRPERSON RICHARDS: Has that been studied though before we make that… [cross-talk]

JIM MUELLER: I'm sorry?

CHAIRPERSON RICHARDS: Before you make that… [cross-talk]

JIM MUELLER: We've looked at in, in, in… [cross-talk]

CHAIRPERSON RICHARDS: …assessment… [cross-talk]

JIM MUELLER: …various areas, yeah… no, absolutely, it's something… so, we… so, we do look at it and there's… those are kind of the feasibility issues that come into place whether we had the money or not is it even… [cross-talk]

CHAIRPERSON RICHARDS: So, there's been a comprehensive feasibility, feasibility study on this particular issue or are we just saying there could be a train in the way without a comprehensive study?

ANGELA LICATA: Yeah, we haven't done a system wide comprehensive study… [cross-talk]

CHAIRPERSON RICHARDS: It sounds like a bill…

ANGELA LICATA: …that you're requesting however we… I think we have avoided the concept that

we could do this systemwide because as you indicated Council Member it would be a very long-time frame in order for us to do that. There are so many conflicts in the streets that in order for us to build new sewers we would have to move other utilities out of the way, so the price tag would be extremely high and the other concern that we have particularly lately is that separated storm sewers cannot take advantage of our treatment plants. So, while the CSO's do occur and they occur regularly for the majority of our rain water or precipitation events that are not the larger storms we receive the benefit of wastewater treatment. So, when you have a separate storm pipe you would have no effluent treatment if you didn't build that into the, the system that you were developing, and we have concerns about that because there are other pollutants that run off the urban environment that we will be addressing as part of our municipal separate storm sewer system permit, the MS4 permit that we described in the testimony.

CHAIRPERSON RICHARDS: So, I understand that, I understand Rome was not built in one day either. I am interested in DEP looking at it, a feasibility study on how to get this done and, and

perhaps it would just be a blueprint, but I think we need to start somewhere maybe the next Council Member in 20 years or 30 years will finally get this done but, but in all honesty, I think there's a… there's an opportunity here. One of the other issues we've heard a lot about is the issue around transparency when storm water runoff occurs, can you tell me how is the public alerted to storm water runoff when it does occur?

ANGELA LICATA: Gladly, Mikelle Adgate has prepared a response to that anticipated question so I will refer… [cross-talk]

CHAIRPERSON RICHARDS: Oh really, anticipating… [cross-talk]

ANGELA LICATA: …to her… [cross-talk]

CHAIRPERSON RICHARDS: …our questions. I love it.

MIKELLE ADGATE: Well I, I… [cross-talk]

CHAIRPERSON RICHARDS: On doing your homework… [cross-talk]

MIKELLE ADGATE: …I think that we… [cross-talk]

CHAIRPERSON RICHARDS: …I'm, I'm very impressed because some agencies actually don't so this is… this is good.

MIKELLE ADGATE: Well I think that we have the benefit of connecting regularly with our stakeholders many of whom are, are here today and so we've been able to hear their concerns but in terms of what we call our CSO notification system or our, our advisory system right now that system is based on a model so… depending on the rain event, it projects if a CSO event could have happened so it's not based on real time data collection, we don't have sort of analysis happening at every single CSO outfall but New Yorkers are able to either go onto our website where we have a water body advisory page and that's updated hourly rain or shine based on that model or they can sign up for notify NYC alerts so that could be by text… [cross-talk]

CHAIRPERSON RICHARDS: So, notify NY… I was going to bring that up so… [cross-talk]

MIKELLE ADGATE: Yes…

CHAIRPERSON RICHARDS: So, you're… so, if I sign up there's an option for me to select the specific option and it comes to my phone?

MIKELLE ADGATE: That's correct… [cross-talk]

CHAIRPERSON RICHARDS: To alert me… [cross-talk]

MIKELLE ADGATE: Uh-huh.

CHAIRPERSON RICHARDS: And how many people are signed up for this particular…

MIKELLE ADGATE: I don't have an answer to that question.

CHAIRPERSON RICHARDS: How… what sort of outreach has DEP done to ensure the public is aware of this option outside of the advocates because they… you know they live this, they breath it, they drink it, how do we ensure that every day New Yorkers outside of individuals who are very engaged in this conversation have an opportunity to be aware of what's going on around them?

MIKELLE ADGATE: So, we are regularly meeting with community boards and elected officials… [cross-talk]

CHAIRPERSON RICHARDS: Alright, those are people who… every day New Yorkers, they… [cross-talk]

MIKELLE ADGATE: Uh-huh… [cross-talk]

CHAIRPERSON RICHARDS: …are everyday New Yorkers too but people who are not engaged in government and their civic association, how does everyday New Yorkers get the opportunity to know that they can sign up for an alert on this?

MIKELLE ADGATE: So, I think there has to be at least some point of connection with the agencies so it's, it's not that we are disseminating fliers to every New Yorker but for those who are likely to be interacting with a water body they can hear about it either from our website, from our social media accounts where we talk about notification and advisories and also, you know one component that I haven't mentioned yet which is the advisories that come through the state which is the NY-Alert system so what I've described so far is for the CSO advisories but I think you may be aware that the state passed the sewage pollution right to know law back in 2013 and for other types of discharges maybe that would be like a bypass or we confirm and elicit connection. The agency reports that to the state and then again people can sign up for the state alert system and we've had a lot of conversations with the state about that system because we know many

of our constituents find the city's system easier to interact with whether it's notify NYC or our website updates. And so, what we're looking to do is assess all of the water body systems now, get agency and public feedback in order to develop some detailed recommendations for improving those notification systems so that we can come up with strategies that sort of reconcile how they differ but also to your point Council Member connect with New Yorkers in a way that they may not have had a chance to connect with us before.

CHAIRPERSON RICHARDS: Alright, so what I would suggest is we all get a DEP bill, at least I do and perhaps that should go in whatever you're mailing or, or if you sign up for the online notification, you know you put on would you like to receive a notification about storm water runoff incidents, is DEP open to that?

MIKELLE ADGATE: I, I mean I think…

[cross-talk]

CHAIRPERSON RICHARDS: Not that I like reading my bill by the way…

MIKELLE ADGATE: I think that we're always interested in feedback on how we can improve so we can certainly take that back and evaluate it.

CHAIRPERSON RICHARDS: I think that would-be a, a easy idea to really implement. Alright, so we talked about… and I still didn't get a, a total cost on how much it would cost to build out the system so we… I know… I talked about a feasibility study, but you don't have a guesstimate of how much it would cost if we were to build out… [cross-talk]

ANGELA LICATA: No, we don't have a comprehensive study of the sewer separation… [cross-talk]

CHAIRPERSON RICHARDS: Alright… [cross-talk]

ANGELA LICATA: Program but I would suggest that if we were going to do such a study we might want to concentrate in one watershed or one tributary area just to get a sense of what that looks like rather than extrapolating for the entire city because I think potentially focusing in on one watershed would give us an indication of what that would look like prospectively.

CHAIRPERSON RICHARDS: Okay, that's a start. So, DEP's committed 4.1 billion in your testimony you, you spoke of including green infrastructure to reduce CSOs, how much of that money has actually been spent?

ANGELA LICATA: The green infrastructure I'm very fresh on, we have spent 450 and we have about another 930 in the four-year plan so we're approaching almost 1.4 billion…

CHAIRPERSON RICHARDS: And what's the total allocated on green?

ANGELA LICATA: The total allocated for the green infrastructure program is 1.5 billion and we have incurred costs of 2.6 billion for the grey projects, that's part of the programs that we've already committed to in terms of the grey infrastructure that's before the Long-Term Control Plan commitments.

CHAIRPERSON RICHARDS: And so… and, and can you go through so I… the, the total plan is 18.1 billion, correct?

ANGELA LICATA: That's our capital program.

CHAIRPERSON RICHARDS: That's your capital program and can you go through what is covered under the 18.1?

ANGELA LICATA: Certainly. On that side… Okay, so… I mean essentially, we talked about some of what we consider our dependability program and that really is our water supply resiliency program so those are namely some of the projects that we're doing up state to ensure redundancy and resiliency as well as city tunnel improvements so for distribution of drinking water supply within the city. We have over two billion and that's about 11 percent of that projected 18-billion-dollar budget, we have… [cross-talk]

CHAIRPERSON RICHARDS: And you said you have two billion, you spent two billion or you… [cross-talk]

ANGELA LICATA: Proposed.

CHAIRPERSON RICHARDS: Proposed two billion… [cross-talk]

ANGELA LICATA: Uh-huh, this is FY 2018 to FY 2027, the Ten-Year Capital Program… [cross-talk]

CHAIRPERSON RICHARDS: Okay…

ANGELA LICATA: …of about 18.1 billion dollars so out of that about two billion independent bid dependability projects, water supply drinking water projects which is about 11.1 percent and then we have sewer construction over 4.3 billion dollars allocated there for either new sewer construction or upgrading sewers…

CHAIRPERSON RICHARDS: Uh-huh…

ANGELA LICATA: And that's about 23 percent of the budget, water main construction which we like to do for the water mains that are aged, that's about two billion dollars another 11 percent of the budget allocated for that purpose and for our mandated projects we have in this Ten-Year program about 3.5 billion or about 19 percent.

CHAIRPERSON RICHARDS: Okay.

ANGELA LICATA: Of the allocated budget and finally with respect to state of good repair, a very important component of our budget we have a lot of facilities that are now 50 and… 50 to 100 years old and we want to either have a cycle of replacement for them or we need to upgrade equipment, upgrading that equipment will ensure that we have efficiencies with respect to energy and greenhouse gas reduction

as we modernize those facilities as well so we get a lot of synergy there and that's about 5.7 billion dollars or 31 percent of the budget.

CHAIRPERSON RICHARDS: Okay, so that sounds great now how did you… how did we engage the public in a lot of these conversations, so there are a lot of advocates in this room and I'm interested in knowing did we take any input from them, how did DEP consult with the public on this plan so can you speak to that?

ANGELA LICATA: Well we have budget hearings on a yearly basis as well as… [cross-talk]

CHAIRPERSON RICHARDS: City Council budget hearings…

ANGELA LICATA: City Council budget, budget… [cross-talk]

CHAIRPERSON RICHARDS: Okay… [cross-talk]

ANGELA LICATA: …hearings as well as with respect to the portions of the project that are discretionary we have made decisions regarding where we think we have to… think, where we actually have data about flooding, we have data about street work that's necessary to do with the Department of Transportation so sometimes just by having coupling

projects where we have roadway reconstruction and sewer work together that increases efficiency so we may allocate budget there and specifically with regard to public participation on the mandated projects we have many, many meetings with the public regarding our CSO Long Term Control Plan program so throughout that process we have been providing information on our projected rates, we have included a financial capability analysis within each of our Long Term Control Plans indicating the revenues needed and the projected capital budget going forward not only the four and ten years but we've even tried to project out even further.

CHAIRPERSON RICHARDS: Sounds good, so did we take input from… [cross-talk]

ANGELA LICATA: We have received a lot of input on that namely that we should be spending more money on combined sewer overflow programing.

CHAIRPERSON RICHARDS: Okay and I know… [cross-talk]

MIKELLE ADGATE: And… [cross-talk]

CHAIRPERSON RICHARDS: Okay…

MIKELLE ADGATE: Sorry Council Member if I could just add onto that, I think some of that

engagement isn't necessarily branded as a capital planning engagement strategy so for instance you know that we are very plugged into Southeast Queens and community concerns about flooding and so that dialogue between the community and the city resulted in our Southeast Queens plan and so that's incorporated into this capital budget, it's a way for us to sort of get feedback from our constituents without necessarily calling it a budgetary exercise. So, it's a way for folks to engage with us in the way that they deem most important based on how they are dealing with the flooding or interacting with their water waste.

CHAIRPERSON RICHARDS: Right and I know seven plans were approved so can you just speak to how we're engaging the public with the seven approvals that have come forward?

ANGELA LICATA: Well as, as we just… [cross-talk]

CHAIRPERSON RICHARDS: And it's okay if you don't have an answer let's… [cross-talk]

ANGELA LICATA: No, I, I think we do… [cross-talk]

CHAIRPERSON RICHARDS: …come up with a… [cross-talk]

ANGELA LICATA: …I… the, the answer… [cross-talk]

CHAIRPERSON RICHARDS: …pathway… [cross-talk]

ANGELA LICATA: …would be again as stated that we… [cross-talk]

CHAIRPERSON RICHARDS: And don't… and, and, and not to cut you off but city council hearings are great… [cross-talk]

ANGELA LICATA: …we'll put that off to the side… [cross-talk]

CHAIRPERSON RICHARDS: …we do that… budget hearings twice… at least two hearings but I'm talking about more so locally focused, how do we get into communities and have conversations with those… [cross-talk]

ANGELA LICATA: Uh-huh… [cross-talk]

CHAIRPERSON RICHARDS: …absolutely… [cross-talk]

ANGELA LICATA: Right… [cross-talk]

CHAIRPERSON RICHARDS: …being affected by these plans so that's more so what I'm looking to hear… [cross-talk]

ANGELA LICATA: Okay.

CHAIRPERSON RICHARDS: From DEP… [cross-talk]

ANGELA LICATA: Yeah, so what we have been doing is again we have these local water body meetings under the Long-Term Control Plan… [cross-talk]

CHAIRPERSON RICHARDS: Public meetings or just… [cross-talk]

ANGELA LICATA: They are public meetings, yes. So, when we have let's say a Flushing Creek project we'll do at least two if not three meetings locally within the Flushing Creek watershed and we also have a citywide once a year annual meeting on the overall Long-Term Control Plan so that is, you know refined to one aspect of capital program but within that context we have started to incorporate a broader view of the agency's capital programming. The implications at that programming on our rates and revenues and rate payers.

CHAIRPERSON RICHARDS: And let me… so, let me ask the question more lasered, so the seven approvals are you going to do seven different meetings or how… with the public or how were you engaging the public and you get where I'm going with this… [cross-talk]

ANGELA LICATA: Oh so… I, I do… [cross-talk]

CHAIRPERSON RICHARDS: …just want to make sure… [cross-talk]

ANGELA LICATA: …so you know that's, that's a really great question and that has definitely been a part of contention I, I think or a point of contention with the stakeholders. The way the process has worked for public participation with respect to the Long Term Control Plans is our last public meeting is a meeting to review the alternatives that we've developed and we give the pros and cons if you will of each alternative and the cost implications of those alternatives but we don't have a final meeting, then we submit what we believe to be the approvable plan to New York State DEP and heretofore we have not, the city has not provided the public input on the Long Term Control Plan before we

pick a proposed project and submit it to the state DEC.

CHAIRPERSON RICHARDS: And is there a reason for that?

ANGELA LICATA: Not a good one. So, we would… so…

CHAIRPERSON RICHARDS: She can be trusted because she was under oath and she told the truth, alright, we don't get that all the time. I appreciate you being honest. So, moving forward how do we ensure that we engage the public in this conversation because the Council has interest in that and for local Council Members who also are affected by this issue they would love to engage their constituents, the rate payers and we keep the rate payers out of the conversation.

ANGELA LICATA: Right, so I mean you're absolutely correct and we acknowledge that we can improve this part of the process, so we had two Long Term Control Plans to go for the Jamaica Bay and its tributaries, we are proposing to build in the time frame to propose the project that we prefer with all the rational to the public and get their feedback before the plan is submitted to DEC and we will do

the same thing for the citywide Long-Term Control Plan.

CHAIRPERSON RICHARDS: We don't want to have to legislate to mandate public meetings so, you know it'd be a shame if we had to actually draft a bill on requiring DEP to hold public meetings with rate payers, customers on these plans. I'm going to go to Council Member Torres and, and then I'll come back with a few other questions.

COUNCIL MEMBER TORRES: Thank you. I along with Council Member Salamanca I… my district includes the Bronx River and even though I'm hardly an expert on the subject matter I am concerned about CSOs and the impact it has in making the Bronx River less safe for human recreation, less habitable for wildlife. I, I have a simple question, how, how do… you know the city is required under the Clean Water Act to create an LTCP and how do I explain to my constituents that an LTCP that continues to allow hundreds of millions of gallons of, of water sewage into the Bronx River is consistent with the goal of making the Bronx River safer for recreation and wildlife, how do I reconcile those two facts?

ANGELA LICATA: It's, it's a really difficult question and I would propose this as a response, which is to say that ultimately, we would like to achieve 100 percent reduction in combined sewer overflows. If the city was planning a waste water system today that would certainly not be an acceptable way of eliminating our waste. Having said that this is a legacy system and we are now trying to build out over time what is a cost-effective way of remedying a problem is frankly a challenge that we have all inherited. So, we are trying to develop plans that have a fair pace of investment along with all of the other challenges that we face and to remedy that water quality problem utilizing cost effective measures and in a way that creates compliance with current or existing water quality standards so we think these water bodies and this is really tough because we as we go forward and make these improvements, we've also are tolerance for water quality degradation has been much reduced, right, so we, we don't have a high tolerance any longer for sewage fouling up our waterways. So, with that problem to tackle we continue to tell our constituents it's not safe to go near the water or

here's a caution or here's an advisory at the same time the water has gotten much cleaner. So, this is a… this is a difficult message and we appreciate that, and we certainly work with you but that, that's where we are, we have put forward a pace of investment that we think is practical or that we think resolves a fair bit of the problem and we certainly don't see ourselves as completed at the end of the day. The Clean Water Act is a very aspirational water quality goals that are stated there, are swimmable, fishable, the best… [cross-talk]

COUNCIL MEMBER TORRES: Is, is, is it meant as an aspiration or is it a mandate and are we in compliance with that mandate?

ANGELA LICATA: We are in compliance with… projected with these projects we will be in compliance… [cross-talk]

COUNCIL MEMBER TORRES: Are we presently in compliance or…

ANGELA LICATA: No.

COUNCIL MEMBER TORRES: We are not.

ANGELA LICATA: We are not.

COUNCIL MEMBER TORRES: And so at, at what point will we come into compliance with… [cross-talk]

ANGELA LICATA: When these Long-Term Control Plans are completed we're anticipating or predicting nearly 100 percent compliance with the existing water quality standards, that's what… that's what the modeling has, has indicated and that's how we have set the program, that's how we have developed the program.

COUNCIL MEMBER TORRES: So, you acknowledge the status quo is, is problematic instead of capturing CSOs your plan proposes to either chlorinate or divert CSOs when it comes to Alley Creek, Flushing Creek and Hutchinson River the city proposes chlorinating CSOs, when it comes to the Bronx River the city proposes diverting CSOs to the East, East River, has chlorination proven to be affective at rendering our waterways safer for recreation and wildlife, is that a proven strategy?

ANGELA LICATA: I wanted to turn this over to my colleague Jim Mueller who has experience has visited some of these other facilities and also

has done some investigation as to where else they're doing chlorination and disinfection.

JIM MUELLER: So, great questions again. We've looked nationally at what folks are doing at different municipalities and chlorination and… followed by dichlorination and in some cases, they're just chlorinating they are not dechlorinating so that chlorine is going out into the waterway, we're not taking that approach here, we're recommending dichlorination at the three water bodies as you're accurately stating. For Bronx River we thought the better opportunity rather… we're, we're not just defaulting to chlorination as a… as a cost-effective alternative for every water body, for Bronx River we thought the more cost-effective thing to do was get it out of the water body and diverting it to the East River and also to the… to the Hunts Point treatment plant for treatment so it's a balance there in terms of the size of the storm where the East River can certainly handle that capacity much better. In terms of water quality compliance, for large areas of the… of the Harbor we are actually in compliance with existing standards even with the… based on the fecal… DEC's new rulemaking last year on fecal. So, for

large parts of the… of the Harbor today we are in compliance, those tributaries that Angela spoke about earlier they're the tough… they are the tough locations in the Harbor. So, most of the area of the Harbor is not in the tributaries, they're smaller but they are much tougher for the reasons you all know; that they're confined, there's not a lot of flushing back and forth with the open, open ocean and the open Harbor so those are trickier. So, for Bronx River again we thought the opportunity there to divert that flow to the interceptor, try to get more to the Hunts Point treatment plant, for the larger storms it'll overflow into the East River, the East River has a lot more simulative capacity than the Bronx River as you… as you know and… [cross-talk]

COUNCIL MEMBER TORRES: Before we, we… before we speak about diversion I want to… I'm not sure if I heard an answer… [cross-talk]

JIM MUELLER: Oh to the question… [cross-talk]

COUNCIL MEMBER TORRES: …to the question… [cross-talk]

JIM MUELLER: So, we… [cross-talk]

COUNCIL MEMBER TORRES: …is that has, has there been a study that has shown that chlorination is an effective strategy for improving water, water quality?

JIM MUELLER: There's case studies in terms of other municipalities who are using this, it's an… it's an industry standard that's set, you know nationally… [cross-talk]

COUNCIL MEMBER TORRES: No, I know there are municipalities using it, but has it been shown to be effective at achieving the goal of improving water quality?

JIM MUELLER: Yeah, I believe so, yes.

COUNCIL MEMBER TORRES: Okay, because one concern I have is that with chlorination you're injecting a chemical into bodies of water how can we be sure that we're not doing more harm than good?

JIM MUELLER: Right, right so the dichlorination piece that Angela was talking about is, is aimed at reducing that… the actual chlorine that… [cross-talk]

COUNCIL MEMBER TORRES: Is, is there 100 percent… [cross-talk]

JIM MUELLER: …enters the waterway… [cross-talk]

COUNCIL MEMBER TORRES: …dichlorination or is partial dichlorination or…

JIM MUELLER: There's a residual, there's still a, a small residual… [cross-talk]

COUNCIL MEMBER TORRES: Okay… [cross-talk]

JIM MUELLER: …but there is still a residual.

COUNCIL MEMBER TORRES: And, and do we know if that residual affect is making matters worse?

JIM MUELLER: I think as Angela stated at… for each of these projects… for the three projects you mentioned we will be looking at the environmental impacts… [cross-talk]

COUNCIL MEMBER TORRES: Okay, so it sounds like there's some uncertainty around the, the implications of chlorination.

JIM MUELLER: Sure.

COUNCIL MEMBER TORRES: Okay, based on your response. What is the impact of the diversion of sewage overflows into the East River, what impact

will it have on the water quality of the East River I imagine it's a problem?

ANGELA LICATA: Right, as Deputy Commissioner Mueller indicated we have done the assessment of what that relocation would do and because the East River is a much wider, broader, deeper water body that has the simulative capacity to pick up that additional flow and would not adversely affect that water body's ability to achieve the water quality standards.

COUNCIL MEMBER TORRES: Did you formulate the, the strategic plan in partnership with community based organizations like the Bronx River because the impression that I get from the Bronx River Alliance is that there was a lack of engagement?

ANGELA LICATA: Yeah, that… I, I mean that's somewhat unfortunate that folks feel that way although we did acknowledge that I think where we really fell short is in not providing an opportunity to give feedback on the final plan that was submitted to DEC but we had many meetings, I myself was there to discuss the Bronx River proposals and alternatives that we were considering with the public and they did express their concerns to be fair about chlorination

alternatives so we did… we did hear those concerns nevertheless we proposed that as the project because it was again the cost effective solution to that problem, additional storage there may have meant that we would wait a much longer period of time for water quality improvements either there in the Bronx River or elsewhere in another water body because we just can't put that much more capital investment through this Ten Year Program or this Four Year Program as you heard us testify, something else would have to give and on balance we don't feel that we can put aside some of the other priorities we have for sewer upgrades, for water… drinking water dependability projects, for state of good repair projects so we are trying to maintain some, you know cap or some limits on this Ten Year Capital Program so we don't adversely affect our rate payers and having said that we've already increased that budget quite a bit from the last approved budget.

MIKELLE ADGATE: And Council Member if I could just elaborate a little bit on what DC Licata had been sharing also in regard to Council Member Richards earlier question and sort of take a step back to give a full picture of our public

participation strategy. Back in 2012 we released a public participation plan but as DC Licata said called for three meetings for each water body. So, for all nine LTCP's that have been submitted each one of them had what's called a kick off meeting where we talked about the water body characteristics, we shared the data analysis and the collection that we had conducted. All of them also had what's called an alternative meeting where we gave the most up to date information about what types of projects were being looked at for that particular water body and we shared it for a wide range of CSO control, so we looked at sort of the 25 percent, 50 percent and then also the 100 percent CSO control, what would those projects look like, what would the cost be. So, those are two public meetings that were had in addition to meeting with community boards, neighborhood associations, some of the environmental organizations that are represented today because we wanted to share essentially the latest thinking that was taking place as these plans were being developed and get feedback. After that alternatives meeting the public was encouraged to not only review our presentations but also send us comments about the alternatives that

were presented so they were able to actually look at that latest thinking and say okay in this particular situation we're, we're okay with this, we're not okay with that and then we would review those comment letters before the final LTCP was submitted to the state. Throughout that process we have tried to be very responsive to the community's feedback about the public participation strategy.

COUNCIL MEMBER TORRES: Although I just want to… and I'm not… I'm sure there was several levels of engagement but it, it seems odd to me, I'm, I'm curious why, why did DEP decide to seek approval for a final plan without presenting it to community based organizations that are deeply invested in the process, is that here's the plan, here's our strategic plan for improving water quality of the next decade, we're about to seek approval from the state, what do you think like why would you forego that process it seems odd?

ANGELA LICATA: So, I mean essentially as we were saying we have to look in balance at the total capital programming not only for the other Long-Term Control Plan projects, we have 11 water

bodies to address but also the other systemwide spending. So, that is… [cross-talk]

COUNCIL MEMBER TORRES: I'm just referring to a meeting about… regarding the final plans.

ANGELA LICATA: Yeah, well we, we acknowledge that we probably should have had that meeting, we thought we heard a lot from the public but again we admitted just previously that we probably should have that input before we submit a final plan to the DEC so that the public is not surprised by what alternatives the DEP selected and we pledge going forward that we will insert that step in the process.

COUNCIL MEMBER TORRES: But the plan is apheta complete, right, there's no ability to shape it going forward now that you have approval?

ANGELA LICATA: Correct.

COUNCIL MEMBER TORRES: Okay. I… that was depressing. I, I have a question about water rates and I want to build on some of the questions that Council Member Richards asked. Have you given thought to restructuring water and water waste… waste water bill to factor in the amount of, of storm water run

off a property might contribute to the city's water system?

ANGELA LICATA: We are looking at that… [cross-talk]

COUNCIL MEMBER TORRES: Okay… [cross-talk]

ANGELA LICATA: …we are proposing to study that in great detail, I myself as part of team conducted a rate… alternative rate study analysis probably a decade ago but it is absolutely time for us to do another review of a holistic, it wouldn't just be related to storm water rates, I think what our utility needs is a more thorough evaluation of alternative rate structures that have been used elsewhere to see whether or not there is an improved structure out there for the city of New York. Having said that we have not found one yet but we really do want to reevaluate this and take a very careful cautious look at that because this is a zero sum game, right, we have to raise the rates every year or the revenues to be able to pay into the debt and to make new investments that we all want to see however we need to do that very carefully and really study very as I said cautiously what impacts that would

have on our rate payers and having said that a lot of the… [cross-talk]

COUNCIL MEMBER TORRES: And when will… are you in the process of conducting a study or… [cross-talk]

ANGELA LICATA: We're… I'm in the process of putting together an RFP, I don't want to say too much more about that… [cross-talk]

COUNCIL MEMBER TORRES: Okay… [cross-talk]

ANGELA LICATA: …so that, that is… [cross-talk]

COUNCIL MEMBER TORRES: So, you're not at liberty to, to comment on the time line?

ANGELA LICATA: The timing for an RFP is about two years.

COUNCIL MEMBER TORRES: Okay, so in two years we'll… and what… we'll have the, the end of the conclusion of the study or…

ANGELA LICATA: In two years… [cross-talk]

COUNCIL MEMBER TORRES: Or the beginning of the study?

ANGELA LICATA: In three years we should have potentially the conclusion of the study.

COUNCIL MEMBER TORRES: Okay, three years.

ANGELA LICATA: Yeah, I mean it is going to be a very comprehensive holistic look at the alternative rate structures that are out there, you know I don't want to get… I don't want to presume to have an indication of what the answer will look like because I think the process will reveal to us what are the possible strategies and winning strategies and what are the strategies that won't work for our jurisdiction.

COUNCIL MEMBER TORRES: Yeah, because I… look I'm concerned about the problem of free riding, right, there were owners of larger and pervious surfaces who are enjoying the benefits of the city's storm water management system without paying their fair share and it would seem to me unless we have a separate fee for storm water we're undermining our own strategic goal of incentivizing green infrastructure.

ANGELA LICATA: Uh-huh.

COUNCIL MEMBER TORRES: Right, if you're able to free ride there's no incentive for you to actually invest in green infrastructure and, and so that, that… I, I think we, we should just quit perpetuating the inequities that are built into the structure of our water rate, but I suspect you agree philosophically it's just a matter of getting it done so… so, with that said I, I think that's the extent of the question so…

CHAIRPERSON RICHARDS: Thank you Council Member Torres, I'm going to go to Council Member Levin. I also wanted to raise a question on Alley Creek and Flushing Creek so for around a decade we've recognized that both could use more storage, has there been any thought process in adding a second storage tank anywhere at both locations?

ANGELA LICATA: So, again that's what we were referring to before where we start to look at what we are proposing under the recommended plan which is an additional 45.8 million dollars of investment in Flushing Creek for example versus a 130-million-gallon tunnel there which would be about five billion dollars so… [cross-talk]

CHAIRPERSON RICHARDS: So, the answer is yes, are you open to adding…

ANGELA LICATA: We do not believe that that is a cost-effective project that could be done simultaneously with the other investments that we're making because that would mean that the additional 4.5 billion dollars that we're proposing would balloon to 9.5.

CHAIRPERSON RICHARDS: It would balloon to 9.5. The Jamaica Bay plan, where are we at with that?

ANGELA LICATA: We can't wait, we are in the throes of doing our QAQC on our data collection and we are preparing that Long-Term Control Plan, do we have a date for a public meeting, we're thinking somewhere in the March, April?

MIKELLE ADGATE: Yes, March or April. We've had two public meetings in Jamaica Bay so far, one was the kickoff and the second was an update to explain why we asked for an extension and explain all of the other work that's happening in the Jamaica Bay water shed.

CHAIRPERSON RICHARDS: And before we submit the Jamaica Bay plan do we anticipate coming back to the public and doing it differently?

MIKELLE ADGATE: That's correct.

CHAIRPERSON RICHARDS: Okay, so the public will get to see, you've heard that… [cross-talk]

MIKELLE ADGATE: Uh-huh… [cross-talk]

CHAIRPERSON RICHARDS: …get to see the plan before its submitted to DEC?

MIKELLE ADGATE: That's right, so we do plan to share the selected alternative with the public before it is submitted to the state.

CHAIRPERSON RICHARDS: So, we're charting a new course is what I'm hearing?

MIKELLE ADGATE: It is a new course and something that we've been in conversation with the state on in response to the community feedback that we've received over the years.

CHAIRPERSON RICHARDS: And I just want to hop back over to the storm water fee because I know that, you know approximately 70 percent of all New York City properties are one to four family homes and I do have a concern that communities of color may be

more adversely affected by this so can you speak to how we're really going to ensure that there's equity around the system?

ANGELA LICATA: That, that is precisely the problem, we need to really look at who is generating the runoff in addition to single family homes and how those costs could be reallocated. So, there are many strategies for consideration, we have not applied those strategies to New York City rate payers or building classes yet but we have studied each and every, I can almost say of the best practices that are being applied across the country and I will say also that I'm very glad that we have not charted the, the path forward on this, there are a lot of municipalities that made a lot of mistakes so I think that we're in a position to benefit from some that potentially did not get this right and to really look at what are the best strategies out there and, and, and learn. So, we will have to be very careful of your point which is that we do have over 70 percent single family occupants.

CHAIRPERSON RICHARDS: And then have we also thought about… I'm going to go to Council Member Levin right after this, incentivizing home owners or

individuals to install green infrastructure, so has there been any thought to that, that can be, you know a strategic way of ensuring that we are addressing the issue and people are taking ownership of the issues, so has there been any thought process in perhaps reducing, you know your water bill or, or rate a little bit… [cross-talk]

ANGELA LICATA: Right… [cross-talk]

CHAIRPERSON RICHARDS: …as an incentive if you install green infrastructure?

ANGELA LICATA: Right, so I mean one of the things that we've been doing for a very long time is water conservation and that's gone a really long way to… [cross-talk]

CHAIRPERSON RICHARDS: The water… [cross-talk]

ANGELA LICATA: …addressing… [cross-talk]

CHAIRPERSON RICHARDS: …the rain barrels and that… [cross-talk]

ANGELA LICATA: …the rain barrels and toilet replacement programs and just generally speaking we've been very fortunate about new construction resulting in tighter plumbing fixtures and reducing the potable water which reduces the

amount of that that is discharged into the sewer system during rain events leaving additional storage or capacity for rain water. In addition to that we do have our green infrastructure grant program that has not been as well subscribed as we had hoped frankly I'm, I'm disappointed that we're… we leave money on the table, we try to advertise that, we have 15 million dollars out there in grants, but we would like to see that grow. In addition to that we are looking at a private incentive program that would take advantage of some of the applications that we've seen in other cities and I don't want to say again too much about that, when we're going with an RFP, I don't want to give too many details, but I will say that… [cross-talk]

CHAIRPERSON RICHARDS: And that's in the same… [cross-talk]

ANGELA LICATA: …to your… [cross-talk]

CHAIRPERSON RICHARDS: …time frame as the other?

ANGELA LICATA: Yes… [cross-talk]

CHAIRPERSON RICHARDS: Okay… [cross-talk]

ANGELA LICATA: We're working on both of those simultaneously.

CHAIRPERSON RICHARDS: Okay. Okay, I'm going to go to Council Member Levin for questions, we also were joined by Council Member Ulrich who I think will be back.

COUNCIL MEMBER LEVIN: Thank you very, very much Mr. Chair, thank you to the panel. I just have a few questions specifically starting with Newtown Creek. So, with DEP's objective of reducing storm water runoff in Newtown Creek, is DEP diverting sewage into other waterways specifically the East River?

ANGELA LICATA: We refer to it as displacing and I will let Jim Mueller who understands that really well and I'm not trying to be cute, I'm just saying that that, that is in fact… [cross-talk]

COUNCIL MEMBER LEVIN: That's the technical term… [cross-talk]

ANGELA LICATA: …what is happening is it is… we are displacing flow but let us explain to you why that occurs and how we are trying to effectively bring the storm water as quickly as possible to our treatment facilities. If you don't mind Jim.

JIM MUELLER: No. So, as Deputy Commissioner Licata referred to before for Newtown

Creek there's two projects in, in her testimony she referred to it, one is the Borden Avenue pumping station upgrade, we're going to upgrade that pumping station to 25 million gallons per day during wet weather, it's going to get pumped over to Newtown Creek directly to the plant about a half a mile force main or three quarters of a mile of a force main that will run to the plant. When that flow goes to the plant it will be treated at the plant because it's going directly there… [cross-talk]

COUNCIL MEMBER LEVIN: Uh-huh… [cross-talk]

JIM MUELLER: …so when you say relocation that's… we're not relocating the flow it's actually going to get treatment, what it does is displaces flow from the East River where those over… those CSO's would, would normally go to the plant it'll displace some fraction of those CSOs and there will be additional flow to the East River, I think it's two or three locations, the majority of it goes out. It's a small percentage of the overall flow that currently goes out so it's not like we're doubling the flow to the East River but there is a fraction increase at certain out falls of the East River. One

thing we're going to do is look at those out falls particularly during the citywide Long-Term Control Plan that's due at the end of 2018 and see what we can do whether it's a regulator improvement program to capture more of that flow or some other local… whether it's GI or some other local solutions to maybe offset that fraction, fractional increase. The other project in Newtown is the big CSO storage tunnel for the three large out falls in the back part of the creek… [cross-talk]

COUNCIL MEMBER LEVIN: Uh-huh… [cross-talk]

JIM MUELLER: …that's a longer term project, the Borden Avenue pumping station is in about a ten to 12 year time frame, the tunnel is at about a 22 to 25 year time frame because it's, it's two waters magnitude to the larger… it's a billion… 1.4 billion dollars for that tunnel, it's a very large tunnel, siting's of course an issue and then just the running it to the treatment plant and, and pumping it out for treatment there, all of that is a, a very complex project so it's a longer term project and the shorter term for Dutch Kills which is near the community college and know it's a, a kayaking, I

actually kayaked up there two years ago with the Newtown Creek Alliance so it's an, an accessible water body so that's where we're starting is the investments there but it will result in a displacement of a fraction of the flow toward East River and that's something we're going to look into the citywide in terms of mitigating.

COUNCIL MEMBER LEVIN: And the tunnel would, would eliminate that long term because the tunnel would be able to, to, to divert that all back into the… into the wastewater treatment facility?

JIM MUELLER: So, the tunnel there's four major out falls into Newtown Creek… [cross-talk]

COUNCIL MEMBER LEVIN: Uh-huh… [cross-talk]

JIM MUELLER: Borden Avenue pumping station is one of those major out falls which is Dutch Kills near LaGuardia community college… [cross-talk]

COUNCIL MEMBER LEVIN: Uh-huh… [cross-talk]

JIM MUELLER: …the other three out falls are in… are further into the creek so the tunnel will really address those other three… [cross-talk]

COUNCIL MEMBER LEVIN: Uh-huh… [cross-talk]

JIM MUELLER: …where about a billion gallons of flow goes, goes out in those three right now. The tunnel is really aimed at mitigating that, the other out fall in Dutch Kills is much smaller, it's about 100 million gallons a year as opposed to a billion so it's about ten percent of the overall flow… [cross-talk]

COUNCIL MEMBER LEVIN: Uh-huh… [cross-talk]

JIM MUELLER: …so Borden Avenue will get us about a 75 percent reduction which is a very high level of reduction that's the project we have planned for Borden it would be… there's no future… no future project plan for Borden at this point.

COUNCIL MEMBER LEVIN: How many gallons are displaced then into the East River?

JIM MUELLER: I'm sorry?

COUNCIL MEMBER LEVIN: How many gallons are displaced into the East River then?

JIM MUELLER: I can get you that information, I don't have it at my fingertips but it's certainly something we, we have calculated and

have an estimate on, I do not have it at my fingertips right now, but we can… [cross-talk]

CHAIRPERSON RICHARDS: There's no way to eliminate that without the… you know out, outside of these long-term capital improvements?

JIM MUELLER: Well one thing we're going to look at in the citywide is locally where we are discharging in the East River is a regulator improvement program or some other infrastructure improvement we can make to mitigate that or green… no, a combination of green and grey similar to what we've done in other areas that can… that can potentially mitigate that.

COUNCIL MEMBER LEVIN: Okay. How are you in terms of bioswales and other green infrastructure in the communities around Newtown Creek, I know for example there was a large scale, you know one of the GCEF projects which was around bioswales in the Northern part of Greenpoint, it actually just got rescinded, there was some complications with DOT and out of a 100 or so that were originally supposed to be sited, you know only, you know a small percentage were, were able to clear the other regulatory hurdles and the project ended up being rescinded and, and

reallocated to another project that might not… may or may not be a green infrastructure project but it was obviously disappointing and that was… that was, you know the GCEF is the… for those that don't know is this… is a… is a, a fund created by the Exxon Mobile settlement with the State Attorney General and so, you know that was… that was resources that, you know were not part of DEP funds, those were… those were… you know those were from an alternative source and so obviously it was disappointing to see that that project was abandoned if that was going to divert waste water into the Newtown Creek.

ANGELA LICATA: Well I mean good news with respect to Newtown Creek as it is one of our priority areas and it is an area where we have been designing and constructing already and what we are doing there is going through a rain garden program street to street looking for opportunities to saturate the roadways or streets if you will with rain gardens. So, we look for every opportunity there, we also have the opportunity currently through some contracts to look at the parklands that are within those tributaries, the schools and NYCHA developments and we have several projects that are

currently in design and I can give you the numbers and names of all of those projects. So, we have been looking very routinely at almost every opportunity within those water sheds for green infrastructure investments with the hope of saturating that area. We also have increased potentially I guess is a way to put that, a risk tolerance so some… in the beginning of the program we eliminated some sites as a result of infiltration techniques but now that we have been able to collect, you know through research and development some performance data we're feeling somewhat confident about going back and potentially looking once again at some of the sites that we rejected so there's another opportunity for us to circle back around the block if you will and take another look at those opportunities.

COUNCIL MEMBER LEVIN: Can I ask you if you could do that with reaching out to… you know through NYWF, Wildlife Foundation and the other organizations that are managing that project, I, I, I'm, I'm sure you're familiar with this… the overall GCEF project was like 20 million dollars but this was one that was going to have a direct impact and again it was literally just in the last couple of months

came back and said that, you know the practical application for this was about… I think it was about 100 bioswales in Northern Greenpoint that were now diverted to other projects, disappointing.

ANGELA LICATA: Yeah, that, that is disappointing. I'm not familiar with the circumstances, I will contact NYWF and try to determine whether or not our program is applicable to that area only because some of the area in and around Newtown Creek is direct discharge or part of the separate sewer system… [cross-talk]

COUNCIL MEMBER LEVIN: Uh-huh… [cross-talk]

ANGELA LICATA: The current program that we have budgeted is related to the combined sewer system, so I will take a look at the particulars there… [cross-talk]

COUNCIL MEMBER LEVIN: Yeah… [cross-talk]

ANGELA LICATA: …and see what we can do and why they abandoned some of those sites.

COUNCIL MEMBER LEVIN: Okay, I'm pretty sure they were in the combined sewer area… [cross-talk]

ANGELA LICATA: Okay, that'll be great.

COUNCIL MEMBER LEVIN: Okay. And another question around that area of, of Greenpoint, an area that I represent but then also applies to other parts of the district that I represent is, you know the, the tremendous amount of development that's happening at a very fast rate… development that pursuant to old rezonings so in downtown Brooklyn the rezoning was in 2004 but a lot of the buildings have been coming up in the last couple of years because of the, the real estate cycle same as the case in Waynesburg and Greenpoint along the waterfront where the rezoning was in 2005 but if you… you know if you look out there now, you know if you look out from Newtown Creek now you'll see two buildings that have gone up on the Greenpoint waterfront, there's probably going to be about 30 more in the next 15 years and, and so the, the amount of taxation on that neighborhood's infrastructure is going to be pretty dramatic, I mean it's, it's almost… you know it's hard to fathom it but if you go out there and you look you see… you'll see two buildings that have gone up in the last year, you know multiply that by 15. So, is… are the… are all of these upgrades keeping a pace with what you anticipate the development, I mean and are you

talking to Department of City Planning and, and making sure that they're telling you exactly what level of population is going to be there, you know what type of… what type of physical imprint all that development is going to look like and then… and so that you can make sure that your long term capital improvements are… you know looking towards accommodating that level of development particularly in Greenpoint but then also in downtown Brooklyn and, and, and… you know other areas?

ANGELA LICATA: The short answer is yes. The… certainly the Long-Term Control Plans have factored in those rezonings and projected those flows in loads as we call them… [cross-talk]

COUNCIL MEMBER LEVIN: Uh-huh… [cross-talk]

ANGELA LICATA: …so the volume and the constituents or the characteristics of the affluent into account and projected to 2040.

COUNCIL MEMBER LEVIN: Okay and there's a kind of constant communication with, with DEP, I mean the… you know because on top of that, you know then I'm also having developers or owners of property coming back for additional rezonings on top of the

2005 rezonings so… you know domino got rezoned then they came back they wanted more zoning, I got other projects I want more zoning so they got like… you know so now they want to add a million square feet of commercial on top of their million… two million square feet of residential, you know so it's not just the 2005 rezoning it's now they want more than what they had even, even back then and so it's… you know it's piece meal but it's, it's cumulative.

ANGELA LICATA: Right and, and we do have close coordination with city planning but that is challenging when we're hitting… it… or trying to hit a moving target like that but we do have the luxury of a period of time where we will be designing our facilities and so there will be an opportunity to take another look back or I should say look ahead at what the future zoning densities will be.

COUNCIL MEMBER LEVIN: Okay, so it'd be good to make sure that, you know at least you know what, what they know so, you know if… [cross-talk]

ANGELA LICATA: Yes… [cross-talk]

COUNCIL MEMBER LEVIN: …you know if they're working with somebody on an, an additional

application over a four year… you know the kind of lead in time… [cross-talk]

ANGELA LICATA: Uh-huh… [cross-talk]

COUNCIL MEMBER LEVIN: …be good to know… [cross-talk]

ANGELA LICATA: Uh-huh.

COUNCIL MEMBER LEVIN: And then lastly, I wanted to ask about… is… are… I, I don't… I'm not… I don't know that much about water rates but are you looking at being… a, a way to calculate storm water runoff of a particular property into that properties water rate calculation?

ANGELA LICATA: Yeah, so what we were discussing earlier is that we would like to embark on an holistic integrated water rate structure or look at alternative structures that would help the city from several perspectives more equitably charge for storm water services represents and our fixed cost from year to year and provide us with a sustainable revenue stream going into the future assuming even more water conservation so, you know the old way of doing business is you're basically billed on your consumption level and that's frustrating for people cause they conserve and then we charge more money

because we have other things that we're paying for. So, it, it is a program that we want to take a look at and, and I call it a program because it will require a lot of disciplines, it will require specific data analytics in GIS systems to allow us to look at the properties and the individual characteristics of properties and… [cross-talk]

COUNCIL MEMBER LEVIN: Uh-huh… [cross-talk]

ANGELA LICATA: …and group properties and figure out the most protective way of billing for everybody's interest and the reason… I mean… I didn't say it earlier, but I'll say now is that we are at this point in, you know the programming, we haven't looked at it yet, we're looking at it now is because we have a new billing system that we're also putting into place. Our older billing system would not have the capacity to do these new rate structures so as we move forward and invest in that new billing system we are leaving and holding open the possibility that some of these other rate structures could be adopted.

COUNCIL MEMBER LEVIN: Okay. I'd like… obviously want to encourage that and you know there's… we want to make sure that we're encouraging

conservation and, and discouraging, you know owners from having essentially, you know hard scape blacktop property that doesn't… makes no… zero effort, you know to, to mitigate any, any storm water runoff which, you know is happening in large parts of my district for sure so… thank you.

CHAIRPERSON RICHARDS: Thank you and before we let you go get to the… to get to the public I also want to acknowledge we've been joined by Council Member Perkins. Is there a publicly accessible website where people can see where the green infrastructure project's actually happening and, and where you're making progress at… or with them at?

MIKELLE ADGATE: Yes, we have… if you go to NYC dot gov slash rain gardens there is a map that you can access… [cross-talk]

CHAIRPERSON RICHARDS: Okay… [cross-talk]

MIKELLE ADGATE: …you can plug in your, your address and see planned, designed and constructed green infrastructure… near your home, you can also add layers like your city council district… [cross-talk]

CHAIRPERSON RICHARDS: Uh-huh… [cross-talk]

MIKELLE ADGATE: …or community board district or neighborhood to get a sense of the scale of the green infrastructure program. For those that are interested in the Long-Term Control Plans all of the presentations that we've given to the public are available online as well as our responses to comments received by the public about the particular plans and in some cases, we also have videos of our meetings so if you weren't able to attend you can watch that and hear some of the back and forth.

CHAIRPERSON RICHARDS: Okay and, and also the proposed projects as well?

MIKELLE ADGATE: That's correct. We've also… and I believe that all of the Council Members have received one of our new Long-Term Control Plan, Plan… [cross-talk]

CHAIRPERSON RICHARDS: Uh-huh… [cross-talk]

MIKELLE ADGATE: …brochures which goes into all of the project details, cost, benefits and so on and on our website, we also have water body specific fact sheet… [cross-talk]

CHAIRPERSON RICHARDS: Okay… [cross-talk]

MIKELLE ADGATE: …that talk about earlier investments and proposed.

CHAIRPERSON RICHARDS: Alright, well I want to thank you for the work that you do, and we still have a long way to go to ensuring our waterways are fishable, swimmable, boatable and drinkable if you want to drink it too but we appreciate the work you're doing, I look forward to continuing to work with you to make sure that we achieve all of the latter so thank you for your testimony today. Alright, we're going to get to the public now. I know we have some students from PS 15K; Angelina Sanchez; Sharon Li; Ronen Battis; the future, Kayla Delgato; Herman Elsagby [sp?]; Debbie Lee Cohen. Alright, you're going to press your button.

RONEN BATTIS: Hello acting Chair Richards, committee members and staff my name is Ronen Battis…

SHARON LI: Sharon Li…

KAYLA DELGADO: Kayla Delgado…

ANGELINA SANCHEZ: Angelina Sanchez…

RONEN BATTIS: And we are from PS 15, Patrick F. Daly School in Red Hook, Brooklyn representing the 5th grade.

SHARON LI: Thank you for this opportunity to speak. We have been learning about plastic street litter that becomes dangerous marine pollution and how it gets there.

KAYLA DELGADO: We collected street litter and data from our streets in Red Hook and from a beach at a Jamaica Bay Wildlife Refuge. And guess what? We found the same types of litter in both places.

ANGELINA SANCHEZ: In just one street litter survey in only one block in our neighborhood, we found 389 pieces of litter that will never biodegrade. Imagine how many pieces of litter there are in all of New York City.

RONEN BATTIS: We learned with Cafeteria Culture that when it rains as little as one tenth of an inch per hour, New York City's combined sewer, sewer system's capacity is overwhelmed and the mix of polluted storm water from our streets and untreated, raw sewage from our toilets, sinks, and showers is going directly into our waterways.

SHARON LI: That means when it rains, everything, street litter and things we flush down the toilet goes out to the ocean. We know that plastic litter shouldn't be in the ocean. Our fish and marine life think that plastic litter is food and they eat it. Especially because all the plastic litter gets smaller and smaller and never biodegrades. It just keeps polluting our precious waterways and oceans. Imagine opening up a fish and finding plastic inside it and then eating that fish.

KAYLA DELGADO: After we learned about how much litter we have in our neighborhood, we came up with lots of community actions to teach our neighbors about how plastic street litter affects marine life.

ANGELINA SANCHEZ: We performed plays for our neighbors and gave away reusable bags that we made from t-shirts.

RONEN BATTIS: We made charts and graphs from our litter data to ask the Department of Sanitation for recycling bins on the street.

SHARON LI: And we made banners like this one to hang on the fence to tell our neighbors the story of what happens to our street litter.

KAYLA DELGADO: And guess what, it worked. We know because we compared the data. In our last street litter survey, the litter was reduced by two thirds.

ANGELINA SANCHEZ: First we want to thank New York City for all that they have done already to improve the city's wastewater management system.

RONEN BATTIS: But this is not enough, we really want the city to continue to improve the combined sewer overflow system.

SHARON LI: For example, you can let the water go somewhere to wait until after the rain stops and then it could go to the wastewater treatment plant like normal.

KAYLA DELGADO: Or the storm drains on the street could be better designed, make the bars smaller and block the litter from going in.

ANGELINA SANCHEZ: And why not paint a message right on the drain or the curb?

RONEN BATTIS: We would love to have permission to make storm drain art in our neighborhood in Red Hook.

SHARON LI: Why can't we?

KAYLA DELGADO: Cities all over the US have done this. These are from Maryland.

CHAIRPERSON RICHARDS: Keep going. I hope DEP is listening.

RONEN BATTIS: And why not… and why not paint a message right on the drain or curb, cities all over the United States have done this. At least you can make a system to capture the litter near the outfall pipes like Mr., Mr. Trashwheel in Baltimore. We are students and we know that the health of our oceans affects the health of all of us. We also know that good data drives policy. We hope that our numbers… our numbers and our experience teach you what it taught us, that we need to do… reduce the amount of plastic litter going into our waters now.

[applause]

CHAIRPERSON RICHARDS: Wow.

RONEN BATTIS: Thank you, thank you.

KAYLA DELGADO: Thank you…

SHARON LI: Thank you.

ANGELINA SANCHEZ: Thank you.

SHARON LI: Thank you.

CHAIRPERSON RICHARDS: Well I want to… I want to ask one question or two and I also want to

recommend that DEP hires some of these individuals because they actually know what they're doing, I think they are the key to ensuring that we correct this issue. Should we impose a five-cent bag fee, plastic bag fee in New York City or should we ban plastic bags, I just wanted to hear anyone's recommendation, I hope the state is listening today?

[off-mic dialogue]

CHAIRPERSON RICHARDS: Okay, I just wanted to hear her recommendation. So, we heard a lot about plastic in the ocean, in our waterways.

[off-mic dialogue]

CHAIRPERSON RICHARDS: Reusable bags… don't be shy.

[off-mic dialogue]

CHAIRPERSON RICHARDS: Go ahead, don't be shy we don't bite.

KAYLA DELGADO: Reusable bags are important because then you could reuse them, and they won't go in our oceans and they could like to fly out garbage cans and go into the sewers.

CHAIRPERSON RICHARDS: Okay… [cross-talk]

RONEN BATTIS: If we… if we have the five-cent bag fee then people wouldn't want to use

plastic bags anymore they would have their own reusable bags and, and the plastic bags wouldn't go into the ocean. So, many like I think that's a better idea.

CHAIRPERSON RICHARDS: Great, well I want to thank all of you for coming out and your work and ensuring that we're educated and that the public is educated, and I would love to… I know the Chair's not here, but we would love to see your recommendations in writing so that we can incorporate it in our conversations with DEP as well and maybe DEP should hold a hearing with you all as well, that's a good recommendation. So, thank you all, thank you for coming out and exercising democracy. Thank you. alright, we're going to have our next panel; The Billion Oyster Project in New York Harbor School Blyss Buitrago; Liam Daretany… oh who didn't get to testify, okay… [cross-talk]

DEBBY LEE COHEN: Okay, I'm sorry… [cross-talk]

CHAIRPERSON RICHARDS: …you stay. Alright, we're going to call another panel, hold on… [cross-talk]

DEBBY LEE COHEN: I'm Debbie… [cross-talk]

CHAIRPERSON RICHARDS: Mahambe Toure, so they can come up, Billion Oyster Project, are you here, alright so you all come up as well. And we're going to give each person three minutes on the clock.

DEBBY LEE COHEN: And just so you know that those students were part of a program that was funded by USAEP Region two and DEP was a partner in the project and we're finishing our final report, so we'll share it with you, there's lots of… [cross-talk]

CHAIRPERSON RICHARDS: Wow, we look forward… [cross-talk]

DEBBY LEE COHEN: …information in there… [cross-talk]

CHAIRPERSON RICHARDS: …please… [cross-talk]

DEBBY LEE COHEN: …from three neighborhoods in the city.

CHAIRPERSON RICHARDS: That is so awesome.

DEBBY LEE COHEN: Thank you.

CHAIRPERSON RICHARDS: And if you don't mind ensuring that that is also presented to every council member.

DEBBY LEE COHEN: Great…

CHAIRPERSON RICHARDS: That would be great as well… [cross-talk]

DEBBY LEE COHEN: Great, I would love to do that, thank you.

COMMITTEE CLERK SAMARA: Can you please raise your right hand? Do you swear or affirm to tell the truth, the whole truth and nothing but the truth today?

DEBBY LEE COHEN: I do.

LIAM DARETANY: Yes…

MAHAMBE TOURE: I, I do.

CHAIRPERSON RICHARDS: Alright, you may begin.

DEBBY LEE COHEN: Okay, I'm Debby Lee Cohen, Executive Director and Founder of Cafeteria Culture. We were founded… and Styrofoam out of schools. we worked with Department of Ed. School Food Directors to eliminate polystyrene trays completely in all New York City schools and we work to achieve zero waste schools, climate smart communities and

plastic free initiatives and solutions with students as our partners. We are particularly focused on student leadership roles to reduce local plastic street litter that becomes deadly global marine pollution. I'm grateful to present the concerns about our city's contribution to pervasive global marine plastic pollution crisis and to share recommendations for reducing the unacceptable amounts of plastic litter that flow into our local waterways on a daily basis. Marine plastic debris is one of the greatest global and health and environmental challenges of our time. As you probably know there are more than eight million tons of plastics entering our waterways every year, 80 percent of the ocean plastics are land based, they are coming originally from land. And New York holds responsibility for contributing to that. By 2015, in a business as usual scenario, there will be more plastic than fish by weight, we don't want to get there. Plastic breaks down easily, it turns into microplastics which act like sponges and they absorb toxic chemicals like PCB's and flame retardants. So, when fish are eating these microplastics and then we're eating these fish, we are in fact eating these microplastics that are laden with toxins. It's

estimated in New York City from a report by New York, New Jersey Bay Keepers that 165 million plastic particles are floating in New York waterways at any time although we do believe that's a low estimate. Some of the suggestions that we'd like to make are providing funding for urgently needed collaborative research on local plastic marine pollution to determine the sources, amounts, and specific types of plastic debris in waterways. This will shed light on the magnitude of the problem in our local area and inform policy makers with more data for passing legislation to reduce plastics from entering our waterways. We also suggest increasing funding for innovating public outreach. As you can see what our kids did in our program, we got tremendously positive feedback from neighbors who maybe wouldn't have looked at a government sign but seeing kids create a signage and we also have YouTube video, people are much more likely to be engaged by locals actually talking about the issue. We also suggest increasing and diversifying green infrastructure, I know that that's going on, but I know there's not enough of it and in particularly partnering with Department of Ed with our school custodial staff as well as with

school construction authority, they're often a lot of challenges to make green infrastructure happen. A mandate on environmental literacy, we… this is something that would save the city millions and millions of dollars. We spent so much money, billions in sanitation and Department of Environmental Protection and so little in education, it's time that we really focus on that and also to reduce microfibers which is one of the newest issues that we're aware about now and to begin a discussion with DEP, local communities and outreach simply on how to reduce microfibers. Thank you so much for your time.

CHAIRPERSON RICHARDS: Thank you and thank you for your testimony and work.

LIAM DARETANY: Thank you for hearing, hearing me today. My name is Liam Daretany and I am a Junior at the Urban Assembly New York Harbor School and I'm here on the behalf of my fellow divers and the entire student body as well as young people across the city. The Harbor School is a public high school located on Governors Island in the heart of New York Harbor. The school instills a sense of environmentalism in its students that we take with us beyond our high school careers. I grew up only a few

blocks away from Midland Beach on Staten Island and as far back as I, I remember I've always been told to never go in the water, you'll grow an extra arm and I thought this was a joke until I got to the Harbor School. At my school I participate in a unique three-year professional diving program which allows me to graduate with many certifications on top of my high school diploma and prepares me for a career working in our harbor as well as for college. With combined sewage overflow systems still operating the city this makes my life as a diver more difficult than it should be, we need to wait 72 hours after it rains as little as a quarter of inch to avoid contact with things like fecal coliform and prescription drugs. New York Harbor was once a stunning habitat that was home to an inconceivable amount of biodiversity but now you can hardly see your hand two feet in front of your face. We are a city that has forgotten its roots; the harbor that allowed us safe passage and access to shipping we have used as a personal dumping ground. The oysters that built our economy are now killed off by over pollution, the fish we once thrived off of are now too toxic to even think of eating. We can change this. We could go back to what

we once had, and the first steps would be to find an alternate solution to combined sewage overflow systems in New York Harbor. Programs such as the Billion Oyster Project can then more effectively continue their work to restore and thus maintain the environment and students such as myself can access the water without worry. Thank you for hearing me out today I hope you'll take my testimony and the testimony of others who speak today into consideration.

CHAIRPERSON RICHARDS: Thank you.

MAHAMBE TOURE: Hi, my name is Mahambe Toure, I'm a current Senior at the New York Harbor Professional Diving Program. The dumping of CSO's has cost my classmates and I many days of diving throughout my three years at the New York Harbor School. Being a diver, I've learned to deal but looking back on all the dives I have missed out on, I wonder how much better of a diver I would be now if I'd been able to dive all those days I missed due to combined sewage outflows. We cancelled dives based on rain flow data and an assumption that there will be a CSO event. We get NY Alert notifications but it's not real time accurate information. We request

transparency anytime there is a CSO event. I'd like to read a short statement… a short statement from one of our diving teachers, Lenny Speregen. I was a commercial diver in New York Harbor for a large portion of my diving career and I have seen an amazing change in our harbors since the Clean Water Act. However, every time it rains, and the DEP feels the rainfall will exceed more than a quarter of an inch of rain there is a discharge of untreated sewage and oil and gasoline filled street runoff. As a professional diver it was my job to dive regardless of the water condition. Now that I'm a teacher at the New York Harbor School my students are the ones impacted by this discharge. I cannot train them in the harbor in these conditions. It negatively impacts their training and ultimately their safety and health. It is well past time to upgrade our untreated sewage storage system. Responsible people do not treat their environment this way. Today it affects my students, tomorrow everybody. Thank you for listening.

CHAIRPERSON RICHARDS: Thank you.

BLYSS BUITRAGO: Good morning, my name is Blyss Buitrago and I am testifying on behalf of the

Billion Oyster Project. New York Harbor was once a robust estuary teeming with over 220,000 acres of oysters. Thanks to measures such as the Clean Water Act, the Billion Oyster Project has been working in partnership with the New York Harbor School to restoring native oysters to New York City waterways. For the fist time in centuries, the oysters are surviving and building the foundation for future populations. Our oysters, despite their size, contribute towards improved water quality, build habitat for many other of our marine critters, help protect our shorelines from major storms surges like super storm Sandy and many other contributions. Through Billion Oyster Project alone, 25 million oysters have been restored to New York Harbor and reefs are taking hold. The thousands of students we work with are passionate about the harbor they're creating and the harbor they want to see protected. As hundreds of our college students, teachers, environmental educators, academic institutions, restaurants, and other organizations across the city are working tirelessly alongside our team to restore and steward our natural environment. Our dedicated constituents have worked to improve their local

waters but every raw sewage overflow reverses that progress. In particular to communities of Coney Island Creek, Flushing Bay and Creek, and Newtown Creek and Bronx River are burdened by an extreme volume of sewage overflows that impacts their quality of life and health of their families. Despite this public health challenge each of these communities tirelessly advocate for their local waterfront to create a healthy ecosystem with abundant access for community goers to enjoy. Though… through our educational programs many individuals and youth have the opportunity to view their waterfront for the very first time. Witnessing that moment of pure curiosity and joy fuels the need for our work to ensure every New Yorker has this type of opportunity. We have a unique moment to further progress towards a swimmable and fishable New York Harbor for future generations to enjoy. The Billion Oyster Project and our constituents will continue to work towards this New York Harbor that we envision, and we hope that you will help us by reducing CSOs and eliminating chlorination of raw sewage as the mitigation strategy. Thank you.

CHAIRPERSON RICHARDS: Thank you and I want to thank you all for your testimony, I want to thank you for the work your organization is doing in the Rockaways as well, we've very appreciative of it and I thank you for your testimony today. Alright, we're going to go to the next panel; Carter Strickland, Trust for the Public Land; Jaime Stein, SWIM Coalition; Lawrence Levine, Natural Resources Defense Council; Sean Dixon, Riverkeeper. Is that everyone, okay so Carter Strickland, Trust for Public Land; Jaime Stein, SWIM Coalition; Lawrence Levine, Natural Resources Defense Council; Sean Dickson, Riverkeeper. Alright, you'll raise your hand and Samara's going to swear you in.

COMMITTEE CLERK SAMARA: Can you please raise your right hands? Do you swear or affirm to tell the truth, the whole truth and nothing but the truth today?

JAIME STEIN: Yes.

CARTER STRICKLAND: Yes.

CHAIRPERSON RICHARDS: Alright, Carter Strickland you know the… you know the drill, good to see you.

CARTER STRICKLAND: Excuse me, thank you, there I go. Thank you acting Chairman Richards, it's good to see you again and other members of the committee for the opportunity to testify on this important topic. My name is Carter Strickland and I'm the New York State Director of the Trust for Public Land, a national non-profit that works to create parks and protect land for people, ensuring healthy, livable communities. I have testimony that I'm going to summarize here given the short timeline and so many people who are interested in this topic. We've been involved in New York City since 1978, working with communities and the government to improve New York City neighborhoods through land protection and open space initiatives. In that time, we've seen the city dramatically transform from the depths of urban decay to the heights of revitalization. In just 40 years, New York City has become a place that attracts and retains families, workers, tourists, rather than repels them. the harbor's gone through a similar transformation in that time period as you've heard in part due to investments by… of billions of dollars by New York City Department of Environmental Protection including the 1.5-billion-dollar commitment to the

green infrastructure plan, it's already bearing fruit, transforming the very landscape of the city with 4,000 rain gardens built already. Its not easy to do things in New York City and I think that represents a tremendous accomplishment. We've been involved in reimagining the waterfront lands and also in working with the New York City Department of Environmental Protection on transforming cities through a very innovative playgrounds program that I want to acknowledge and describe a little bit for your consideration. What we do on the land does definitely effects runoff and what, what ends up in the harbor, we consider that factor when we decide to build playgrounds. We've built 194 playgrounds to date. This infrastructure provides new parkland within a ten-minute walk of three and a half million New Yorkers and has transformed 150 acres of barren asphalt school lots into green infrastructure, I've provided a few pictures of before and after which is pretty remarkable in the testimony. These playgrounds are a cost-effective way to mitigate potential storm water damage by collecting millions of gallons of runoff that would otherwise flood streets, overwhelm sewers and pollute local waterways. We do work with

kids and actually to educate them, I'm happy to see that you allow the kids to testify first, they are our future and I think through educating them with not only our sewer in the suitcase proposal but also… educational program but also, thanks to many people, but also in getting kids involved in designing green infrastructure, these are our future landscape architects and we're helping to educate them. Every one of our playgrounds is designed by kids. Since 2013, DEP has helped fund 11 of our green infrastructure playgrounds each of which absorb an average annual of 650,000 gallons of rain water. One, for example at Junior High School 185 in Queens who will capture 1.1 million gallons annually. Collectively, our green infrastructure playgrounds built with DEP collect nearly 6.4 million gallons of rainwater annually. We have four more, more in the pipeline, two in Queens, one in Brooklyn, and one in Manhattan. These four will capture an additional three million gallons of storm water. It's a program that works and we think it bears further investment. I will say in water rates there's a very good example of rates working in conjunction with water efficiency programs on the water side. DEP's water use peaked in

the early 80's at about 1.6 billion, billion gallons a day, it's now at about a billion gallons a day due to a number of factors, metering happening in the early 90's and also rate increases, price signals work in conjunction with these projects, it worked on the water side, there's no reason it can't work on the waste water side. Thank you and happy to answer any questions.

CHAIRPERSON RICHARDS: Thank you.

JAIME STEIN: Good afternoon, thank you. My name is Jaime Stein and I am the Storm Water Infrastructure Matters Coalition Steering Committee Chair. Thank you for the opportunity to offer the following comments on behalf of SWIM. We thank the Committee on Environmental Protection for your oversight of the city's water quality improvement plan. SWIM is a diverse group of more than 70 community based, citywide, regional and national organizations, citizens and businesses all advocating for the health of New York City's vital waterways since 2007. We recognize the effort which DEP has put into the existing plan however we still have a long way to go in order to meet the fishable, swimmable federal health standards mandated for New York City

waterways. The approved and submitted plans, many submitted without final public review will leave hundreds of millions of gallons of sewage overflows in each water body annually on dozens of occasions per year. Many of the plans do not reduce overflow volume at all and instead call for diverting raw sewage into the East River or dumping chlorine into raw sewage before discharging it to rivers, creeks and bays. In brief, our testimony offers the following essential actions for effective water quality planning. Number one, effective CSO Long Term Control Plans with expedited timelines, rejection of chlorination, reduction of overflow volume rather than redirection and alignment of plans for combined sewer and separate storm sewer to areas. Number two, a robust and adaptively managed green infrastructure plan with a comprehensive contingency plan to meet missed milestones, improved interagency collaboration for green infrastructure on municipal property, diverse green infrastructure methods beyond bioswales, more green infrastructure on private property and expansion of green infrastructure into the MS4 area. Number three, equitable financing and water rates with a more equitable rate structure and

directing DEP to conduct a rate restructuring study. Number four, water quality standards that actually protect public health. And lastly, a transparent and inclusive decision-making process which provides genuine opportunities for public input and accountability for city and state to address public concerns during the development approval in implementation of Long Term Control Plans. SWIM Coalition has distributed fact sheets outlining community's concerns with each of the city's proposed Long-Term Control Plans and shared our principles for clean waterways with all the city council members and many elected officials citywide to alert them about the flawed plans in their districts. We have shared the principles as a guide for how the city and states can improve on the plans that are meant to protect our waters. We thank the council for holding this public hearing and providing the opportunity for waterway stakeholders from around the city to be heard. We look forward to a healthy public discourse on the concerns raised here today. Thank you.

CHAIRPERSON RICHARDS: Thank you.

LAWRENCE LEVINE: Thank you Mr. Chair, my name is Lawrence Levine and I'm a Senior Attorney

with Natural Resources Defense Council. I just want to take two seconds to say wow, those students were amazing, they made my day. I got lengthy testimony as well but I'm only going to summarize really briefly. I did want to even before that respond to two points that came up earlier with DEP's testimony and, and then some earlier statements that were made. One is just to emphasize that it's not only when there's a heavy rainfall and it's not just occasional that we get these overflows, it's… that's some… that's often something that's said it's a tenth of an inch of rain can trigger it and there have been a 100 times this year already that DEP has reported an overflow to the state… and that I got that email from the state saying there's been an overflow somewhere in the city, that's very typical not just this year and it's not just the small storms. The second thing is, there was a question for DEP about whether these approved plans are apheta complete as far as the state is concerned, yeah, they seem to be. As far as the city of New York is concerned, if the Mayor of the city of New York decides he wants to do something more and better he's completely empowered to do that. If, if the city council… if the city council… if the city

council chooses to use authorities it has to push DEP and the Mayor to do more, more can be done and that's, that's why we're all here today. I, I'm on the Steering Committee of the SWIM Coalition fully endorse all of the points in Jaime's testimony and I wanted to emphasize a couple of points in mine. One is about revamping the city's efforts to stimulate green infrastructure on private property, I'd like to refer you to a, a detailed report that NRDC put out over the summer with extensive recommendations based on interviews with hundreds of stakeholders with working closely at DEP with someone sitting in their office for about a year, a series of recommendations to create what we think can be a terrific grant program, scalable with… working with community based organizations to implement it. Regulations for private development are also essential for getting green infrastructure on private property and we think that that's one place where the EPA has, has really fallen down on the job and there's… there are best practices that are out there that work in other cities that DEP has not picked up on. And then secondly, rate structure, there's been a lot of discussion about it and that's terrific. It's

critical to reform DEP'S rate structure to equitably generate the funds that we need for clean water investments. DEP emphasizes affordability challenges and costs. There are… it's a key assumption embedded in all of that which is that the rate structure stays the same. When DEP projects what the cost would be in particular to low income customers it's based on the current rate structure projecting future spending, if we improve that rate structure and there are many ways we can do it and a storm water fee is actually one of them that would help on this equity issue, we can raise more revenue, invest more without imposing undue burdens on low income customers and that's why this, this rate restructuring issue is so critical to this whole discussion.

CHAIRPERSON RICHARDS: Thank you.

SEAN DIXON: Thank you very much for having me here to testify. My name is Sean Dixon and I'm a Senior Attorney with Riverkeeper and also on the Steering Committee of the SWIM Coalition. Larry took my point about the city going above and beyond and my statement about the children, so I think that I'm going to bring in their teachers as well and I think… I want to thank the teachers for encouraging

such brave and well intentioned… and well-informed students. Beyond that I want to address three key points that the city made but after I think one that, that is inside my testimony that I won't get to because we don't have that much time today and that's to change the system that we use as a city to think about how we move forward. When we had problems with drinking water we built one of the world's most insanely impressive engineering feats to bring better, clean drinking water to the city. When we had problems with open space, we brought in designers that put in places like Central Park and Prospect Park. When we had issues with a lot of our sewage problems, we ended up just sitting on this issue for decades and decades and decades and so what we've been left with now is a system of pollution that is one of the last great unaddressed aspects of our city's infrastructure. If you want to build a new building today you cannot build that building without looking at the impacts to the subway system near it, to the schools, how many seats are there for new children that you're going to be bringing in, to even questions as mundane as how much additional traffic and pedestrian intensity are you going to be bringing

to a street corner. What we do not do is say in any given new building, any new project what can you do to fix this centuries old problem that is going to cost us 30 billion dollars if we had it to spend and so that's the point that I want to make on the… on the fees and how we pay for these issues is it's not just on the DEP's shoulders to figure out how to raise 30 billion dollars, it's on every new developer, every new renovation, every new design and frankly on every new street that we repave, every single one of our decisions across the city can be done better and what we're not doing right now is making any new, better, improved choices for our storm water. Three things that I wanted to point out about the, the city's testimony is first on public participation. I've been to almost every LTCP public meeting that's been held by the city for every one of the LTCP's and I can tell you that some of them have had three people, some of them have had five and some of them have had 100 and in all cases the feedback from the communities largely went ignored in the final plans and that's something that I have been very disappointed about. It seems that in some of the meetings where 100 people stood up and said we do not

want chlorination in these waters we want capture, the city's plan that came out on the backside of the process was to cap… was to chlorinate those waters and ignore that community's voice. So, there's a difference between having an open hearing and listen to the community. Second, on, on the issue of what we're going to get from these plans, the city constantly said if you listen to their testimony that these plans 25 years from now in the case of Newtown Creek and other waterways would meet existing water quality standard, those existing water quality standards its important to note are currently the subject of a lawsuit brought by Riverkeeper and others in this room challenging the state's reliance on 40 year old technology… or on, on technological water quality standards that the EPA itself in letters last year to the State of New York said were scientifically indefensible so if we wait until the mid-2040's to assess whether or not we should have done something better today when we know today what we should be using to gauge our success because it came out from the EPA in the 1980's and was again reassessed in, in 2012 then we're doing a great disservice to the community. Lastly just one quick

point on chlorination, I think one of the system's issues with this entire structure of the way the city's made its decisions with respect to these has been backwards. When we have a suite of impacts that are going to come out of a system that we only address after we've decided to put in place that technology then we are also doing a disservice to the community. We should be looking at all of the potential impacts to historic districts, to community and public health, to transportation of all of the different types of grey infrastructure construction projects and like in EISs figure out where exactly we can mitigate or avoid those impacts before we settle on an alternative choice, here we've done it completely backwards. Thank you very much for the opportunity and I'm able to take any questions.

CHAIRPERSON RICHARDS: Thank you and I think if I heard you correctly you said we should incorporate storm water runoff… or projections in EIS's?

SEAN DIXON: Absolutely and this… [cross-talk]

CHAIRPERSON RICHARDS: Correct… [cross-talk]

SEAN DIXON: …is something that I think we've, we've raised before is that the city has the ability to say you can… you know you have to look at noise impact even… [cross-talk]

CHAIRPERSON RICHARDS: Uh-huh… [cross-talk]

SEAN DIXON: …on construction sites why aren't we just taking that concept and applying it to storm water. One of the things that I'm encouraged on and I mentioned this in the testimony is that the DEP told us in a meeting yesterday that they've been able to work with a pilot program with New York City Parks Department to take not just the storm water that lands on that part and keep it out of the system but use that park and I, I think it's in Queens, use that park to absorb storm water from the surrounding community… [cross-talk]

CHAIRPERSON RICHARDS: Uh-huh… [cross-talk]

SEAN DIXON: …and that's in conjunction with DOT with new innovations in how to move storm water across streets, that kind of forward thinking is also needed here so it's not just where we can

build the biggest tunnel or the biggest tank but it's how we approach the system as a whole.

CHAIRPERSON RICHARDS: Uh-huh. And can I get anybody's thoughts on chlorination?

LAWRENCE LEVINE: Sure, the, the discussion seems to come back to is it done elsewhere or not, is it proven elsewhere or not and this is a really technical engineering question that we usually hear pretty high level generic answers to. The particulars of how it's done and what the context is in New York City of how it would be applied within our sewer system may differ significantly from the ways in which chlorination has been used in other places. My understanding of the LTCPs that have chlorination is that the proposal is to put the chlorine directly into the sewer pipes, not to put it into a tank where the sewage has been temporarily captured and allowed to settle and the turbidity is able to be reduced but you've got that sewage, filthy, cloudy, in the sewer pipe and attempting to chlorinate that and get the chlorine to hit what's in there that you want to kill. That may be a very different circumstance than the way that it's done in other places and that's something we need to know if

that's the case and the same goes on the dichlorination piece, is dichlorination used in other places in a similar circumstance and is it used affectively. And on dichlorination I just… I also just want to point out that the terms of the state's approval of the plans, they actually… the state after approval sent a clarification letter to specify that they were not holding the city to any numeric limit on the chlorine coming out of the end of the pipe. DEC's approval was based on basically as I understand it try your best and that puts you in compliance if you try your best. That's, that's not the way we should be regulating sewage and, and toxic discharges in New York City.

SEAN DIXON: One, one additional point I think that's vital to raise on the issue of chlorination is that, you know this is a conversation that the city council should be having that's broader than just the minimum required water quality regulation floor that the city has to hit with state approval. It's important to note that raw CSO discharges have many more things in it than indicator bacteria, what, what disinfection does is kill the bacteria that we use to gauge the problems inherent

in the whole system of that water, the whole group of pollution that comes out, there's odors, there's biological oxygen demand, there's sediment option demand, there's organic material, there's viruses, there's cigarette butts, there are a host of other things that I won't say because we don't know who's watching the live cast. So, this is something that I think is, is important to note that capturing that, that sewage and that storm water, everything that comes off of our streets if you capture that it can be treated, if you're just chlorinating that one thing that we use to indicate the risk factor for the whole pollution, the plug of pollution that comes out in the storm then what you're doing is you're closing your eyes to the broader problem and you're doing that only so that you can hit some sort of a minimum set by the, the state. And so, it's incumbent upon us as advocates, I think as a city to come together and recognize that the… that the problem is broader than just fecal indicator bacteria.

CHAIRPERSON RICHARDS: Okay, thank you all for your testimony and we look forward to continuing the work with you to push DEP and I want to thank you for all the, the work you've been doing

on this going back to my day as the Chair, so we look forward to continuing to work with you all.

SEAN DIXON: Thank you.

JAIME STEIN: Thank you.

CHAIRPERSON RICHARDS: Thank you. Alright, we're going to go to the next panel; Dr. Tim Eaton, Queens College, Earth and Environmental Sciences; Judith Weis, Rutgers University, Scientist; Annel Hernandez, New York City Environmental Justice Alliance I believe; Rob Crauderueff, Crauderueff and Associates. Do I have everyone? So, Dr. Tim Eaton, Judith Weis, Annel Hernandez, Rob Crauderueff.

COMMITTEE CLERK SAMARA: Can you please raise your right hands? Do you swear or affirm to tell the truth, the whole truth and nothing but the truth today?

TIM EATON: I do.

CHAIRPERSON RICHARDS: Alright, you may begin.

TIM EATON: Good afternoon everyone, thank you for hearing my testimony. My name is Tim Eaton, I'm an Associate Professor of Hydrology and Earth and Environmental Sciences at Queens College. I'd like to speak today about some of the issues that

have been raised with regard to green infrastructure and the Long-Term Control Plan. I've been following this issue for more than ten years now attending many of the Long-Term Control Plan meetings and I think that the, the DEP is right when it says that the water quality in general has improved greatly over the last few decades but it's also correct when it says that our standards are much higher now than they used to be, and I want to commend their… the DEP for its existing green infrastructure program but it's not adequate. The whole point of green infrastructure is to capture storm water before it enters the pipe system, the infrastructure and this is an important point because about four fifths of the volume in the CSO is actually storm water so if you capture it before it enters the system you're ahead of the game and the whole point of green infrastructure is to do this and one of the problems with the green infrastructure program at the DEP is that it has the overly modest goal of capturing storm water on only ten percent of the New York City impervious surface and that's inadequate to actually make a significant reduction in CSO discharges. Many other cities such as Toronto and Philadelphia for example have much

more aggressive and ambitious goals. Furthermore, the second point I wanted to make… oh before I go on, I, I think it's pretty clear that the green infrastructure program of the DEP is not the centerpiece of it's efforts to control CSO and it really should be for the reason I mentioned because if you can capture this… any of the storm water that goes into the combined sewage you're ahead of the game because that's the majority of the volume and you can see this from a comparison of funding that's allocated or projected to the green infrastructure program which is considerably less than is planned to be spent on grey infrastructure. So, basically the, the CSO Long Term Control Plan by the… New York City DEP is far too dominated by end of pipe grey infrastructure projects, the, the proposed CSO retention tunnel under, under Astoria Boulevard which is proposed to mitigate the storm water from… or the, the CSO into Flushing Bay is not going to even begin construction before 2021 and not due to be completed before 2035 and so there will be no retention for another 20 years essentially, I don't think that's a wise allocation of funding. A much better approach would be to greatly expand the green infrastructure

program to focus on capturing storm water at the source on the streets before it goes into the… goes into the pipe system and there is plenty of examples of how this has worked in New York City and elsewhere, the New York… the Staten Island bluebell is a good example of this. it's estimated that such facilities as has… as has been green roofs, impervious parking lots or pervious parking lots, rain gardens, storm water treatment wetlands could capture as much as 25 to 35 percent of storm water in the streets before it ever gets into the sewage pipe infrastructure. So, I'm sorry I went a little bit over, thank you very much.

JUDITH WEIS: Good afternoon, my name is Judith Weis, I'm a professor of Emerita at Rutgers University in New York, I'm an Estuarine Ecologist and I've spent 40 years studying the waters and the life in the waters in the New York/New Jersey Harbor. I am the Co-Chair of the Science and Technical Advisory Committee for the New York/New Jersey Harbor Estuary Program and this is what I have studied for most of my career. I've watched the improvement over the 40 years of, of our waters, they were practically unlivable in, in 1970 but there's a lot of life

there. The biodiversity has increased greatly but just because there are things that are… a lot of diversity there it doesn't mean that everything is, is fine. We've studied the behavior of animals in the water, small fishes and crabs and noticed their feeding behavior is abnormal, predator prey interactions are, are impaired which affects the food chain. When predators can't catch their prey, they can't grow well or live as long, and it just sets the whole thing out of balance so there's still a way to go and I'm also going to talk about green infrastructure. I don't know him, but we got a lot of the same opinions and the other kind of green infrastructure, one that I studied a great deal is salt marshes, natural infrastructure. Salt marshes used to be extremely abundant around the city and we have filled in huge numbers of them, huge amounts for building on and, and making airports and everything like that. The salt marshes we have now are not enough, we have restoration programs going on, this should be increased greatly because marshes act as sponges, they absorb a lot of water before it gets… of rain water before it gets into the harbor. The… you get a double benefit, it's not just absorbing the

storm water, the marshes are absorbing carbon dioxide, they're absorbing the nitrogen pollution that, that causes pollution problems and they… by, by absorbing carbon dioxide they're helping to reduce the issues of global warming, climate change so they… multiple benefits and I would also like to mention bioswales and rain gardens as also green infrastructure with multiple benefits, they are not only absorbing storm water they are also as plants growing absorbing carbon dioxide to reduce global warming. One final thing, I saw a wonderful bioswale on Columbus Avenue in the 80's some years ago with a sign explaining what it was, it was a wonderful educational thing and I thought this is terrific, we should have this on every block and I haven't seen any more and what's one in a neighborhood, I mean that's nothing. So, there should be a great increase in, in the rain gardens, bioswales and in… and pervious pavement for parking lots and sidewalks. Thank you.

CHAIRPERSON RICHARDS: Amen.

ANNEL HERNANDEZ: Good morning. My name is Annel Hernandez and I'm here to testify in support of the expanding green infrastructure on behalf of

the New York City Environmental Justice Alliance. NYC-EJA is a non-profit citywide membership network linking grassroots organizations from low income neighborhoods and communities of color in their struggle for environmental justice. We empower our members to advocate for improved conditions and against inequitable burdens and through our efforts our member organizations coalesce around specific issues that threaten the… our… the ability of our communities to thrive and coordinate campaigns designed to effect city and state policies including green infrastructure and climate resiliency more broadly. Because a number of our member organizations come from communities overburdened by lack of green spaces, proximity to potential waterfront toxic exposures and air pollution from dirty, dirty industries clustered in their neighborhoods, our organization is a key advocate of green infrastructure or GI. Our New York City Climate Justice Agenda, a multiyear research and advocacy campaign to address the need for comprehensive community base… community based approaches to community resiliency. In 2017, we released a report and it analyzed the… Mayor De Blasio's OneNYC plan

and made several recommendations to strengthen the city's policies including green infrastructure as an essential piece of integrated climate adaptation and mitigation planning. With rising flood risks, increasing temperatures and air pollution, the city must continue to prioritize an aggressive expansion of GI and other complementary urban forestry and ecologically grounded coastal protection investments in environmental justice communities facing disproportionate burdens. In pursuit of a just transition, New York City should be leading the nation in the innovative GI strategies that meet our ambitious environmental and resiliency targets. We commend the DEP for successfully constructing over 4,000 green infrastructure assets across the five boroughs in the last few years. We recognize the efforts that DEP has made to work across agencies to facilitate the constructions of GI on our streets, public lands and private properties. In particular, the dramatic expansion of GI in neighborhoods that are disproportionately vulnerable to extreme heat, including Bed Stuy and Bushwick and Brooklyn and Soundview in the Bronx is an important climate resiliency strategy. Going forward, DEP should work

to increase maintenance in these neighborhoods that to date have seen these new bioswales and rain gardens collect debris and trash. Additionally, we ask that DEP work to expand their current targeted neighborhoods to include other EJ communities in need of GI including the South Bronx and Sunset Park. Finally, we urge DEP to increase citywide engagement with community based organizations as they plan for these future investments and neighborhood level engagement in finalizing design of new and much needed GI assets, as well as public information on the modernizations and coastal protections of the wastewater treatment plants themselves. In addition to improving the water quality of waterways as, as many folks are talking about here today, GI provides critical co-benefits including mitigating heat, improving air quality, enhancing coastal resiliency projects, reducing energy demand and creating local workforce development opportunities. The creation of new job opportunities for maintenance is promising and we are eager to see additional job growth as the GI program continues to expand. Furthermore, we commend DEP for expanding the GI grant programs to include the city's significant Maritime and

Industrial Areas. As part of our Waterfront Justice Project, we have advocated for increasing coastal resiliency and other best management strategies to prevent toxic exposures during extreme weather events and storm surges and by expanding these targeted areas to MS4 in addition to the CSO areas, DEP will hopefully increase the climate resiliency of these industrial businesses and working waterfronts. So, we commend the city council for having this hearing today and we look forward to continuing to work with both the council and DEP on improving storm water management strategies. Thank you.

CHAIRPERSON RICHARDS: Thank you very much.

ROB CRAUDERUEFF: Good afternoon. My name is Rob Crauderueff, I run an environmental consultancy that specializes in designing and administering projects which are funded through the DEP green infrastructure grant program. In the interest of time I will summarize my testimony. We have had on the one hand great success in acquiring more than a million dollars for clients through DEP's program as well as a complimentary pilot program run by HPD. However, there are substantial barriers to,

to participation which I'd like to focus on today. We alone have client… potential clients with more than four acres of space which they would like to green should they qualify for the program, this is affordable housing but they're not able to qualify for legal reasons. A green infrastructure on private property constitutes just one third of one percent of DEP's total capital expenditures to date, that's much too low and the good news is the grant program has a strong foundation that can be expanded upon and I believe could be a, a foundational program that could transform the marketplace in the city with some honest improvements. To cover… the program covers the full cost of projects, has a large overall budget, allows third party administration of projects and DEP itself has fantastic staff that administers the program. However, the primary issue with the program is there's restrictive covenants which is intended to ensure projects are… remain on the property for 20 years and are well maintained but it goes way above and beyond what's necessary and winds up getting in the way of program participation. Most significantly there's a… an overly stringent subordination clause that requires projects to… small… relatively small

grant programs… grant projects to be subordinate to much larger loans in addition to a host of other issues which I've laid out here. there are two potential options or solutions which I'd like to put forth to the committee. First, the city should consider the use of expense funding rather than bond funding for the grant program which is… which would enable DEP much greater discretion about how they regulate participation in the program. The second possibility would be to continue using bond funding but to provide a series of improvement to the restrictive covenant in the program more largely both addressing a number of the barriers that, that I've laid out in the written testimony as well as allowing the buyout of green infrastructure projects so developers which may sell their property or plan on selling their property are not put off by the program, they could instead pay in based on the time that is… the… that the DEP otherwise expected the project to be in place. Lastly, there should be a specialized preapproved restrictive covenant specifically for affordable housing which has both a lot of interest and a particularly high number of barriers for participation in this program. This

would open up a whole nether marketplace. So, thank you for your time and I look forward to hearing your questions.

COUNCIL MEMBER LEVIN: I want to thank this panel very much. In the interest of time because we do have a lot of panelists, I'm going to withhold any questions but certainly I look forward to working with all of you. As you know we're approaching a new session so there's going to be opportunities I think in the… in the… in the coming term to work on a lot of these issues. Rob, we were on a panel together a couple of years ago and, and certainly on, on issues around green infrastructure and, and, and green roofs, we want to make significant strides and sorry the gentlemen on, on the right I didn't get your name and I… [cross-talk]

TIM EATON: Tim Eaton.

COUNCIL MEMBER LEVIN: Tim Eaton, so you spoke about, you know what other cities are doing and from that panel I remember Toronto and DC and Philadelphia having really good models that we have yet to follow so obviously, you know we're probably bigger than all three of those cities combined so we can be a real leader in this field and we haven't yet

so I look forward to working with all of you, the EJ community as well on, on advancing a lot of these really great ideas in the coming term. So, thank you very much for your testimony.

TIM EATON: Thank you.

COUNCIL MEMBER LEVIN: Next panel; Greg O'Mullan from Queens College; Lisa Bloodgood from Neighbors Allied for Good Growth; Matt Malina from NYCH2O and Catherine Hughes from Storm Surge Working Group.

COMMITTEE CLERK SAMARA: Can you please raise your right hands? Do you swear or affirm to tell the truth, the whole truth and nothing but the truth today?

COUNCIL MEMBER LEVIN: Okay, whoever would like to begin.

GREG O'MULLAN: Thank you for the opportunity to speak today. My name is Greg O'Mullan, I'm a tenured professor in the school of Earth and Environmental Sciences at Queens College. Let me begin by acknowledging that average water quality in New York Harbor has significantly improved in recent decades. This did not happen by accident, it occurred as a result of significant investment in waste water

treatment plants. However, water quality remains severely polluted in many city waterways out of compliance with New York State water quality standards due to combined sewer overflow. It is now time for the city to take the next step in addressing water quality by eliminating CSO pollution and having a comprehensive plan for how to eliminate CSO pollution. The only full solution to this issue will occur from massive reduction and capture via green and grey infrastructure and this is where the city's investment should be focused and where in place efforts should be supported in this… in this regard. When sewage enters a waterway, it delivers a wide variety of pollutant types including pathogenic microbes, oxygen consuming waste, nutrients, chemical toxins, pharmaceuticals, metals, floatables. Management strategies such as CSO chlorination that target… that target a single symptom of sewage contamination will still leave our waterways heavily polluted despite major investment. The city's commitment of resources for a Long-Term Control Plan solution represents the major opportunity to address our century old CSO problem and these funds should be used to address the full range of CSO related

pollutants. Chlorination is a useful component of treating sewage pollution in our waste water treatment plants but, but in modern waste water treatment it is part of a process and it typically occurs in a more controlled environment. End of pipe… pardon me, end of pipe CSO chlorination is much more complicated to control, is less tested, would be expected to be less efficient as a result of factors such as particle loading and limited contact time and test concerns including harmful chlorination byproducts and excess chlorine delivered to waterways. In waterways such as Flushing Creek the proposed CSO chlorination is a band-aid solution that treats single… a single component of the broader problem. A retention tank built a decade ago in Flushing was a step in the right direction but additional action beyond CSO chlorination is still needed. Resources should be focused on CSO reduction and capture otherwise only single components of the problem will be addressed. This is not an issue only for those who recreate in waterways. In the days following hurricane Sandy I was visiting the neighborhoods where there were flooded streets and buildings adjacent to Newtown Creek, this is not just

about recreation. As a research scientist, I've been involved in common water quality monitoring, but I've also utilized methods that extend far beyond typical monitoring approaches and those that are often reported associated with Long Term Control Plan reports. For example, my laboratory's been involved in establishing the connection of CSO pollution to the distribution of antibiotic resistant bacteria, we published on bacterial and contamination in CSO overflow from Alley Creek, we partnered with the EPA recently to study pharmaceuticals and emerging chemical tracers for sewage pollution in local waterways. There are good reasons to be concerned about the full range of sewage contaminants even beyond those that have been a… that have established state water quality standards. I recently utilized continuous oxygen sensors that have documented extensive oxygen depletion far beyond what's represented in most available reports. The only management solution that will address all of these concerns is CSO reduction and capture. I urge you to support CSO reduction and capture as the primary Long-Term Control Plan solution in all waterways. Thank you for your time.

COUNCIL MEMBER LEVIN: Thank you very much and if you have copies of your testimony or can make copies and, and send them to us that would be great.

GREG O'MULLAN: Thanks.

LISA BLOODGOOD: Okay, so thank you Council Members for your time and members of the committee for having this important hearing today. My name is Lisa Bloodgood, I am the Education Coordinator for Newtown Creek Alliance, I previously worked as liaison and aid to Council Member Levin and I am a member of the Newtown Creek CAG Superfund Steering Committee, I'm also a resident of North Brooklyn but I'm here today speaking as a board member and representative of Neighbors Allied for Good Growth also known as NAGG, an organization developed in the early 1990's out of neighborhood's desire to recapture it's waterfront, reduce local environmental hazards and advocate for public policies promoting healthy, mixed use communities. We advocate with and for the people who live and work in the North Brooklyn neighborhoods of Greenpoint and Williamsburg and our approach to these issues is guided by the principle that our entire community is

entitled to participate in decision making and negotiating processes affecting our neighborhood. Leadership of local mobilization efforts and the design of a future vision for our community. So, the neighborhoods of North Brooklyn are proud waterfront communities that have spent years fighting for access for their waterfronts and to the clean ups that the waters there are fighting, fighting to access. We are in the final stages of seeing a major upgrade to the Newtown Creek wastewater treatment facility, the largest wastewater treatment plant in the city and it treats waste from Manhattan, Queens and Brooklyn. We are working not towards a clean Newtown Creek, a federal superfund site long contaminated by industry but experiences ongoing contamination that still plagues the waterbody as a result of billions of gallons of combined sewage overflows every year. With the DEP's Long-Term Control Plan, we will see only a 60 percent reduction and we are deeply concerned with DEP's announced plans for abatement. The Newtown Creek will continue to be befouled at rain events which are projected to be more and more frequent. We are also deeply troubled by the lack of the public's ability to engage in deciding our waterbody's fate.

Yes, there were public meetings but there were no public comment periods, there was no opportunity to truly weigh in on the proposed plan neither through these public comment periods or through our elected representatives. Since we were not allowed a seat at the table we deserve an explanation as to why we were not and why did the DEP feel it necessary to work with people of the city in developing these plans… why they didn't feel it necessary. Ultimately a 60 percent reduction is okay but certainly not enough and we should all demand a better solution; our neighborhoods deserve more and so does the city of New York. We are not a city and North Brooklyn is not a community that will be content with notices to stay out of the water after rain events especially as we are now in the process of experiencing exponential growth in North Brooklyn. Right to know laws are certainly helpful but they are not a solution to this problem nor should we expect… or accept that they are an acceptable replacement for clean water neither is chlorine, chlorination nor aeration. The 2005 rezoning of the Williamsburg and Greenpoint waterfront, waterfront has already brought thousands of new residents to our community and the real

density buildout has only just begun. We will see tens of thousands of newcomers in the next ten years and many will look to water as an extension of the open space we need to be healthy and happy people. We are already seeing a burgeoning boating community and we expect this to continue to grow as our waterfront is further developed, people want too and should be able to swim, fish and otherwise recreate in our waters without fear of being made ill or swimming through CSO released floatables. I know I heard my bell, but I do want to keep going on, I just want to… in summary we want a seat at the decision-making table, we need our voices to be heard, we have lived alongside the spoiled waters for too long and we don't think demanding clean water is too much to ask. We in fact believe it is our right and I will stop there.

COUNCIL MEMBER LEVIN: Thank you very much.

MATT MALINA: Good afternoon, my name is Matt Malina. Thank you to the committee for allowing me to testify. I'm the Director and Founder of NYC H2O, we are a non-profit organization that provides education programs about New York's water system.

Like the students that were here today, we bring kids outside on fieldtrips to teach about the water system on site and up close, we bring them to the city's historic reservoirs, there's one in every borough because everybody has to drink water and we bring them to beaches and wetlands so that they can again learn right, right in front of them how our water system works. So, these students and there have been 12,000 over the past four years, get to directly see what's going on and what happens when sewage goes right into the waters. We actually and I have a picture of it, we use sane nets and catch fish and other critters and the students get to touch them and, and see them themselves and they see that the, the wildlife is directly affected by the CSO's. About the, the Flushing Creek and the plan to chlorinate it, one of the things that we do is we bring people also to sewage treatment plants. The way sewage treatment plants use chlorine is at the end, the very end, before the water is returned back to the rivers, it's put in a tank and it's… they put a little bleach in it and it sits there for about a half a minute and that contact time is necessary for the chlorine to do its job to kill the bacteria. What they are proposing

here is just to put the, the chlorine in and say oh let's see what happens. It's, it's, it's not the right situation, it's a controlled environment in a sewage plant but to put it just in pipes, you know as, as the, the combined sewers are… overflow which is going into the Flushing Creek it… that doesn't work. In addition to that after the, the chlorine is put in at a sewage plant it is then zapped with another chemical to take out the chlorine, that doesn't seem to be any part of the plan. Okay, just to finish up, there are two very significant green infrastructure proposals that the city has been considering for, for a couple of decades and I actually have the proposals and the studies done by the city. One is daylighting the Tibbetts Brook which would not cost very much money, it's in the tens of millions of dollars and considering that the city spent over a hundred millions dollars to secure Bushwick Inlet, Inlet Park, it's, it's a very doable plan and the second one is to actually use the water like in the reservoir in Central Park to… for the park's irrigation, right now tap water is used, well there's a billion gallon reservoir in Central Park why not just use that water for its… this… the parks

use. So, there, there are very achievable green infrastructure proposals. We hope that the city will, will use them. Thank you.

CATHERINE MCVAY HUGHES: Good, good afternoon… good afternoon New York City Council Member Levin and other members of the Committee on Environmental Protection. My name is Catherine McVay Hughes, I served 20 years on Manhattan Community Board One for more than half of that time Chair or Vice Chair. After superstorm Sandy, I was appointed Co-Chair of New York Rising Community Reconstruction Program for Southern Manhattan. I'm also a founding member of CB1's Manhattan Tip Resiliency Task Force and a member of the New York Harbor Regional Storm Surge Barrier Working Group. I speak as a 30 year downtown resident and proud of what we have built and re-built in Lower Manhattan and my concern about how the city's wastewater infrastructure will function in the age of climate change, extreme weather events and rising sea levels. Over five years ago, superstorm Sandy overwhelmed the current storm water control plan and combined sewer overflow. It just did not work as sewage backed up into our buildings and washed up into our streets and buildings. The need

for CSO and storm water discharge investments drives me to speak about sea level rise and storm surge protection. Without those latter investments the investments in CSO and storm surge water controls either will be ineffective or quickly become obsolete. The ability for CSO's and storm water to discharge both during and after a storm is predicated on gravity discharge to surrounding water levels that will be much higher in the future due to sea level rise and higher still during the storms that cause coastal flooding. While you know, and I know this, the attendees to this hearing may not realize it and we have to be able to put the two together immediately. Yesterday at the New York City Council Committee on Recovery and Resiliency Oversight hearing it became clear that the future of FIMA's National Flood Insurance Program and its reauthorization are unclear and that new flood maps are expected to come out in about five years. In the meantime, scientific data increasingly points to climate change as a major threat to New York City. Moody's, a major credit rating agency, recently added climate to credit risks and wans cities to address their climate exposure or face rating downgrades. We

do not know if and how much federal government will assist in the rebuilding our communities after the next superstorm Sandy which cost 19 billion in repairs and some downtown infrastructure is still under repair such as the Brooklyn Battery Tunnel. According to a recent Princeton University research, climate change will worsen inequality in our society if underserved communities become uninhabitable. Migration, some planned and some in panic, will stress already overburdened social welfare systems and infrastructure. The best way to mitigate these effects to limit is to limit the greenhouse gases that are causing climate changes, more important than ever for New York City to be a leader to protect our roughly 500 miles of coastline. In the meantime, the city must construct a layered coastal defense of sea walls and regional storm surge barriers to address future storm surges. A 20 to 25-foot-high shore regional New York, New Jersey, Metro Regional storm surge barrier; one, would avoid the complex hydro geological built infrastructure and social issues faced by the current dual-purpose project. Two, could protect the Metro area for the next 100 years. Three, would protect more communities than the current

projects for the same 20 billion dollars. I also want to make sure that in terms of reducing greenhouse gases, the local law that's called Intro 1745 before New York City Council has no deadlines between, you know now and 2020 so it would be very hard for New York City to reach its commitment of 1.5 degree centigrade and just to show you what we're going to look like if 1.5 degree centigrade is not achieved. So, this is why we have the color maps for you and the, the last item is since… you know as a large investor the city and also the hub of global financial system, the city needs to support the work of the financial stability board's task force on climate related financial disclosures to advance climate risk disclosures worldwide. CERES, C E R E S, a non-profit runs this campaign called disclose what matters that spearheads the call from investors and companies to disclose material sustainability issues such as climate risks and financial filings. Resiliency means much more than building walls at the waterfront and the greatest city in the world can overcome the challenge of climate change and show the way for the rest of the world. Thank you very much.

COUNCIL MEMBER LEVIN: Thank you very much. Catherine on that map the, the, the blue that's, that's the actual sea level rise, is that right on… [cross-talk]

CATHERINE MCVAY HUGHES: So, there are two scenarios here and it's from an incredible website called Climate Central and you can put in different scenarios. So, the lower one is 1.5 degree centigrade which is bad already and… you know the district island in here is down here, we got a problem here in Lower Manhattan I know, you do over there in Brooklyn as well. So, what the city… and then also on the prior page is the official sea level rise projections for New York City from the Columbia University has some… an amazing research center called the Earth Institute, I have to disclose them on their advisory board and Sabine Center for climate law change has this map, this chart. So, which scenario are we going to be able to lock in of… you know how rapidly the sea level is going to rise is really important and then this clearly is a map… you know is New York City going to defend its 500 miles of coastal line or do a storm surge barrier, what they would do in Holland which is just five miles…

COUNCIL MEMBER LEVIN: Yep, you know which is obviously my district on this map at four, four degrees centigrade, you know my, my district is mostly underwater.

CATHERINE MCVAY HUGHES: And what, what… well one of… one of the little things just for greenhouse gases some of you might recall the dirty heating oil, remember that, number six, number four, and number two community board one worked a lot on that with… also with the EDF Environmental Defense Fund and it turns out there are roughly 400 Department of Education schools that burning number four heating oil so that would be an easy fix for the city to be a leader to decrease it's carbon footprint in the next several years.

COUNCIL MEMBER LEVIN: Great…

CATHERINE MCVAY HUGHES: And it would improve air quality as well.

COUNCIL MEMBER LEVIN: Thank you so much, thank you.

LISA BLOODGOOD: Thank you.

COUNCIL MEMBER LEVIN: Thank you very much to this entire panel and thank you for, for

keeping, keeping the city's feet to the fire on all these issues, thank you.

CATHERINE MCVAY HUGHES: Thank you.

COUNCIL MEMBER LEVIN: Next panel; Laura Spalter; Karen Argenti, both from… well one… Bronx Community Board Eight and Bronx Council for Environmental Quality; Michele Langa, New York, New Jersey Bay Keeper and Harvey L. Simon from Sunnyside, Queens. And I apologize in advance, I have to go chair a hearing at one p.m. across the street so I'm going to… by the way I'm Steve Levin so I'm filling in for Council Member Constantinides, took over from Council Member Richards and I will be handing it over to Council Member Perkins so…

COMMITTEE CLERK SAMARA: Can you please raise your right hands? And do you swear or affirm to tell the truth, the whole truth and nothing but the truth today?

LAURA SPALTER: Yes.

KAREN ARGENTI: Hi, name is Karen Argenti, I'm with the Bronx Council for Environmental Quality, we're an all Bronx environmental group and we're made up of volunteers. I'm just going to go really quick because everybody mentioned every…

almost all the points that I was going to talk about, I'm just going to enhance them a little bit. We're particularly interested in the Harlem River… [cross-talk]

COUNCIL MEMBER LEVIN: Karen push the microphone a little closer, so we can…

KAREN ARGENTI: Can you hear me now? Okay, sorry. We're particularly interested in the Harlem River, we're going to start the East River open waters Long Term Control Plan. The kickoff meeting is at the end of January and we're really excited about that, but it is a long time waiting and it is probably the worst water body, the Harlem River, in the city, the largest outfall and… with the largest sub catch basin area is in that area, it's WO… WI-056 and that discharges more than a billion gallons a year and that's really not helpful. It's a Tier one and it should have really been taken care of first. Part of the, the fix for this project would be to do the daylighting of Tibbets Brook including the purchase of CSX property which has already been mentioned how daylighting would be so important. I consider that to be a large green infrastructure project and it could be a, a… if you want to cut down

the amount of water that's going into the river because 056 even discharges during the dry weather. Okay and then the other thing is, is that, you know now that we're starting in 2018 it's probably going to be like 15 to 20 years before anything happens based on the way that the DEP does their projects and that's because they spend most of their time doing the grey infrastructure. Other cities don't do that, if you look at what goes on in Philadelphia and in Washington DC and some others they have a goal, I didn't hear anybody talk about a goal, I didn't hear anybody talk about improving water quality not just taking it to a certain level but improving it constantly. The… what percentage of the discharge are they focused on removing? Are they going to minimize flooding and what is the schedule, the budget? It seems to me their plan is all about the budget and we should be talking about other items, but I want to talk a little bit about green infrastructure. Other cities know that green infrastructure is the quicker, less invasive and more economical option, the DEP GI plan manages ten percent of the impervious area, it is included in the Long-Term Control Plan as a baseline, but it doesn't propose any new green

infrastructure. Green infrastructure is better for the natural environment, the current… and the current design guidelines only captures at small rain events. Given the increase in rainfall intensity expected with climate change they could do better by increasing the use of GE like extending the design to capture more than just more severe rain events. There's other things they could do, I… we… you're also interested in the MS4 program and then I would just like to say that one of the things we could also ask is they shouldn't be doing an environmental assessment after they chose the preferred alternative since we're talking about scientific information they should do the assessment and make it public and if its' necessary to do an environmental impact statement that should be done also. Thank you.

COUNCIL MEMBER LEVIN: Thank you very much.

LAURA SPALTER: Good afternoon, my name is Laura Spalter, I am the Chair of the Environment… [cross-talk]

COUNCIL MEMBER LEVIN: Laura you're not on I don't think, you got to press the button.

LAURA SPALTER: Okay. Good afternoon. My name is Laura Spalter, I am the Chair of the Environment and Sanitation Committee of Bronx Community Board Eight. On behalf of Bronx Community Board Eight, I would like to thank the committee for holding this hearing to address the serious impacts of combined sewer overflows on our city's water bodies and communities. As Chair of Bronx Community Board Eight's Environment and Sanitation Committee, I took the opportunity to ask Mayor De Blasio the following question during last February's Town Hall Meeting in the Bronx; when will Bronx Community be… Board Eight be included in the DEP's Long-Term Control Plan to address our serious CSO and local flooding problems? The… then acting Commissioner Vincent Sapienza responded that our issues are very important to the DEP and they are looking at the Harlem River located in Community Board Eight. On April 12rh, 2016, Community Board Eight passed and sent a resolution to then DEP Commissioner Emily Lloyd and our elected officials advocating for the daylighting of Tibbetts Brook both inside and outside of Van Cortlandt Park. It noted that during and after rain storms, the large volume of clean water from

Tibbetts Brook overwhelms the Wards Island storm water treatment plant beyond it's capacity, causing raw, untreated sewage to be discharged into the Harlem River in violation of the Clean Water Act. Daylighting Tibbetts Brook, along with the addition of green infrastructure to absorb storm water runoff, would reduce CSO and help alleviate our severe flooding issues along the Broadway corridor. Thank you for this opportunity to comment on this critical environmental and public health issue, which has long been a priority for the Environment and Sanitation Committee. I have a question, it was said earlier by DEP that they have a goal of a rain garden on every street, will there be an increase in resources to adequately maintain the, the rain gardens to keep them free of garbage, debris, watering and that type of thing? Please consider that piece with the increase of green infrastructure otherwise as Chair of Environment of Sanitation I will hear about it. Thank you.

HARVEY SIMON: Good afternoon, my name is Harvey Simon, I'm a public member of Queens Community Board number two. And although I have objections and an alternative to chlorine I may be in the wrong

church or the right church in the pew. I think the, the alternative of ultraviolent light as a disinfectant as effective as chlorine more to water treatment than actually through the sewers but indeed it is still a medical fact, simple ultraviolent light is also a viable means of disinfectant that would be completely non-toxic as a… as an alternative and effective and economical alternative to… it would be a methodology that didn't need mitigation just maintenance. That, that's the crux of my presentation and all the other experts here were indeed experts. Just one thing anecdotally, locally Trader Joes and Whole Foods already have paper bags and by experience they're, there are effective alternatives to any plastic bag, so I think anecdotally and experientially it's a moot point to even discuss paper bags when we already have effective paper bags in extent with handles, in my day we didn't even have those handles. So, thank you for the opportunity to partner with the committee and the city council today.

MICHELE LANGA: Good afternoon, my name is Michelle Langa, I'm with the New York/New Jersey Baykeeper. I just wanted to add a couple of points to

the discussion and then add one more thing from a by-state perspective. We believe that the current plans that are in place, Long Term Control Plans are not protective enough of public health and will not enable the city to reach water quality standards and that should be addressed and strengthened going forward. We believe the plan should focus on reducing the flow to outfalls rather than focus on cleaning the water that is coming out of them. One of the benefits of reducing the flow is that as many of the people before me have said there's less contamination to deal with at the end to begin with. And finally, the, the standards set in New York City are the lead for New Jersey's Long-Term Control Plans, we're a little bit behind in the process and we look to New York because we share so many waterways to lead the way and, and have the highest possible standards that we can also push for the highest possible standards on our side of the rivers and bays. That's all for today, thanks.

COUNCIL MEMBER PERKINS: So, as we approach the highest possible standards how do we calculate that in dollars and cents?

[off-mic dialogue]

COUNCIL MEMBER PERKINS: Oh okay…

COUNCIL MEMBER COHEN: No, please chair, go ahead you… [cross-talk]

COUNCIL MEMBER PERKINS: I just asked the question.

MICHELE LANGA: I don't know that we have the answer to that question.

COUNCIL MEMBER PERKINS: How do you go about getting such an answer because obviously there are costs involved.

MICHELE LANGA: There are, yeah. One of the metrics to, to judge it by is the testing that you do, switching to the intercaecal standard over the fecal standard is more indicative of the things that are harmful. There are costs involved with switching to that standard but those are going to be dependent on how often you test, where you test, how frequently you test, how many different waterways at a time and those are things that the companies and the people who would be doing the testing would have to investigate.

COUNCIL MEMBER COHEN: Thank you Chair, I just want to take one second just to acknowledge Laura Spalter and Karen Argenti are truly… they're,

they're environmental heroes in community board eight and in the Northwest Bronx, I knew nothing about sewers when I was elected to, to the city council and shockingly I represent an area with a very complicated sewer system, I have a network of very old private sewers, I have all sorts of interesting things going on with my sewage but it's really the advocacy of, of you two in particular and, and, and like minded people that have raised the, the clarion call about Tibbetts Brook, I believe, you know that one day we're going to get there, I don't know when that's going to be but I, I, I do believe that we're going to get there, that the, the obviousness of that project, the, the profound impact it could have on water quality in the Harlem River and that it just makes so much sense and your hard work and advocacy I just want you to know is recognized and appreciated by me so I wanted everyone down here to know that too. So, thank you.

HARVEY SIMON: Excuse me if I may one second, I just wanted to thank Donovan Richards for Intro 446-A.

COUNCIL MEMBER COHEN: It's on the record.

HARVEY SIMON: Thank you.

COUNCIL MEMBER COHEN: You're welcome.

COUNCIL MEMBER PERKINS: So the next panel Willis Elkins; Michelle Luebke, did I… Alexandra Herzan, am I saying your name, right? And Aziz Dehkan. Pretty fancy names.

COMMITTEE CLERK SAMARA: Can you please raise your right hand? Do you swear or affirm to tell the truth, the whole truth and nothing but the truth today?

WILLIS ELKINS: Yes.

AZIZ DEHKAN: I do.

MICHELLE LUEBKE: I do.

WILLIS ELKINS: Great, thank you. my name is Willis Elkins, I'm a Greenpoint resident, Chair of the Environmental Committee for Brooklyn Community Board One, Co-Chair of the Newtown Creek Superfund CAG and an avid waterway user. Today I offer testimony as my… on my position as the Program Manager for the Newtown Creek Alliance. Our organization has served as a leading community voice for the cleanup of one of the country's most dirtiest… on the country's dirtiest waterways located in the geographic center of New York City. In

addition to a legacy of toxic contamination, Newtown Creek is severely impaired by the release of untreated sewage. In relationship to the Long-Term Control Plan that was submitted this summer for approval, we would like to talk about the storage tunnel that would… that would capture approximately 60 percent of sewage overflow from the three largest outfalls on the creek. While we are encouraged to see this investment in large scale infrastructure we are extremely discouraged by the lengthy time line that's proposed. The tunnel would not be completed until the year 2042, a full 20 years from now. For perspective, Newtown Creek will not have a chance of even meeting clean water act standards until a full 70 years from when the legislation was passed. This lengthy timeline ensures ongoing pollution and resulting threats to human health and wild… and local wildlife for decades to come. Also, we'd like to reference Sean Dixon from Riverkeeper also who talked about how those standards are not even up to date with the EPA standards so… it's a very bad situation. Additionally, while we applaud this strong investment in building out the proposed underground storage tunnel we also hold true to a basic principle, that

sewage does not belong in our waterways. We believe that a 60 percent reduction is a positive step in the right direction, but we need to not only reduce the volume of sewage overflow but the frequency of when overflow events are occurring. The most active CSO's in Newtown Creek currently discharge approximately 42 times per year. The proposed plan would cut that by an estimated 55 percent to 19 discharges per year but as you've heard from other places around the Harbor, New York… Newtown Creek is actually getting one of the best plans that's been submitted so far, most of the other bodies around New York City will not see this sort of reduction and we can look forward to weekly discharges on average of CSO for decades to come. To which, we ask are these really long-term plans? It may bring us into seasonal compliance with complicated numerical standards regarding bacteria levels during recreational seasons but do we as residents of New York City and as leaders of New York City accept sewage in our waterways as an inevitable fact of life? If the city can tackle other serious human environmental health issues with targets not of mitigation but elimination why can't we do the same for storm water, we have things like Vision Zero for

transportation, Zero Waste for sanitation, so I ask where is our Vision Zero for sewage when it comes to environmental protection. It is here that we look not just to the folks from DEP but from our elected leaders to set the highest of goals for protecting these great tidal waters that surround the archipelago we know as New York City. In closing, I'd like to encourage and explore the… encourage the exploration expansion of ideas and projects that can prevent the release of untreated sewage into our waterways. We've heard a lot about these already, but I would like to reiterate these, and I think it's important to talk about how we can enable DEP to do more to protect us. This includes drastically improving incentives for expanding green roofs on privately owned properties and buildings, requiring green infrastructure on all new buildings, requiring green infrastructure on all roadway redesign projects, better funding mechanisms for DEP and other agencies and organizations to maintain green infrastructure projects, allowing design build to expedite green infrastructure projects that the city is already actively pursuing and implementing, looking to storm water fees and structuring rates to

better finance storm water infrastructure, improving communication about CSO events as they occur as well as public outreach to promote less water use during rain events and investment in research and development of permeable pavements. Lastly, not on the testimony, I'd also like to speak about the relationship between the city and the state. I think one of the big issues here is that the city, all these plans that they have submitted are only submitted because they're a way… they're allowed to get away with them, that the… they're doing as much as the state will do and the, the connection between New York City and Albany on this process really needs significant improvement. Once these plans are submitted as you've heard there's no formal process for feedback from community members, the state gives it's consent order and once that's happened it's a done deal and so we're looking at this 25 years of done deals, you know for all these different waterways and so we need to start working up with… you know with our partners upstate and talking to DEC about how we can better improve and address all of these issues that have been discussed so far today. So, thank you.

MICHELLE LUEBKE: Good afternoon. Thank you for allowing me to testify today. My name is Michelle Luebke, I'm the Ecology Director for the Bronx River Alliance. I sit on the Steering Committee for the SWIM Coalition and I'm also a member of the Bronx Community Board Two Environmental Committee. The Bronx River Alliance serves as a coordinated voice for the river and works in harmonious partnership with more than 100 organizations and agencies to protect, restore, and improve the Bronx River as an ecological, recreational, educational, and economic resource for the communities through which the river flows. Each year through our diverse programming we engage over 1,500 paddlers, 2,000 students and educators and thousands of volunteers who come in contact with the river, some for the first time. We are deeply concerned about the impact of combined sewage overflows and polluted storm water on the river's health and on the impact to human health for everyone who uses it as an educational and recreational resource. There's been a tremendous amount of investment in the Bronx River over the past few years including working with the New York City Parks Department and the Wildlife Conservation

Society to monitor American Eagle populations and installing a fish ladder and an eel passage at the 182nd Street Dam to connect migratory fish species to upstream rush water habitats. An experimental oyster reef has been installed at the mouth of the river with promising results for the reestablishment of native oysters. This year for the first time in a decade we restocked river herring helping create a self-sustaining population of fish that were once abundant in the Bronx River but whose populations declined due to overfishing and poor water quality. To protect these extensive investments and the progress which we have achieved the Long-Term Control Plan for the Bronx River should reduce fecal pathogens, maintain dissolved oxygen that level that… at levels that support aquatic life and control floatable trash. Following review of the Bronx River LTCP we submit the following comments; number one, capture don't divert CSOs, you've been hearing a lot about this today. In the Bronx River alone the, the 63 percent decrease would still result in 285 million gallons per year of, of CSOs into the Bronx River and that is an estimated 31 annual overflow events. We therefore urge DEP to reduce combined sewage

overflows as much as possible. Number two, we need more robust green infrastructure management and incentives for participation. The Bronx community has been an early advocate of green infrastructure supporting the benefits it provides for the entire water sheds. We need more increased green infrastructure in MS4 areas that not only promotes water quality benefits but also other co-benefits such as cooling, air quality improvements and pollinator habitat creation. In the Long-Term Control Plan for the Bronx River 14 percent of the storm water was supposed to have man… been managed by the… by the modeling. However, to date only 1.1 percent of impervious areas in the Bronx have been managed with storm water with no projects slated for 2017, this means that the predicted number of overflow events and the annual discharge volumes to the Bronx River will be significantly increased if these green infrastructure targets are not met. We… you've heard before about our… the need for transparency, we did not receive our third public meeting, waterway stewards must be provided. There's ample opportunity to engage and have our voices heard and enforce the… you've heard this, the water quality standards are

not up to date. We have been doing studies using enterococcus which is the national standard, we've also been doing floatable trash analysis and to date we have pulled out 153,000 pieces of garbage from the Bronx River using volunteers. So, thank you, we're encouraged to see that chlorination was taken off the table for the Bronx River Long Term Control Plan. We thank the DEP for all of their efforts and we look forward to working with them in the future moving forward so that we can have cleaner waterways and thank you to the city council for allowing us to testify today, thank you.

COUNCIL MEMBER PERKINS: Thank you for your participation and your commitment and we look forward to seeing what we can do to be helpful, next.

ALEX HERZAN: Hi, my name is Alex Herzan and I'm here speaking on behalf of the Guardians of Flushing Bay, which is a consortium of Dragon Boat Teams and concerned citizens who care about the safety and water quality of Flushing Creek and Flushing Bay and more broadly all of New York's surrounding waters. I really want to thank the City Council for having this hearing because I don't know that you have had a hearing on, on these issues in a

very long time and it's really, really needed and as you saw we, we… there are a lot of concerned citizens for whom this is important. As regular recreational users of Flushing Bay, we've been exposed to the deleterious effects of combined sewage overflows. After a rainfall, and it does not have to be very much, we've seen floating debris from, from condoms and tampons and other flushed items as well as dead or dying animals. Dead rats and horseshoe crabs can be a fairly common site after a rain. As recreational boaters who participate in dragon boating which is the fastest growing water sport in America we've been… we have each been exposed to alarming levels of bacteria, viruses and toxic contaminants. Our teammates have suffered from rashes, diarrhea, eye infections and other illnesses as a result of exposures to these waterways in the hear of one of the richest cities in the world, a city burdened with centuries old sewage systems and a frustrating lack of commitment to clean, fishable, swimmable waterways. While we paddle and come into contact with water in Flushing Bay, the water quality is heavily impacted by Flushing Creek, which has been awarded the golden toilet award by the New York City Water

Trail Association Citizens Water Quality testing group because our citizen testing program revealed consistently high levels of bacteria in the water this past summer. This situation should not exist, it's solvable, it’s approachable, it can be fixed now not after two decades. Clean water will drive healthy communities, which, in turn will drive resilient economies. City Council we need your help, we need to invest more in our infrastructure now to prevent further deterioration of our waterways. The DEP’s LTCP plan that has been proposed and accepted by the state for Flushing Creek calls for chlorinating the, the Creek’s sewers during the rec season, only during the recreational season, an unproven technology that will not mitigate even one gallon of CSO into the creek and the bay. For Flushing Bay, the proposal is for a CSO storage tunnel that will not be completed until 2035. I just want to say, you know why can’t we capture not chlorinate our CSOs and get started now not wait close to a decade to begin planning. Thank you so much.

COUNCIL MEMBER PERKINS: Thank you.

AZIZ DEHKAN: Hi, my name is… excuse me… my name is Aziz Dehkan, I’m the Executive Director of

the New York City Community Garden Coalition. Two years ago, I pretty much didn't know anything about storm water management until the coalition received a grant from GOSR, the Governors Office of Storm Recovery to put together a feasibility study and to build green infrastructure on the 47 community gardens on the Lower East Side. We've in the second year of that project and we're about to begin to build infrastructure that will capture storm water that goes… before it goes into the combined sewer outflows. Actually, before the… before this project, when I was about five years old and lived on West End Avenue near the river I was always told don't go in the river and I'm pretty much told that right now too but that's another story. What's slightly dismaying to me is that during this conversation and I've been in this room for a few hours, the words community garden have not been spoken and I know Councilman Perkins you are one of our champions in community gardens but I feel that that's a deficit because community gardens… there's 600 community gardens in New York City and we can and we are going to prove through this project while gardens are rising that we… that these gardens can and will absorb water and

will keep combined sewer outflows cleaner and better managed. One of the… one of the… one of the… I guess one of the benefits of being one of the last people to speak is that I've heard so many other people, I… there was a, a professor from Rutgers who… and… an, an alumni from Rutgers she spoke about bioswales and it's true, Manhattan… if you look at Manhattan they are almost no bioswales in Manhattan, our project intends to build at least ten bioswales and use those community gardens, use tree pits, use water tanks, use permeable pavement, use all kinds of tree pits, all kinds of different green infrastructure that already exist and we can do this for about a… under a million dollars in 47 community gardens. So, when you talk about billions and billions and billions of dollars to be spent on projects that will take 20 years, 40 years out I, I strongly urge everybody to take a look, a more reasonable look at how we can do this and I understand the need to, to comply with the EPA and I understand the work with the DEP, we work very closely with the DEP on this project but I still would like to say in the… in the 20 seconds I have left that it's important that we look at what we already have in this city, we are rich but we are

rich in resources that we currently have, 600 community gardens in New York City, that's all I want to remind you about. Thank you.

COUNCIL MEMBER PERKINS: Thank you, next.

WILLIS ELKINS: I think we're done.

ALEX HERZAN: We're done.

COUNCIL MEMBER PERKINS: Alright, Eleanor Rae; Andrea Parker; Rob Buckman, Buchanan, apologize about that and Carmen Melian, is that…

[off-mic dialogue]

COMMITTEE CLERK SAMARA: Can you please raise your right hand? Do you swear or affirm to tell the truth, the whole truth and nothing but the truth today?

ANDREA PARKER: Yes.

ELEANOR RAE: Hi, I am Eleanor Rae… oh thank you… okay, thank you, Eleanor Rae, President and Founder of the Hutchinson River Restoration Project, we are a very small 501C3 and I guess I would just like to mention a couple of… a couple of things. I didn't come prepared because I didn't, didn't realize we could give testimony but I'm very pleased to be able to do it. I did attend all the meetings that they had at the Hutchinson River, they

were very, very well attended not only people from New York but also a lot of people from Westchester because the Hutch does go from Scarsdale onto… through six towns so we really have to take into account, you know New, New York, Westchester as well as the Bronx when we talk about the Hutch. I am very dismayed by the plan that was chosen and just out of pure dollars and cents thing, they say at the best of times it will impact 23 percent of bacteria and that's not what's in the Hutchinson River particularly. We, we, we… well okay, my, my question would be okay, so we are willing to spend 90 million dollars to construct this thing with, with, with chlorine for sewer but we are not willing to spend a penny to have public access to the river. As much as we say this is one of our priorities is access, there is no public access to the Hutchinson River either in the Bronx or in the six communities in Westchester. So, how in the world are we going to take care of it if we can't get to it, that would be my… I guess my biggest problem, I just… if we have money I, I don't think we're spending it well. There was a impact statement done by Save the Sound, they do Long Island Sound and they did 51 sightings in Long Island Sound

as far as bacteria was concerned. The dirtiest place out, out of the 51 was in Mount Vernon on the Hutchinson River and so it's coming down into the Bronx so we're going to do this whatever… the thing that I'm working on now is really to try to get a water shed meeting with the Hutch and the Mamaroneck River, that's our combined water shed to get all the communities from the Bronx and, and from the Hutch in Westchester come together either in the listing of the places that are there on the Hutch could come together from Scarsdale to the Bronx, they either are totally contaminated or have never been tested and so that is what I am working on now. Okay, thank you very much.

ROB BUCHANAN: Hi, my name is Rob Buchanan. Thanks very much for the opportunity to testify and thank you for sitting in this cold room so long, it's been a long day. I'm with a group called New York City Water Trail Association, we are an umbrella group of harbor boaters and, so we spend a lot of time in the water that we've been talking about today. About five years ago we started a testing program because we felt the information from the city was inadequate to make good decisions about

when the water was clean and when it wasn't and, so we have accumulated a lot of data. I think we run one of the… or coordinate one of the biggest citizen science projects at least water related that there is in the city right now. I just… I'm not going to take three minutes, I just want to say four things that I think that the city council could do. I want… the first is that we have two more of these Long Term Control Plans coming, the, the last of them is something called East River and Open Waters that covers the whole city, its really a huge amount of water and I think that the city council could pressure the DEC to in turn pressure the DEP to break that down into smaller compartments so that community groups and, and locals who really know their waters can have some role in deciding what happens otherwise everything is lumped together in one big bucket. The average picture is good, and the small things don't get taken care of. The second thing is that the DEP could be pressured to test in different places than they do right now, this is just a graph that shows our results versus theirs. When you test near the shore the numbers are higher, they could test in more near shore locations than they do, and they would get

a better picture of what's really going on out there. The third thing is notification and monitoring is really out of date, we talked about text alerts today, those are virtually worthless, they're, they're… it's the same thing as getting a text to say hey it rained yesterday, it could be much, much better. They know it, we know it but there just hasn't been much progress on that so that'd be an easy thing to, to push for and I don't think really would cost too much in the scheme of things. And the last thing is, is more of a visionary thing but, but I think what would help really push this forward and make people think about the harbor in a different way is to create a, a bathing beach inside the upper harbor. According to everybody's data, our data, their data this should be possible with, with really good and regular testing we ought to be able to predict where its okay to swim and when it's okay to swim and we ought to… we ought to put our money where our mouth is and, and make a beach or beaches and there are a lot of great places to do that. So, I hope that's something that the council can work towards. Thank you.

ANDREA PARKER: Hi, thanks for the opportunity to testify today. I'm Andrea Parker, I'm the Executive Director of the Gowanus Canal Conservancy. We are a community based environmental steward for the Gowanus Watershed. We're dedicated to facilitating in the development of a resilient and vibrant open space network centered on the Gowanus Canal through activating and empowering community stewardships of the watershed. We do want to commend the work that the DEP has done on achieving better water quality in the canal. We are lucky that they've fixed the Flushing Tunnel, fixed the pumping station and are constructing a high-level sewer system but there's still a lot more that could be done. I think the… what Rob just mentioned about the water quality testing is really true on the Gowanus, they sample at the center of the canal so their… DEP's water quality test show a very different picture than Citizen Water Quality test. DEP says the canal is swimmable, it is certainly not swimmable. The Long-Term Control Plan for Gowanus which is based on this faulty data doesn't do anything to improve water quality because we also a federal superfund site. Instead of saying the superfund is doing the work, we should get

additional infrastructure to address the hundred million gallons of untreated sewage that will still overflow even after the superfund is done. As several people have mentioned the… our Long-Term Control Plan does not take into account the rezoning process that's currently underway in Gowanus. This will add significant load to the sewage system. As the Mayor and the city aim to add more residential units and toilets to the watershed we need to see a comprehensive plan to mitigate all additional waste water this will add to the system and this should include both requirements for new development and residential conversions as well as more capital money for grey and green infrastructure in the watershed. Green infrastructure is… you know I… we've been very happy by how much green infrastructure we have already gotten, there could still be a lot more, but it needs to be done in a way that really leverages the support of the community and I think one of the biggest challenges that we're facing right now in Gowanus is that the green infrastructure that has been installed is not being maintained properly and that's really eroding the good will of the watershed community. We understand that the contractor

guarantee period is an impediment to this maintenance, but we think the DEP needs to start weekly maintenance visits as soon as… right away installations are on the ground and to engage neighbors as adopters or stewards to extend the efficacy of this asset. As been mentioned the private property green infrastructure program needs massive improvement, there's so much potential in our watershed to build green infrastructure on private property and it's not being leveraged. And then DEP really needs to embrace innovative design and interagency collaboration. In Gowanus we have a Second Street sponge park which is a street end green infrastructure installation, it's a great example of maximizing storm water management with innovative design, the park is currently managing a fifth of design capacity because the interagency team did not resolve how to get water across street intersections. This is, you know really low hanging fruit, it's just an engineering problem to get the water across the street, we need… you know want city council to really push the city agencies to work together to figure this out. I also want to talk about equity in sewage infrastructure siting, I know I just ran out of time

and Michael Higgins from FUREE is going to be testifying soon so I agree with everything he's going to say about it. Thank you.

CARMEN MELIAN: Hello, thank you… first of all thank you so much for taking the time to listen to your constituents. I'm Carmen Melian, I'm part of the Empire Dragon Boat Team, we've New York's first all cancer dragon boat team, we paddle in Flushing Bay together with many other hundreds of human powered boats. We compete up and down the Eastern seaboard representing the New York Spirit and next year we will be going to Italy hopefully for the internationals, the breast cancer international. In addition to our missions of healthy living and exercise for cancer survivors, Empire has been dedicated to the stewardship of the waters of New York City. We have been sponsoring a clean up of Flushing Bay shoreline for the past eight years, if anybody wants to join us in May please do. We have the boy scouts and all sorts of people. We also have participated in oyster gardening with the Billion Oyster Project, just so you know every oyster will filter 50 gallons of water a day and we also work with the water quality testing with the Water Keeper…

Water Keepers Alliance and with Queens College. We do this… we do this because the water quality situation in Flushing Bay in New York Harbor is alarming and distressing. Flushing Bay receives over two billion gallons of combined sewer overflow every year. Our sewage system becomes overwhelmed at even the lightest rainfall and with climate change we know we can expect more storms that are increasingly intense. We ask that the city council pay serious attention to this alarming situation. Our infrastructure is old and deteriorating and we need increased investment in capturing sewage overflows and industrial run, runoff. After the rains and it doesn't take much let me tell you, we paddle amongst drowned sewer rats, condoms, plastic, all sorts of really lovely stuff, we gag as we pass one of the three CS… largest CSOs in New York and we keep going and we rinse off the… immediately when we get off and we, we all wear glasses to make sure we don't get eye infections because some of our teams have gotten them. This all sounds really gross but we also paddle… we have a practice on Wednesday evenings and we'd love to take you out if you'd like to come with us and as the sun, you know sort of goes down you have this wonderful

peace and you, you have a glimpse of what this place could be, nobody… there's no access to Flushing Bay Marina which was part of the worlds fair and it could really be something fantastic. We are especially distressed by the DEP wanting to chlorinate, if you have had cancer you know that being around toxic chemicals is not good, we don't want it for ourselves, we don't want it for you, you don't want it for your children. This last-minute chlorination has not been tested, it's going to kill the oysters and all the small, you know baby shrimp all of that and there's no reason for it and as your… you know as the committee found out, you know Councilman Torres they have made up their mind and they're not going to listen to us, they haven't listened to us and that isn't right because it says on the ceiling, a government of the people for the people, by the people for the people and you, you know you guys have to help us, you know they're not listening. They're well-intentioned but they're just trying to save a buck. Thank you.

COUNCIL MEMBER PERKINS: Thank you.

[off-mic dialogue]

COUNCIL MEMBER PERKINS: Thank you very much. Okay, this is the last panel? Last but not least; Jose Soegaard, Tracy Brown, Michael Higgins Junior. Mr. Jose Soegaard, would you… would you say your last name, so I can say it properly?

JOSE SOEGAARD: Soegaard.

COUNCIL MEMBER PERKINS: Soegaard.

JOSE SOEGAARD: Yeah, thanks.

COMMITTEE CLERK SAMARA: Can you please raise your right hand? Can you please raise your right hand? Do you swear or affirm to tell the truth, the whole truth and nothing but the truth today?

JOSE SOEGAARD: I do.

TRACY BROWN: Yes.

JOSE SOEGAARD: Good afternoon, I am Jose Soegaard, Director of Policy for Waterfront Alliance, a non-profit civic organization working to revitalize New York Harbor and waterways. I'll read a brief summary of our written statement as many of the points that we make in our testimony have already been made today. Clean water is a critical concern for millions of people across our island metropolis. Thanks to the progress spurred by the Clean Water Act there are more people boating, fishing, swimming and

more fish, shell fish and birds populating the waters. While toxins have been reduced considerably, significant problems persist, we still have a long way to go as we've heard all day in order to meet the standards of fishable and swimmable waters. And I want to make a point that it's important to frame this challenge as not only improving our waterways but improving our quality of life. I'd like to respectfully rebut a point that was made earlier this morning by the Deputy Commissioner that the investment in clean water is part of a zero-sum game. In fact, I believe many of the folks in this room would argue that it is a positive sum game as economists would say and that environmental benefits produce economic benefits, healthy habitats foster social wellbeing that improves the regional economy. You've heard from other advocates and experts as well as those wonderful students about CSOs and green infrastructure and the impact to local water bodies of, of combined sewer outfall and unfortunately, we are codifying under investment in clean water infrastructure. We echo the several calls that have already been made for greater review and financing for CSO remediation plans that meet higher targets

for sewage capture, prevent… to prevent harmful pollution. There are several other points in our written statement, I'd like to just make one, one additional point and piggy back off of points that several of the most… the previous panel has made about how the city conducts tests of water quality. You heard from Rob Buchanan, the New York City Water Trail Association, which runs a city… a citizen's water quality testing program. Earlier this year we identified disparities between official water testing samples conducted by the city which are taken in mid channel locations and those as Rob said collected by citizen science which are taken at near shore areas where people are actually using the water for recreation and education. citizen science samples failed federally accepted bacteria standards for safe swimming in roughly 33 percent of tests while the city samples failed approximately 20 percent of samples. What's the reason for the discrepancy, there are several concerns about the methods of quality control for these tests, but we encourage… we strongly encourage the city to take heed of the citizen science results in order to better inform its own program so the data reflects actual risks to

actual users. Thank you for the opportunity to present our testimony and I look forward to your questions.

TRACY BROWN: Alright, good afternoon. My name is Tracy Brown, I'm Director of Save the Sound. Save the Sound's mission is to restore and protect Long Island Sound and its environment and Long Island Sound extends into the Upper East River to Randall's Island and this part of New York City. Today my testimony on waste water is on a slightly different pollutant that you've… that we… hasn't come up yet today which is nitrogen pollution from waste water and I have written testimony, I'll just offer a brief summary. For decades excess nitrogen entering coastal waters have devastated the health of Long Island Sound and the Upper East River. The impacts are clear; low oxygen waters, fish die offs, harmful algal blooms and disappearing coastal marshes. We've made progress reducing human generated nitrogen pollution over the last 20 years, but we must make further reductions if we truly want to achieve a healthy Sound that's safe for people and wildlife. New York City, City recently met an important goal established in 2001 to reduce nitrogen pollution

entering Long Island Sound from the East River Wastewater Treatment Plants by 58.5 percent based on 1990 levels. This investment in the health of the Sound and the East River will pay dividends in cleaner water and a healthier ecosystem. Thanks to this investment and similar ones made in other sound coastal communities, the low oxygen dead zones in Western Long Island Sound are now smaller. However, they are still there stretching from the East River past the coast of Westchester in Nassau County in hot summer months wreaking havoc on marine life and critical ecosystems. There's a map that shows the hot… the area of hypoxia in my written testimony and the red area is marked where it is, you know critically frequent where there's not enough oxygen to sustain marine life. New York City's six East River Waste Water Treatment Plants discharge about 25 tons of nitrogen every day into the East River. These six plants account for 97 percent of the total nitrogen coming into the sound from the East River and, and the city. In response to the ongoing harm caused by excess nitrogen entering our waterways from treated waste water and untreated combined sewer overflows, Save the Sound offers three

recommendations. One, at this time New York City is trading nitrogen credits with Westchester County which has yet to meet its own nitrogen reduction commitment. This demonstrates the city's ability to exceed the 58.5 percent nitrogen removal target that they are already committed to. Based on this fact and the need to continue to ratchet down on nitrogen for the health and future of Long Island Sound, the East River and our communities, Save the Sound calls on New York City to increase its nitrogen treatment at the four upgraded treatment plants to achieve a 70 percent nitrogen reduction in 2018 and beyond. Number two… I just have two, two remaining points, if additional nitrogen reductions are needed upgrading the Newtown Creek Waste Water Treatment Plant to include nitrogen removal should be evaluated. This plant is one of two that remain on the East River that did not get this nitrogen treatment upgrade and it is… accounts for 30 percent of the remaining nitrogen load that's entering the East River today. Finally, number three, Save the Sound calls on New York City to clean the bays and harbors of the East River and Long Island Sound by revisiting and improving the combined sewer overflow Long Term

Control Plans for those communities. These waterways are home to Orchard Beach and many other neighborhood swimming clubs where the public most often comes into direct contact with city waters. They're stressed from nitrogen pollution and fecal bacteria pollution. Strategies designed to meet safe fecal bacteria standards should not come at the expense of other environmental goals and responsibilities such as protecting our living shore lines, coastal habitats, and the wildlife they rely on. Save the Sound calls on New York City to reject chlorination of CSOs in Alley Creek, Flushing Creek and Hutchinson River and to focus instead on CSO flow reduction. Thank you for your time today and for listening to our testimony.

MICHAEL HIGGINS JUNIOR: Good afternoon committee. Thank you for allowing me to testify and I'll try to be brief because I'm cold and I'm the last person and I want to allow people to get out of here. my name is Michael Higgins Junior, I'm a community organizer for a group called FUREE, Families United for Racial and Economic Equality. FUREE is part of a collaborative called Turning the Tide also known as T3, which is a community based collaboration led by the Fifth Avenue Committee in

partnership with Red Hook Initiative, Southwest Brooklyn Industrial Development Corporation and other community based organizations one of which is Gowanus Canal Conservancy which testified previously. So, to be brief my testimony is about three main issues that affect us down in Gowanus. As Andrea mentioned we are the site of a superfund and so we are experiencing hundreds of millions of dollars in development not only in the remediation of the canal but also in real estate and so as we go forward we are scheduled to have two new retention tanks to be installed; one eight million gallons, one four million gallons but there is still a, a dearth in really infrastructure and a, I think what can be probably the densest CSO area in the city. So, part of my testimony is about the conditions that unfortunately residents around the canal have to live in mostly people in NYCHA. The, the Gowanus Canal is around three small developments; Gowanus Houses, Warren Street Houses and Wyckoff Gardens and for some of the residents especially residents who live on the first floor of their buildings in situations where there is a CSO problem that means that that CSO is, is backing into their, their bathrooms, backing into their tubs,

backing into their kitchens and so there's a very serious issue and I think that there has been a back and forth between NYCHA and DEP about who's role is it to create infrastructure to stop that from happening and I hope you all can lead that discussion. Second, we have this issue of increasing development and the Gowanus Canal is the end of a… the Gowanus water shed so that's Carroll Gardens to the West, Park Slope to the East and downtown Brooklyn to the North so all three areas rapidly growing and so what was mentioned before this issue of diversion or the displacement of flow we would like to have that addressed just because the people down near the canal are facing a huge brunt of that burden and that's not fair. Last but not least because the area is rapidly growing and seeing rapid development especially in the midst of a planned rezoning we would like there to be some level of questions about any building that's built in addition should have some sort of… or remediation of… there… them doing their own job to deal with the waste that they're going to be producing for the canal. And thank you for just… thank you for allowing me to testify.

COUNCIL MEMBER PERKINS: …that want to… have something to say? Being there are none then I think we're finished for, for now, thank you so much.

JOSE SOEGAARD: Thank you.

MICHAEL HIGGINS JUNIOR: Thank you.

[gavel]

C E R T I F I C A T E

World Wide Dictation certifies that the foregoing transcript is a true and accurate record of the proceedings. We further certify that there is no relation to any of the parties to this action by blood or marriage, and that there is interest in the outcome of this matter.

Date January 6, 2018