In The Matter Of:

Narragansett Bay Commission

CSO Phase III Stakeholders Group
March 12, 2014

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Min-U-Script® with Word Index
AGENDA: CSO PHASE III STAKEHOLDERS GROUP

NARRAGANSETT BAY COMMISSION

DATE: March 12, 2014
TIME: 1:00 P.M.
PLACE: Narragansett Bay Commission
        Corporate Office Building
        One Service Road
        Providence, RI 02905

PRESENTERS:

MIKE DOMENICA
RAY MARSHALL
TOM BRUECKNER
RICHARD RAICHE
GREG BARD

PANEL:

AMES COLT
LANCE HILL
STEVE COUTU
JOE HABEREK
DORIS ASCHMAN
GREG GERRITT
AL MANCINI
STEVE SCIALOBBBA
HAROLD GARRITT
JAN REITSME
PATTI LUCCARELLI
DAVID CARR
JARED RHODES
CAROLINE KARP
LOU LANNI
CHRISTIAN CAPIZZO
ANGELO LIBERTI
OTHER ATTENDEES:

MIKE WALKER
SHEILA DORMODY
DAVID TURIN
PHIL HOLMES
LESLIE QUISH
MICHAEL GAGNON
BEN NASCENZI
TIM THIES
JOE MASINO
MEG GOULEF
KEITH GARDNER
KATHRYN KELLY
GREG GERRITT
STEVE SCIALABBA
GEORGE PALMISCIANO
LOU LANNI
BEN SALVATORE
LANCE HILL
DAVID BEOYA
HAROLD GADON
JAMES TOOMEY
ALICIA GOOD
WILLIAM SEQUINO
JAMIE SAMONS
MELISSA CARTER
JAMIE SAMONS
(The hearing commenced at 1:03 p.m.)

MR. DOMENICA: I would like to be the first to welcome you to the first stakeholder, CSO stakeholder meeting for Phase III. Looking ahead to Phase III, on behalf of the Narragansett Bay Commission, welcome. If you're in this room for a different reason, you may want to leave quickly, sewers and waste water can be catchy, as we all know.

My name is Mike Domenica. I am pleased and honored to be asked to be a moderator/facilitator for these workshops. This is the first of six different workshops we'll have. I was also pleased to be part of the first stakeholder workshop, which is 18 years ago. And I look around the table and see a number of faces of people that went through that process there, which was a two-year process, that actually was very successful as we went through it, stakeholders starting off from different perspectives, not really understanding the missions and agendas and interests of different groups.

By the end of the process, it came together. And it's a remarkable success story
over the last 18 years through the first two
phases of the CSO program, to be able to put in
place the tunnel system and the Woonasquatucket
interceptor and other facilities has been a
remarkable achievement in this day and age. Ray
was just remarking to me how he is tired of
construction.

MR. MARSHALL: I've had it.

MR. DOMENICA: But it has been a very
successful process, and in a large part due to the
stakeholder process that preceded it.

So why are we here now? We're here
because as the Commission comes to the end of the
Phase II program. The question is, what will
Phase III look like?

Of course, there is a plan on the
books, but the world has changed. The regulatory
framework has changed, technology has changed, the
physical infrastructure around us has changed.
There has been a lot of change.

In addition, you have the issues of
debt, debt service, infrastructure priorities; in
addition to water infrastructure, in addition to
wastewater and CSO, all types of infrastructure
problems. So the economic environment we're
facing is different than it was 18 years ago.

The federal programs for support of these types of projects has changed dramatically. And the priorities, as we will talk primarily about priorities as we go through the next nine months next year. So we'll see how the priorities have changed as well.

The purpose of the workshops is to basically understand what's happened in the last 20 years. For those of you who are new to the process, it will be -- hello, Angelo. He's one of our alumnae from many, many of these types of programs. Angelo was at one of the first workshops years and years ago.

But to understand what happened over the last 20 years, understand the current situation, and look at the options going forward. And one of the big objectives is to get on the same page with regard to terminology, with regard to understanding.

There's a lot of acronyms, a lot of terms we talk about in the business, but to get everybody talking about the same thing, so when someone says something, green infrastructure or storm water management, or whatever it is, there's
a common understanding of it. So that's a big purpose of these, to understand of course the costs, the benefits, the implications, and I think most critically, the uncertainties related to the future.

This business of wet weather management is very complex. If you haven't been through this before, you'll be astounded. You'll be frustrated. You'll be tearing your hair out, because the terminology and the process of going through wet weather planning, wet weather management, wet weather projects is very complex.

Whereas we used to be able to look at a wastewater plant inside a fence, and the abutters were the people around the plant, when you're talking about wet weather, you're talking about the whole sewer system all over the town, all the neighborhoods, all the abutters, everywhere, all the streams, all the issues coming together. It's a complex process, and it will take real attention and commitment on behalf of you folks who are here today.

I want to thank you on behalf of the Commission, as well as Ray will, for being here and committing the time. The goal here is to
assist and advise the Commission as they go
forward to defining what Phase III will look like.
And your participation is critical and very much
appreciated.

Some preliminaries. Before we go
around and have introductions, bathrooms are out
the door in the hallway, right out there. Who
doesn't have a cell phone? Great. Don't turn it
off. Everyone else, if you could be courteous,
turn off your cell phones, or at least put it on
vibrate. That would be nice.

The session is being recorded. We have
a court reporter, Margaret Golden, who we welcome.
She is recording our commentary and questions as
we go through. And the emergency exits are out
this door and to the right at the end of the hall,
I believe.

Having said that, what I would like to
do is go around the table now for the stakeholders
and have each of you introduce yourself with your
name, your affiliation, and then, just so
everybody is on the same page, some affiliations
aren't necessarily immediately recognizable with
regard to their mission by the name, so what's
your affiliation's mission here in Rhode Island.
So start there.

MR. COLT: Good afternoon. My name is Ames Colt. I chair the Rhode Island Bays, Rivers, and Watershed Coordination Team. The coordination team is a seven-state agency commission dedicated to interagency strategic planning and investment for our fresh and marine water and watersheds. I am based administratively at DEM, but I serve all the agencies on the Commission or the team on behalf of the governor. I'm actually based in the office of the governor. Great to be here.

MR. HILL: My name is Lance Hill. I'm the Public Works Director for the City of Pawtucket.

MR. COUTU: Good afternoon, Steve Coutu, Director of the City of East Providence.

MR. HABEREK: Joe Haberek, engineer in DEM, Office of Water Resources.

MS. ASCHMAN: Doris Aschman, Rhode Island Department of Health, engineer in drinking water quality.

MR. GERRITT: Greg Gerritt. I originally represented the green party at the stakeholder process. I don't know if I'm representing them these days, but I work with
Friends of the Moshassuck and the Environment
Council of Rhode Island, and I'm also part of the
new group looking at green infrastructure,
generally in Providence and Newport.

MR. MANCINI: Al Mancini from the Rhode
Island Department of Utilities and Carriers. I'm
the Division's engineer in water and wastewater.

MR. SCIALABBA: Hi, Steve Scialabba
with the Division of Public Utilities and
Carriers. I'm an accountant. We oversee -- the
Commission actually regulates NBC's rates and how
this program affects rates.

MR. GADON: Harold James Gadon of the
CAC system advisory committee to the NBC
committee, without any authoritative powers. We
have been following Phase I and Phase II quite a
long way.

MR. REITSMA: I'm Jan Reitsma
representing Governor Chafee.

MS. LUCCARELLI: Patti Luccarelli. I'm
an attorney with the Public Utilities Commission,
and we approve all NBC's rates.

MR. CARR: David Carr of Cumberland
Sewer Department.

MR. RHODES: Good afternoon. Jared
Rhodes, Chief Rhode Island Statewide Planning Program. My primary mission is to staff the Rhode Island -- and integrate the physical, economic, and social development of the state to various agencies and municipal governments.

MS. KARP: I'm Caroline Karp, Brown University Environmental Studies. When I was on this advisory committee 18 years ago, I was the director of the Narragansett Bay Estuary Program, and I also served on the Bay Commission's Citizen's Advisory Committee. I continue to have many students work on bay water quality, logical public policy and law problems. So I follow all this.

MR. LANNI (phonetic): (Inudible)

MR. BENDER (phonetic): Deputy director, department of public works.

MR. CAPIZZO: Christian Capizzo, Special Assistant to the Attorney General, Rhode Island Attorney General's Office Environmental Unit.

MR. LIBERTI: Angelo Liberti, Chief of Water Protection at DEM.

MR. DOMENICA: And I notice Dave Turin and others at the table that I think are key to this process. If you could introduce yourself as
well.

MR. HOLMES: Phil Holmes. I represent
the Rhode Island Shellfishermen's Association and
the Citizens' Advisory Council. And I was an
original stakeholder.

MR. TURIN: David Turin with the US
Environmental Protection Agency and Water
Enforcement Program.

MS. DORMODY: Sheila Dormody, the City
of Providence.

MR. WALKER: Mike Walker with Commerce
RI, the state's economic development agency.

MR. TOOMEY: James Toomey, the
sustainable lab coordinator at Blackstone Valley.

MR. DOMENICA: I see a number of folks
in the back there that --including the consultants
who you'll be getting to know quite well. Tom
Brueckner and Kathyrn, who have been leading the
program. Jamie, the public affairs director at
NBC. He'll be speaking, and you'll be getting to
know them quite well.

With that, what I'd like to do now is
turn it over to Ray Marshall, Executive Director.
Ray will say a few words.

MR. MARSHALL: First of all, I want to
welcome and thank you for taking the time out of
your busy schedules to take part in this effort.
There will be a series of six meetings, as you
know, and we really need your input. And while
there might be some times when you just want to
sit there and listen passively to what we've
already done and what we're planning to do, there
are going to be other times when you will want to
speak out. And we want to encourage you to do
that.

The first time we went through this
process, the first meeting or two, it was very
interesting, a little on the chaotic side,
actually. I mean, the views and opinions were
just incredible. But over the course of time, we
actually agreed as a group to a particular plan,
which we have followed.

You can see the pictures up on the wall
there of the main spine tunnel that was built
several years ago. And our commissioners and
chairman want you to have input. Don't think that
anything you say is unimportant to us, because it
isn't. The biggest concern our Commission has
right now is the affordability of the program.

Phase I and II plus upgrading the
treatment plants have cost just over $700 million. And right now we estimate, the way Phase III is envisioned, it will cost another $500 million. So the rates have gone from 165 to 5 and a quarter or 530, somewhere around there, for the average single-family home owner. Very concerned about that.

We're trying to find ways to control that rise in rates. And it's almost primarily or exclusively because of debt service. There are some O&M expenses. Obviously, when you build new facilities, you have to run them. But it's primarily the debt service that drives the rates, or has been driving the rates.

So we're trying to find new and innovative ways to address the problem, such as green infrastructure. And we're trying to identify ways of mitigating the impacts of other work that we know we're going to need to do in Phase III. And so we welcome your input. If you have ideas that have worked other places or things that you want us to consider, please let us know.

And there are some people that were not able to be here today or as yet that will --that are part of the stakeholder's group. So we'll
have a few other voices that will be joining in along the way.

And with that, I'll turn it back to Mike. Again, thank you for your time and your interest.

MR. DOMENICA: Before the meeting started, Rich Raiche with Montgomery Watson made a comment that I look like a news anchor up here with my coat on and everything. And it reminded me of the little cartoon, you may have seen it years ago, where the news anchor on a TV news show in the evening says, "Now we're going to turn our attention to the upcoming rate hike. And through the sewers, about the sewers." And he said, "Anybody interested in hiking through the sewers, show up at such and such a place tomorrow morning." You all are interested in sewers. And it binds us all together.

A little ground rules regarding these meetings, just so that we're on the same page. With regard to attendance, obviously you all are committed. These meetings are critical, as Ray emphasized. Missing a meeting, given the relative infrequency of them and the amount of work that's done, is critical. So it's so important to attend
every meeting. If you can't make one and have an alternate, that would be imperative as well.

We need to begin and end on time. I tried my best today. We did a great job. That will be my responsibility as we go forward. If we start late, we don't want to finish late. Both are bad, so that's my job.

Stay on subject and follow the agenda. We'll have an agenda for every meeting. There's presentations set up and time for questions and answers. There's a lot of possibility and opportunity for dialogue. So we will stay on schedule.

One person at a time speaking. Generally that's not a problem, never was the first time. The problem was little side meetings going on everywhere. We had one or two multiple side meetings at times.

Listen to understand, not to contradict. Try to understand. As I said, these issues will be complex. Understanding doesn't just come right away all the time. It takes kind of tossing it around and digesting it once or twice before the light bulb comes on. So listen to understand.
There's no right or wrong answer at this point. We're looking at existing situations, future situations, and what the options are going forward. So nothing is right or wrong to start with.

Engage. As Ray indicated, engagement is critical. Silence infers consent. Doesn't mean consent, but it infers it. Infers understanding. So if you don't understand something, or if you have a different perspective, please try forth with it.

Respect the views of others. Check your understanding by asking questions. Going back to that same point. If you're not quite sure, don't be shy. Ask a question. Clarify it. I suspect there will be a high percentage of people in the room asking the same question that don't want to step up and ask it. So feel free to ask the question.

Constructive, respectable debate is desirable. Debate is desirable. We want it to be constructive and looking toward the issues, not toward positions or people, but toward issues. That's the key.

We have a parking lot at the back that
issues come up, questions that come up, that are
related to the subject but not particularly
necessarily to the agenda of the day. It will be
put in the parking lot. And after the meeting,
we'll put them in the right place in the future or
pick them up at the end of the meeting, if we have
time.

We will have breaks. There's coffee,
water, and other things at the back, but they are
breaks, not sabbaticals. So try to make them
short. Try to reconvene everybody.

We mentioned cell phones, laptops,
communications. I'll shut mine. And lastly,
follow the ground rules.

So with that, any comments or
suggestions on the process and goals?

FROM THE FLOOR: Are you going to
publish a calendar of all the meetings?

MR. DOMENICA: Yes. It will be
published. There will be a website. There is a
website right now.

Tom, do you want to --

MS. SAMONS: At the end of the meeting
all the presentations will be available on the NBC
website, as we have the transcripts. Also agendas
are coming.

FROM THE FLOOR: The website is on the bottom of the agenda?

MR. DOMENICA: The agendas for the next meetings will be there as well.

THE COURT REPORTER: May I make a comment? Because I don't know all your names, and I couldn't possibly remember everybody who introduced yourself, if you could kindly just state for the record, if you want to make a question or a comment, just say your name, and that would be great. That way I can have your name properly included in the transcript. Thank you.

MR. GADON: Harold Gadon. This is a mandated issue. It's not a matter of whether or not we will do it. It has to be done, so we'll decide the best way to get it done.

MR. DOMENICA: Anything else? Don't be shy.

MS. KARP: I want to cover --

MR. DOMENICA: Caroline Karp.

MS. KARP: Caroline Karp. I have often a lot to say. And I follow this issue closely, because my group authored the NBC element of the
state guide plan.

One way of managing a meeting is to let everybody speak before the same person speaks again. That will keep a person like me in better control. Let me just say, we both are capable of talking quite a bit.

But I also -- I guess I want to just say from the start, it seems to me we ought to explore everything with the state of the water or state of the bay, and not assume that Phase III is preordained. And I say that based on my position on Phase I.

MR. DOMENICA: Good. Thank you.

Regarding precluding people from speaking twice in a row, or until everyone else is speaking, we would probably -- won't lay down that strictly as a guideline. I'll take some responsibility for making sure it's spread around.

There will be times we may go around and ask each stakeholder their opinion. If you have no opinion, that's fine. Or if you want to withhold it, that's fine. But that gives everyone an opportunity to speak. We will do that at times.

Anything else? Thank you.
The first order of the business on the agenda is Tom Brueckner, who will give a presentation on CSO program overview.

MR. BRUECKNER: Okay. Welcome all to the second stakeholders' group. One thing I want to just talk about is the parking lot. I don't think Mike was returned to the parking lot. It's hard to find a space to park. It's that board over there we'll be writing on.

One other thing. As you know, next week is -- on Monday is Saint Patrick's Day. So I just had a question.

First question of the group is, what is Irish and comes out in the spring? Anyone?

MS. KARP: Clover.

MR. BRUECKNER: No, it's patio furniture. So it's good to get them laughing before we start.

So I'll talk about the reevaluation of the Stage III NBC program. I've been involved in the CSO program actually since the beginning, in 1990. So I'm pretty old. And I know a lot about CSO's, and I think not everyone here does.

So I just want to do a little bit of background. The first question is, what is a
combined sewer overflow? Most of you know, but for those of you who don't, what happened when the city was developing in the late 1800's, the city built sewers. This is the city of Providence. The sewer was built and discharged directly to the river. They didn't have any treatment plants back then. When they built the sewer system, they built a combined system; meaning, it took flow from both houses, businesses, sanitary flow from toilets, and the storm run-off from streets all went into the same pipe and discharged to the river. Dry weather, wet weather, whenever. By the way, the city of Pawtucket and the city of Central Falls also have combined sewers, and those sewers were built about -- early on, about the same time as the sewers from Providence. In the early 1900s, when the city of Providence realized they were having real pollution problems, they built a treatment plant over here at in Fields Point across the street. And they also made changes to the sewer system by putting in a slot at the bottom of this pipe that goes out to the river to direct the flow in dry weather into an interceptor sewer that they built.
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close to the plant.

In Providence that was done in the early 1900's. In Blackstone Valley, Bucklin Point, in Pawtucket and Central Falls area, it wasn’t done until the 1950's. Quite a lot of time passed between those two communities.

Now when it rains, though, the combined sewer takes the flow into the storm water and the sanitary flow into the outfall pipe. It can’t all fit into the interceptor and go into the treatment plant. So what happens is in wet weather we have discharges of storm water mixed with sanitary sewage.

And because of the sanitary sewage that’s in the outfall or the overflow, we have severe pollution problems, primarily bacterial problems. And it’s basically a public health problem. So by federal law, CSO’s must be addressed to meet the water quality standards.

As I just mentioned, the primary pollutant of concern is bacteria. It affects both shellfishing and the use of water for bathing.

Another pollutant of concern is floatables, probably not as much as bacteria, but it’s basically just the material that comes up
from storm sewers and from sanitary discharges.

In 1992 we signed a consent agreement. NBC signed a consent agreement with DEM to establish a schedule for planning, designing, and construction of the CSO facilities in order to comply with the federal law.

In 1994, two years after the consent agreement was signed, we came up with a conceptual design report. It was approved by DEM to comply with the Clean Water Act. The estimated cost for that program was $478 million.

The rate increase was from -- estimated from at that time $125 per year for a single family dwelling, and it was projected it would go up to $425 a year at the end of the program construction. And construction was going to take place over nine years.

Now, the program that was developed or recommended and approved by DEM really was a program to collect the flows that were going into the rivers from the overflows and divert them to storage facilities. And in this particular alternative, we had a number of tunnels that were being built, one along the Providence River and Moshassuck River and one being built that would go
along the Seekonk River and tie into the Bucklin Point plant.

This tunnel was tying into the Fields Point plant. And then there was another tunnel that was going to be built that would pick up the overflows along the Blackstone River and Pawtucket and Central Falls.

Along the Woonasquatucket River, there were five storage facilities that were to be built. These were near surface facilities. The tunnel was going to be a deep rock tunnel that would be about two to three hundred feet underground. There was another near surface storage facility to pick up an outlying overflow in Central Falls. This was the program that was going to be $478 million.

In 1994 we began design, preliminary design of the approved CDR facilities in accordance with the consent agreement. Also in 1994 the EPA revised the CSO policy to provide more flexibility, particularly with regard to the size of storm that needed to be addressed.

The cost implications of the program and the impacts on water quality and trying to relate the program to water quality standards,
possibly making revisions to the standards to accommodate the program.

   In 1996 we decided that we were going to reevaluate the program that was approved by RYDEM in the CDR for a couple reasons. One was the new CSO policy. There was flexibility in the policy. We wanted to see if that would be beneficial to us in developing a different program that might be more cost-effective, because cost was a very big concern, as you saw, $478 million, and increase the user rates substantially.

   Another was technical concerns. We found that when we were doing the geotechnical program for the tunnels, there was some areas where the rock was a little iffy, and we weren't sure we wanted to put tunnels in those areas.

   So in order to address and reevaluate the program, as Mike had alluded to earlier, and a number of other people around the table have attended, we set up a stakeholders group to do the evaluation.

   After two years of meetings, about 18 months of meetings and six months to prepare the recommended plan by the stakeholders and a conceptual design report, it was approved by DEM
in 1998. The cost was reduced for this program from the $478 million to $390 million.

The rate increase was at that time just in those years that it passed, it had gone up to $165 a year, because of other programs we were doing. And it was estimated that after the 17 years for construction, so the construction period was longer, which was part of the CSO policy gave you more time to do the program, we estimated that the rates would be $300 per year at the end of the construction phase.

So the goals for the alternative 17 and the new recommended program were that we would have a 98 percent reduction in annual CSO volume. Right now, the estimate is an average year we discharge about 2.2 billion gallons from the CSO's.

To put that in perspective, the treatment plants we own, the two plants do about 20 billion gallons a year. So about ten percent of the flow going through the plants goes through the CSO system. We estimated that with the reduction in bacterial discharges to the receiving waters, we would see an 80 percent reduction in shellfish bed closures, which I think most of you
are familiar with, that there's a policy that DEM enforces that regulates when the shellfishing beds will be open. This program, because of the -- addressing the bacteria, would see a reduction in the time those beds would be closed. And it was designed to capture a three-month storm, which was defined to be 1.6 inches of rain in six hours, which is a fairly good-sized storm.

What it means to be a three-month storm, we expect to see a recurrence four times a year. So we were addressing basically to get down to less than or equal to four overflows per year from the system.

The program was also going to be built in three phases instead of just one phase, as was previously proposed. The first phase was going to be completed, or actually was completed in 2008. The second phase is ongoing now and will be completed at the end of this year. And the third phase is scheduled for completion in 2021. But it remains to be seen if that's the schedule we can adhere to. This is the current program for the CSO's.

As I mentioned, there are three phases. The kind of pinkish phase, first phase, is a
tunnel that's going to be -- that was constructed.
It goes from the Fields Point treatment plant
across the street, basically up to the foundry
on -- 16,000 feet long, 26 feet finished diameter,
holds about 62 million gallons and primarily
addresses the overflows that are along the
Providence River.

There was also part of Phase I -- what
we were doing, working more at the Bucklin Point
treatment plant, we put in what are called wet
weather facilities. There's a very large overflow
right before the plant that was discharging
untreated storm water and sanitary flow to the
Seekonk River.

That flow is now diverted to the
treatment plant almost all the time, where it gets
primary treatment and disinfection. Again, it's
critical, because the primary pollutant is
bacteria. And with the disinfection, we really do
a good job at reducing the bacterial pollution
from there, that CSO.

The second phase consists of two
interceptors, one along the Woonasquatucket River
to pick up the overflows there, and one along the
Seekonk to pick up the overflows there. Both are
near surface interceptors, meaning they are about 25 feet below ground. They are done by micro tunneling.

And they will be done by the end of this year. Most of the work is complete, in fact. There are also some sewer operation projects on the east side. Those are nearly complete. That picks up two overflows, one to the Seekonk River and one to the Moshassuck River.

And there was a wetlands facility, that outlier that I told you about that was going to be done by the -- near the storage facility, is now a wetlands facility. It goes into a small holding tank. Small storms are captured and discharged to the interceptor. After the storm, anything the small tank can't capture goes to a wetland facility for further treatment.

In Phase III what's going to be a another tunnel from the Bucklin Point treatment plant all the way up to the Central Falls line, there's two interceptors up at Central Falls to pick up the overflows there. This would address the overflows to the Blackstone River and to the Seekonk River.

And then there's a fairly large
overflow on the Moshassuck River that was going to be picked up by a small tunnel that will be connected to the other tunnel that was going to be built, part of Phase III.

This is another graphic which basically shows the three phases but done differently. This shows the outfalls. And they are color-coded the same as the previous graphic.

The Phase I overflows are shown in pink or red or purple, whatever that color is. The second phase overflows are shown in green along the Woonasquatucket, the Seekonk and the one up here, an overflow 106. And Phase III overflow is shown in the yellow-gold color. Also shown on this is the relative magnitude of the overflow so you get a sense of what we're looking at in terms of impact from various locations.

And the biggest overflow that we had was down here right at the treatment plant, picked up of most of South Providence. As you see, that has been addressed by Phase I. That was greater than 20 million gallons in the three-month storm.

We also picked up the overflow, as I mentioned, at Bucklin Point, which was another good size and very concentrated, because it was
really a discharge from the interceptor coming into the plant.

We have another very large overflow that is part of Phase III right here on the Seekonk River, another big one up on the Blackstone. This one I mentioned where the adit was going to be provided. There's a fairly big sized one out of the Moshassuck, and that's a much smaller river than the Blackstone, so it has a much bigger impact.

Then you can see almost all the other overflows are relatively small. Keep in mind as I go through, I present it so you get a feel for the fact we dealt with some of the big overflows along the Providence River, but many of the other large overflows are still of interest.

How does the tunnel work? I give you this because we talk about tunnels in Phase III and we already built one. This is flow that currently goes out. This is the pipe that currently goes out to the river. We put in a diversion structure to divert that flow into a gate and screening structure that then conveys the flow to a drop shaft. That's 250 feet deep and goes into an adit that connects the drop shaft to
the tunnel that takes the flow to the plant.

    And that tunnel, as I mentioned, is 26
feet finished diameter, 16,000 feet long, 62
million gallon capacity. This tunnel will
terminate just actually across the street at a
tunnel pump station where the flow is then pumped
from the pump station after the storm and given
secondary treatment at the treatment plant, if we
have capacity to do so.

    A very large storm will provide
secondary treatment for some of the flow and
primary treatment with disinfection for the
remainder. But the majority of the 1.1 billion
gallons that we captured since 2008 when this was
was done was 1.1 billion gallons per year we've
been capturing. Or over the five years, 5.5
billion gallons have gone through the tunnel and
received secondary treatment.

    The majority of the flow has received
secondary treatment. And as I mentioned, the
annual CSO volume is 2.2 billion gallons. So
we're capturing about 50 percent of the overflow
volume of the current tunnel.

    We have projected when we did Phase
I -- when we did the CDR we collected about 40
percent in Phase I, 20 percent with Phase II, and the other 40 percent with Phase III. So Phase I is capturing a little bit more than we had estimated.

This is the completed tunnel, just to give you an idea. There's no people standing there so you can get a sense of how big it is, but that is 26 feet in diameter, finished diameter. And it was just walked about two weeks ago by the construction crew, and the tunnel was found to be in very good condition, almost the way it was when it was built.

This is the way we are doing the interceptors, as I mentioned in Phase II. It's called -- done through micro tunneling. Basically you build two pits; one an exacting pit, and one a receiving pit. The machine goes in here, and it basically pulls the pipe behind it and burrows through the ground to get from one pit to the other.

That is what was done along the Seekonk. That Seekonk interceptor and the Woonasquatucket interceptor. That's what the little tunnel boring machine looks like. The way the main tunnel was built was with a much bigger
machine. Same idea, but with a 28-foot face.

So just to give you a summary of the
CSO project cost by phase, the -- I can't read too
well. I don't have my glasses on. But $375
million actual cost to finish, Phase I.

The projected costs for Phase II, and
these are pretty close. I think that says 213.
The estimated cost for Phase III for the current
program we're proposing, which is the tunnel and
the interceptors, is 605 million. And the total
cost of all three phases estimated right now is
1.2 billion.

Now, you remember the CDRA that we had
done back in 1998 estimated the cost for the three
phases at 390 million. So our estimates were
obviously low.

This shows the impact on user fees. So
the base, the first, the blue is the base, which
is cost for service in 2002, and that's carried
through. The green showed the increase due to
operational costs.

Obviously, we put the tunnel online.
We made upgrades to the two treatment plants at a
cost of over $100 million. So there's additional
costs running the plants for electricity and
chemicals.

The orange is the debt service for the money we borrowed to build the facilities, the CSO facilities and the treatment plants. As you can see, that has been the biggest contributor to the increase in user fees.

As I mentioned, the CDRA said that when we were done with the three phases, we should be at $300 for user fees. We are currently approaching $585 per household user fees. So you can see that we have substantially exceeded what was estimated.

The other thing I wanted to mention is that in 1994 and since, the EPA has put out guidelines for affordability. And the rule of thumb is it's two percent of the median household income. If we use Central Falls as the median household income of 29,000, we are right now at $585, or pretty close to the two percent mark for determining affordability.

So you can see that we really do not have much -- in fact, there's really no capacity to go beyond the two percent for some of the communities in the district. And we're almost -- by 2017 we'll be exceeding the two percent median
household income for Central Falls and possibly other communities.

So we are currently looking at doing further reevaluation of the Phase III program. And the reason for doing that, there are a couple. One is obviously the cost factor, again, which was the first reason for doing the original stakeholders. And we're back because we're very concerned about the impact on rates.

The second reason is that EPA has further -- done further guidance for CSO programs, wet weather issues, and has come up with some new approaches to dealing with wet weather issues, as Mike mentioned. And we wanted to look at those factors and see if it might result in some change to our Phase III program.

The other reason is, when we did the stakeholders the last time, there was a recommendation that we reconvene the stakeholders after Phase I was completed and after Phase II was completed. We didn't do it after Phase I, primarily because we just didn't have enough information at that point to present, to see if there was -- what the impact was on water quality. But we do have that information now. Phase II is
coming online, and we thought it would be a good
time to reconvene, to see where we are, where
we've gotten to with the first two phases, and
then evaluate where we want to go.

So the reevaluation task. The first is
to develop a sewer hydraulic model for the Bucklin
Point service area. We need to do that in order
to do the evaluation for the alternative for Phase
III. You need to know what's going into the
facilities in order to design their size and
figure out how you're going to do the program.

The second is evaluate changes of water
quality since completion of Phase I and expected
water quality upon completion of Phases II and
III. So we want to project what we think there
will be after Phase II. And then whatever the
proposed program is for Phase III, what will water
quality look like after that. Again, this will be
primarily focused on bacteria.

And we do have quite a bit of data that
was collected since 2004 by our environmental
monitoring and data acquisition section. They
have been collecting samples weekly on rivers.
And I just bring this to light again so you can
see with regard to the rivers and water quality,
if you're looking at the Providence River, you are really looking at the overflows that were addressed in Phase I.

If you're looking at the water quality improvements that we would expect to see in the Woonasquatucket and Seekonk River, you're looking at the Phase II overflows. They should have some impact.

We also, on the Seekonk River, this Phase I facility, the wet weather facilities that Bucklin point has had a significant impact on water quality here, which you'll see in a minute. If you're looking at the Blackstone River and the Moshassuck River, you're looking at the Phase III facilities to address those contaminants in those rivers.

So this is the -- very quick summary or a real overview of the wet weather bacteria levels before pre Phase I and post Phase I for the rivers. That would be the Blackstone, Moshassuck, Woonasquatucket and West River.

Now, I don't know if you can read that, I can't read it too well because I can't see that far, but the standard for fresh water rivers for bacteria is the green color, the green dot, 200
MPN, fecal bacteria per hundred milliliters. The others are gradually increasing where red I think is 2,000 to 4,000 MPN per hundred milliliter. Again, this is wet weather only. These are the numbers we're seeing after a rain event.

As you can see in Phase I, pre Phase I, we did -- we only met the standard at one location, which was above the CSO's here on the Moshassuck River. Even in those locations that were above CSO's on the Woonasquatucket, the West River and the Blackstone River and on the Pawtucket River, we did not meet standards for wet weather for bacteria. This is not even any impact from CSO's. This is strictly from storm water.

You can see that along the Moshassuck River it was very bad. Again, we had that big overflow up here. And along the Blackstone not so bad. The water quality is pretty good on Blackstone, but it's a much bigger river than the others.

Post Phase I, you can see there was some improvement in some of the locations, but not very many because of the fact that we really didn't address any of the overflows here. And I
think that had to do more with the sampling. The way the sampling was done, the amount of rain we were getting and storm events, you would see some improvement.

For example, on the Pawtuxet, we went down to the standard. And up on Blackstone, we met the standard. But I think that had to do with the rainfall that occurred during that period of time, probably more than anything.

MS. KARP: Before you leave these slides, my recollection is that it was water quality in the upper bay, so below Fields Point as well as what you're showing on the rivers it was driving Phase I.

My recollection is that in fact the state was meeting fecal standards in that part of the bay quite often. There are green dots, lots of green dots below that. And you can see a little bit above as well.

MR. BRUECKNER: The next slide will show that in the upper bay. But I want to point out that -- two things. One, we're not meeting water quality standards, so we're not done in these rivers, obviously, and that there has been some improvement, but not much. And we still need
to address both combined sewers. And it looks like issues with storm water as well are affecting rivers upstream of the combined sewer.

MR. LIBERTI: Can you go back to that slide? I think I just realized I was looking at -- I was looking at the Seekonk River and all the small green dots. And I have a hard time thinking that the entire Seekonk was meeting its bacteria levels, but those are actually the CSO locations?

MR. BRUECKNER: That's correct, on the Seekonk.

MR. LIBERTI: There really is no sampling data as shown.

MR. BRUECKNER: On that slide.

MR. LIBERTI: I thought, wow, there's something the matter with that data.

MR. BRUECKNER: That's the next slide. Those are CSO locations. Again, those are the -- yeah. Now we have the upper bay wet weather bacteria levels. So there's before and after, again, one pre Phase I, post Phase I. And as before, the dark green is the standard. In this case it's 50 MPN. Not 200. 50, because it's more stringent when you're in salt water, which these
The Pawtuxet River falls into this category.

As you go down, red is the worst. You can see pre Phase I. There's this red area here, which was the worst case, then orange, and yellow, and light green. And Seekonk was pretty bad. It was in this category.

As we go to post Phase I, you can see that there is some improvement. We dropped a color from red to orange here. Still not meeting standards here. The orange area went to yellow, so basically we increased water quality by one shade, if you will.

And you can see in the Seekonk River we went to yellow. So we went from orange to yellow. And a lot of that has to do with, I think, the improvements we made to that overflow at the Bucklin Point plant. And you can see down at the very mouth of the river we are actually meeting the standards for 50 MPN.

Now, there's a standard also for shellfishing, which is 14 MPN. We are not meeting that down here.

The other thing I want to show is that, you can see right here where the Pawtuxet River comes in, it appears there's some impact on the
Pawtuxet River with wet weather. That's also affecting whether the standards are met. Again, there's no overflows of CSO's on the Pawtuxet River. If that is impacting it, it would be from storm water as well.

So there has been some improvement in water quality in the Providence River as well and the Seekonk, but as I mentioned earlier, there are some big overflows on the Seekonk that are in Phase III that would need to be addressed.

We probably see substantial improvement particularly from this one here, overflow 218. And the Moshassuck River and Woonasquatucket come in here, and they affect this area. When we see the Phase II going online from the Woonasquatucket and for the Seekonk, we can expect to see some improvement for the Seekonk in Phase II and Woonasquatucket for Phase II and the Providence as well.

But the Moshassuck, even after Phase II, probably won't meet standards, because we're not addressing anything on the Moshassuck.

So what's the current EPA approach on meeting water standards? I mentioned it has kind of been developing over the years. And right now
what EPA -- what -- we have Dave Turin here, by
the way, from the EPA. And I will give you my
understanding of what the current approach is, and
if Dave wants to speak a little bit about it, his
understanding, that would be good. But I think
the purpose here is really for people to
understand where we are.

But my understanding is that the main
thing that the EPA really wants to look at now is
take a holistic approach to water quality
standards through an integrated planning
framework, realizing that there are many factors
that may affect water quality and that also we
need to spend money on to make water quality
improvements.

So I listed four of the main ones.
Obviously, in order to meet water quality
standards, the treatment plants need to be
functioning correctly. As I mentioned, we spent
over $100 million on the two plants, mostly for
nitrogen removal, which is another issue affecting
water quality.

That really doesn't have anything to do
about the CSO's. CSO's really are a bacterial
issue. We spent a lot of money on CSO's, as we
mentioned, 500 million dollars. Sewer infrastructure, meaning maintaining the sewers.

Now, we only own the main interceptors. And just the main interceptors, we spent a lot of money rehabilitating our interceptors to get them up to standards where we know they are going to be functioning. We cleaned them. We repaired them. We've lined them, so that they are all in pretty good shape now. That's been tens of millions of dollars as well.

In addition, the local communities have miles and miles of lateral sewers that I think it's safe to say some of the communities probably have not maintained to the level they should have, because they really can't afford the costs associated with it.

And one of the factors is that there's legislation proposed in the past that NBC take over local laterals. And should we do that, it would either be a cost that NBC is going to incur, or if we don't take over the sewers, the local communities will have a cost associated with maintaining those sewers going forward.

And given how long there has been deferred maintenance on the local infrastructure,
there's obviously going to be some impact on local communities. Somehow we're going to have to collect money and upgrade their sewers.

Then the last factor that is another wet weather issue is storm water. As I mentioned, upstream of our CSO's are not meeting water quality standards, probably because of storm water. And many of the local communities which do have separate storm sewers now have to look into how they are going to address storm water.

There are all sorts of federal requirements for storm water, which down the road may even include some form of treatment similar to what we are doing with CSO's. That could run into the hundreds of millions of dollars as well.

When you take all those factors that all affect water quality or public health for sewer infrastructure and then you add that on top of what the current rates are, it gets to be a question of, well, we can't go forward with everything, so what should we spend our money on first, what priorities should there be, and what should those programs be.

So EPA has -- understands that you can't afford to do everything right away. So
their approach is you do what you can afford now. And what you can afford now is based on the limited affordability, based on median household income, and other factors which our consultant will talk about in a little bit.

And the other factor is, even if we were to address the combined sewer overflows, finish Phase III, and we still didn't meet water quality standards, it's not that EPA is going to say, well, you know, you're done. And then we'll just change the standards. The next thing they will say is, okay, what needs to be done now, what's the next thing we need to do to meet water quality standards, and what is that going to cost.

So you're really never done until you meet the standards. And in my opinion, that's going to be many, many, many, many years from now when you consider all of the sources of pollution that we have to deal with.

The third task is to evaluate the recommended abatement method for each overflow and answer the following: Is it still the most cost-effective method? Again, that would be tunnels, interceptors and some sewer separation.

As I mentioned, I think I did mention,
but we did some -- we did some sewer separation in Phase II, very disruptive to the community, something we do not really want to do again.

There is some proposed for Phase III. We want to not do sewer separation. We would rather do something else.

One of the alternatives we're looking at is green infrastructure instead to control the storm water at the source instead of having to go into the sewer system. And we'll talk about that more in a few minutes.

And then reevaluation of -- develop a cost estimate for Phase III and determine its impacts on sewer rates and affordability, based on EPA criteria. And if it's not affordable now, if we can't afford to do Phase III at this time, maybe the relief is that it gets pushed out further. And when we retire some of the debt from Phase II and Phase I, and we have debt capacity, then we embark on Phase III.

And then the last task really has to do with the nuts and bolts of doing the work, which is perform a map of the project area, basically for doing design, conduct a limited soil rock boring program, as needed. This is during Phase
III only and reevaluation only, not during design of III. This is one year.

By the way, the reevaluation is scheduled to be done by the end of this year. It's a one-year project. And one more thing, and stakeholders --

FROM THE PANEL: Could you perhaps explain the very first task? I didn't quite understand what that is all about.

MR. BRUECKNER: The first step is to develop a hydraulic model for the sewer system. We have a hydraulic model for the city of Providence. That was used to develop the design for the Phase I and Phase II facilities. That will tell what you can simulate in a given storm. It will tell you what the overflow volumes are for that storm, for each overflow, and then you can design your facilities to accommodate that storm in order to meet the three-month storm standard, or whatever your design standard is.

It's really just a tool to help you evaluate your alternatives as you go forward. So really you have to do that first step in order to do your evaluation properly.

I want to mention also that on task
two, which is the water quality evaluation, there
will be a receiving water model that will be used
to predict water quality improvements for Phase II
and Phase III. So we have the results after Phase
I. Those are real numbers.

The receiving water model to be
developed under task two will predict the
improvements associated with the other two phases.

FROM THE PANEL: When you do the
hydraulic model, that only focuses on sort of the
hard solution, not on --

MR. BRUECKNER: No, you can deal with
green infrastructure. It's based on impervious
area. That's how you develop your flow through
the system. If you say, okay, we're going to
eliminate ten percent of the flow because of green
infrastructure, the model will be able to simulate
that.

That's actually the end of my slides.
Do I have time for questions?

MR. DOMENICA: You have plenty of time.

Great job.

MR. BRUECKNER: We need to get better
name tags. But we're saving money.

MR. DOMENICA: A question way at the
MR. NASCENZI: My name is Ben Nascenzi, Deputy Director of Public Works in the town of Johnston. There's a concern to the outlining community staff. You said there was legislation pending in regards to NBC taking over private sewer lines, miles and miles of private lines.

MR. BRUECKNER: No, not private, municipal lines.

MR. NASCENZI: Correct. What about the private lines? There's still some hanging out there. People own them through easements.

MR. BRUECKNER: No, they are not going to be addressed in the legislation.

MR. NASCENZI: But all right. So the municipal lines that legislation requires, is that going to require another test or what, assessment on the lines? Will that require that type of data that's going to give you an exact assessment of what is out there and what the conditions are and -- it's really complicated and hard -- it's hard enough anyway.

MR. BRUECKNER: Ray, do you want to address the issue of the legislation? And if you're from Johnston, you should be up here
instead of back there.

MR. NASCENZI: I don't like to sit up front.

MR. BRUECKNER: Are you the only person here from Johnston?

MR. NASCENZI: Yes, for today.

MR. BRUECKNER: If you want, you can have a seat at the --

MR. NASCENZI: I'm fine where I am.

MR. MARSHALL: The legislation that's being referred to, this year there has been a bill introduced by the city of Pawtucket. And they have asked that we take over their lateral sewers. They are working with Pawtucket to get a more comprehensive bill similar to the one that was passed in the house in 2012, which said that we would evaluate, the Narragansett Bay Commission, at our cost, the concept of taking over all the publicly owned sewers within our member communities.

And it would be one of -- we have a year to study it. And we would go to each of the communities, for example, are you interested in Providence, are you interested in Johnston, Pawtucket.
And if you were not interested, that's fine. We could just leave you out of the rest of the study. If you were interested, then we would evaluate what it would take for us to acquire ownership of those sewers. We're not intending to pay anyone any money, by the way. Community representatives, we would just acquire your assets.

And then we would determine how many additional people and how much additional equipment we would need to meet the standards that have been set by DEM and EPA for CMOM, which is Capacity Management Operation and Maintenance, requirements. And then we would report back to the general assembly that would say either we can do it or we can't.

And if we can do it, this is how much it would cost. Do we want to move forward. That's what the plan is for all the publicly owned sewers. So not the sewer line going to your house.

MR. NASCENZI: Or the storm lines?
MR. MARSHALL: No storm lines.
MR. NASCENZI: Correct me if I'm wrong, but that would have a significant impact on the
rates themselves.

MR. MARSHALL: Absolutely.

MR. NASCENZI: Is that something that's going to be forced out?

MR. MARSHALL: No. That's one of those -- as I mentioned, if legislation passes, if it did pass the house and made it to the senate, and -- it made it there for the very last stage of the session 2012. If we are going to study it, as Pawtucket would like us to do, we don't have a problem with that, we want to study the entire system at one time. We don't want to do it piecemeal.

So we would go to Johnston and say, are you in or are you out? And the mayor might say, well, tell me more. And he says, no forget it, we're good on our own. So you wouldn't have to be part of it.

Whereas Providence might want to be part of it. We think Pawtucket does want to be part of it, so we do it all at one time. So we wouldn't do Pawtucket this year, Providence two years from now, Johnston three years from now. We want to do it with a good long-term plan three in place.
MR. NASCENZI: In order to answer that, okay, so there would be again a significant rate increase, but now that rate increase could be equalized amongst all communities, that would be the same? Or you have a lesser amount in the town of Johnston than you do in the city of Pawtucket, but a higher cost factor for the resident in Pawtucket rather than the resident in the town of Johnston, or is it a unified rate amongst the stakeholders?

MR. MARSHALL: That's a great question. That's part of what we would evaluate in that one-year study period.

MR. DOMENICA: Any other questions back there?

MR. GAGNON: Michael Gagnon, town of Lincoln. Would your acquisition include the sewer pump stations?

MR. MARSHALL: Yes. Town-owned pump stations.

MR. DOMENICA: One thing I think might help, Ray or Tom, the term CMOM. Ray used it. He defined it. But it might be worth just another 30 seconds on what CMOM is and what the implications of it are with regard not only to NBC systems but
also to community systems, just very briefly.

MR. BRUECKNER: CMOM is capacity maintenance operation management of the sewer system. And we had actually done a plan for NBC basically looking at our programs to see if they met the minimum standards for maintaining our systems. And actually we -- our program is very good. It met most of the criteria for EPA they had established.

I don't believe that the CMOM's are mandatory at this point, but they are recommended. Did you look at them, Dave? Are they mandatory?

MR. TURIN: They are mandatory in cases where EPA issued orders with wiring -- which we have in about two-thirds of the communities in Rhode Island.

MR. BRUECKNER: We did ours voluntarily. We were not under a mandate to do so, and I'm not aware of which communities do have a CMOM mandate. But the intent of it is to look at the sewer system, make sure you have mapping of the sewer system, make sure that you televised it, you know its condition, and that you have a plan to maintain those sewers, at a minimum, and to demonstrate that you don't have any sanitary sewer
overflows in wet weather and that you're complying
with all the requirements for a properly
functioning sewer system.

So obviously, there are some
communities in Rhode Island, maybe within our
district, that have CMOM requirements that are now
tyling to address that. But I mean, our
assumption is that some of the communities have
not been able to keep up with all the requirements
they would need to do to maintain a properly
functioning sewer system.

MS. KARP: I have a question for Tom,
and it's on a different subject. It goes back to
this. And that is back in Phase I there was a
conversation about how many overflows would be
allowed from the tunnel per year. That's one.

And two, we were doing this in part to
try to restore a number of days of -- that the
shellfishing areas would be opened.

Can you talk to both of those? What
are the data of number of overflows per year from
the tunnel and has there been improvement and
what's the dollar value --

MR. BRUECKNER: I don't have the actual
number of days for overflows, but that was for the
average year. But we obviously don't hardly ever
get less the average year. So some years we have
more. I'm not sure about less, but it's for Phase
I only. Obviously -- so I don't have that data.

With regard to the shellfishing, I do
know, and I don't have that information probably
as readily as maybe Tom might with regard to the
improvements, but I do know the closure policy for
shellfish areas being opened has changed by the
DEM. And I don't know if Angelo or Tom would want
to speak to that.

MR. UVA: The upper--

MR. BRUECKNER: That's Tom Uva from the
Narragansett Bay Commission.

MR. UVA: The upper bay, conditional
area A and B is closed with half inch rain or an
inch of rain. And now it's .8 inches of rain and
an inch and a half of rain. So the regulations
have been relaxed. And it's resulted in
approximately 40 extra days of shellfishing a year
at this point.

And based upon the data that we've seen
since 2008 when the tunnel went online, that's
about seven times a year where our wet weather
facilities at the treatment plan go online, which
means the tunnel is full. But we have been -- the
weather is much wetter than it used to be. We
have more frequent and more intense storms. So
that also has an affect on the performance of the
tunnel.

MS. KARP: I actually -- I want to make
sure I understand. So after the end of Phase I,
we have about one additional month per year of
shellfishing in the upper bay.

MR. UVA: I believe so. Yes.

MR. HOLMES: Phil Holmes with the Rhode
Island Shell Fisherman's Association. I can
answer that anecdotally. I had a member this
summer who worked in Area B who told me that he
had not lost a day's work so far this year in Area
B.

Now, there's two different standards
for area A and Area B. But this one guy came up
to me shaking my hand, pat me on the back and
thanking me for all the work I've done, which is
come to meetings, which some people don't like to
do. But he was ecstatic that he had gotten every
day of the year in the area that he chose to work.
He chooses to work in Area B because that's his
area of choice.
There's different reasons for different areas. Guys from Bristol and Lawrence stay on that side. Guys from East Greenwich stay on this area of the bay and so on and so forth, whether they are pole breaking or diving whatever they are doing. They have different places they like to work.

And his area of choice is in Area B, and he had not lost a day fishing. And this was like in August when I was talking to him. So we're two-thirds of the way through the year in Area B, and he hasn't lost a single day. And he was out of his mind happy.

MR. BRUECKNER: I want to mention one thing. I referred to the improvements in the water quality. That information was taken from reports that we've prepared basically summarizing the water quality data before and after Phase I. And Tom, I think that that report will be available soon. And --

MR. UVA: All the data is on our website, Snapshot, narrabay.com, under the Snapshot heading. Click on that link, and all of our monitoring data is there. And the entire evaluation of Phase I will be there within a week.
or so.

MR. DOMENICA: A question over here.

MR. MANCINI: As far as the completion --

MR. DOMENICA: Your name, please.

MR. MANCINI: Al Mancini from the Division of Public Utilities. As far as the completion for Phase II, I thought I heard you say that it will be substantially completed by the end of this year.

MR. BRUECKNER: It should be. We have completed -- it's 14 contracts under Phase II, and I think probably ten of them have been completed. The two big ones, the Seekonk interceptor and the Woonasquatucket interceptor is still ongoing, as is overflow 106 and some of the sewer separation work on the east side, particularly North Main Street. But that's probably going to wrap up this summer.

The WCSOI probably will be finished by the end of the year, going into next year, some work to repair the road and so on will continue beyond, but I would expect the tunnel should be -- these two facilities should be tied into the tunnel pretty much by the end of the year, maybe
early next year, December, January we should be
online with those facilities.

    MR. MANCINI: I was just comparing it
with the capital project list. And actually it
still shows, although it says fiscal year 2015,
which begins this July, it actually shows still a
$60 million remaining for expenditures.

    And I was just curious, I was assuming
most of that will be spent by the end of the year
with something moving into the following year.

    MR. BRUECKNER: Right. Just one thing.
Angelo, do you want to talk about the tunnel shut
down?

    MR. LIBERTI: Yeah. I guess two
things. I wanted to first--

    MR. BRUECKNER: Just state your name.

    MR. LIBERTI: Sure. Angelo Liberti
with DEM. I think I should get used to that by
now. You've reminded everyone else. Sorry.

    I want to talk about the improvements
on the bay. It's very difficult. There was a
water quality model used to project what we
thought the improvements might be. And we knew at
the time that it wasn't going to exactly match
reality.
What's really difficult is to get out there at the right time to collect the samples. You need the next bigger storm. If you want to change the criteria, it has to be bigger than the storm you already received. We worked with NBC to get that data as best we could.

One of the things we've been trying to track is moving the line B, the southern boundary of where the conditional area goes into effect. Can we move that up so there's more of the bay than -- that's even more difficult, because now we're looking for a 1.5 inch, bigger than 1.5 inch, with no additional storms messing up sort of the data set. But we're still working on that, trying to also see if we can move that line north.

And I did want to mention last time, sometimes there's a bit too much focus on shellfishing. As Tom showed, shellfishing is very important to the economy. But the Seekonk River has some large discharges. And we don't get to leave them there just because we're not going to add enough additional days of shellfishing.

As we go through this process, just keep in mind we do need to protect the urban rivers as best we're able to under the flexibility
available for the fact that they are
recreationally used, not only for their impact on
shellfishing. I'm sure that will come out going
forward.

MR. BRUECKNER: Do you want to mention
about the tunnel shut down?

MR. LIBERTI: Yes. We just issued a
joint press release with the Bay Commission,
because they are coming to the final stages of
Phase II, and they need to basically break through
the wall of the tunnel and connect the Phase II
into it.

So obviously we have to protect the
workers who are going to be down in the tunnel
making that cut. So they are going to stop using
the tunnel for about three weeks. That's the
estimate.

During that time there won't be any
flow directed into the tunnel. So because of
that, we're going to have to switch our closure
criteria back to what they were before the tunnel
was built. That will put Area A back to --

MR. HOLMES: So I can let my town know,
when is that going to be?

MR. LIBERTI: They are going to start
Wednesday. Next Wednesday is the estimate. And then it will depend on whether or not rain events occur, whether there truly is any impact. But that will be a three-week period where A is back to a half inch closure and B goes back to about a one inch.

Then after that, they will be able to resume the use of the tunnel, but not at its full capacity, again, to protect the workers and do work. They will use the tunnels a little bit less.

So we'll be able to go to the new criteria, the .8 and 1.5, as long as the tunnel capacity doesn't get exceeded. So all and all, after the first three weeks, I think the Bay Commission's estimate is after that there might be three to five times in a typical year that the reduced capacity gets exceeded. So we'll do our best.

One of the things we did with NBC before was, until we had enough data to set the new criteria, we went out after a rain event to track how fast it recovered. And we got permits from the FDA.

So once we saw a recovery and nothing
else coming down the Providence or Seekonk to affect them, we could reopen it early. So if that opportunity presents itself and we have to close it during this reduced capacity, we'll try get out there and see if we can reopen it earlier than the seven days.

So we did actually -- we asked that it be posted on the shellfish management plan. The state is working on a shellfish management plan. They have a LISTSERV. So right before I came here, but I was late, I asked them to post that to everyone who is part of that LISTSERV, as well as Rhode Island Marine Fisheries. We have a LISTSERV as well. So I asked that it be sent out through that. And we sent it through the press outlets as a joint release.

MR. COLT: Ames Colt, coordination team. To build on Angelo's statement, in terms of water quality benefits, assessing feasibility of a project depends a lot on that. Shellfish are very important. There are other benefits that -- other uses of the bay that we are going to be investing in over time.

We are going to be working on marine debris removal in the Providence harbor area. We
are now seeing water quality at former beaches start to become good enough that we can consider reopening them, if we can get municipalities to agree to work with various stakeholders on that. So the ability to expand the suite of uses in the upper bay and the level of benefits hence that are generated is going to be an important consideration.

Three basic points. We already had a good introduction from Tom on how there are a lot of moving parts to this. And it is important to keep in mind that with Sheila's leadership we are pursuing a very ambitious assessment of an inter-municipal storm water utility district for the upper bay that at this point comprises six municipalities. Phase II of that work starts hopefully later this summer. We'll have a Phase I report coming out.

That is looking at what are the needs for better to remember water management among six to seven municipalities and what would it take financially to fulfill those needs and how that would impact the individual municipalities and individual homeowners, property owners.

That work, over time, could generate
information such as hydraulic analyses that may be of value in looking at CSO abatement Phase III. We have just begun a nutrient management assessment for the upper bay. Now that Fields Point and to a certain degree Bucklin Point have been upgraded to enhance nutrient removal, as well as other major wastewater treatment facilities on the bay, that will give us more information on the feasibility of alternative nutrient control strategies that might help.

That's not -- you know, CSO abatement, as Tom emphasized, is about pathogens, but there will be considerations in terms of cost landing on the rate payer base for NBC that will factor into this consideration.

In 2004 the general assembly gave the Rhode Island executive branch a very explicit coordination mission, to be able to look at a variety of these large complex projects together in a more integrated ecosystem based management way. That's the coordination team. We very much want to see this project proceed in relationship to these other critical water quality based efforts that are underway for the upper bay.

And then there's two specific comments.
Obviously we’re going to have to recalculate the three-month storm versus what was used for Phase I. And that seems obviously to be a critical issue. It would be interesting to see how we can do that with support from federal agencies who look at that very closely.

Finally, I believe EPA nationally is looking at reviving or expanding guidance on calculating affordability. And that information in new guidance, expanded guidance, more flexible ways of looking at that will be critical to understand.

I don’t know if Dave could give us a little bit of a primer of what’s going on.

MR. DOMENICA: Tom, how are we doing for the time?

MR. BRUECKNER: Fine. We’ve got five minutes before break. Dave, if you want to do that now.

MR. TURIN: Actually it’s not -- I don’t think that there’s really large changes in how we currently do all that. I think that the guidance coming out is going to be a little bit more overt about the flexibility in how you do it and the various costs, you know, that rate payers
absorb that can be considered and should be considered.

What I've seen in draft form isn't so much talking a lot about whole new categories of cause; it's just being more explicit that yes, of course these are among the costs that can be considered.

You know, and I think Tom's summary before, with regard to the -- it's really kind of a lot of what's absorbed in the integrated planning notion of recognizing that there are a lot of different overlapping, both Clean Water Act obligations but other financial obligations.

So there's kind of two theories. One, the integrated planning that says we know you're dealing with storm water. We know that you're dealing with perhaps CSO, perhaps overflows, normal infrastructuring and CMOM's and all that we understand can be integrated in a plan which prioritizes what is more important to do first in determining when to proceed.

In terms of affordability analysis for projects like combined sewer overflow, long-term planning, I'm not real versed in that. I'm not an economist, but the sense I have of all that is in
the mix. Plus there's other, you know, household
median income is there but also debt payment and
other forms of financial obligations that the
communities have absorbed are going to be more
explicitly factored in.

MR. DOMENICA: Thanks, Dave.

MR. SCHLIAABBA: Steve Schliabba from the
Division of Public Utilities. Tom mentioned the
rate impacts. That's very important here. NBC's
current revenue requirement is about $100 million,
much of which is driven by the debt service for
the CSO Phase I and CSO Phase II.

And it's very hard to -- the PUC tries
to design rates in a fair and rational manner so
those responsible for the cost pay for the
service.

MR. DOMENICA: Could you speak up a
little for the folks in the back?

MR. SCHLIAABBA: With storm water
capture.

MR. BRUECKNER: There's a microphone
there that the -- could you talk with that?

MR. SCHLIAABBA: Storm water capture and
clean up, there's really no fair way to assess a
sewer customer, the cost of the debt service. I
know several years ago that PUC looked at
development of a storm water rate. NBC did a lot
of work looking at how they -- storm water rate
could be built.

Has there been any further look by NBC
or anyone else in the room on the idea of
expanding the base of responsible people who
helped pay for these costs? I mean, you're
imposing these high sewer rates on Providence,
Pawtucket, Central Falls, some of the poorest
communities. And, you know, if these costs are
driven by impervious surface, parking lot owners,
what's that have to do with the little old lady
who has one bedroom in the house and having to pay
for that through sewer charges?

MR. BRUECKNER: Steve, when we did that
evaluation of storm water fee, the problem that we
had as an agency, we don't own the storm lines.
We do own the combined sewers, and it put us in
the position we would be able to charge those who
discharged storm water to a CSO but not to a storm
sewer.

So within Providence you have on one
street they may have a combined sewer and the next
there might be a separate storm sewer. The guy
over there is paying for the storm water and this
guy next door might not be.

We didn't have the ability to bill
everyone uniformly, and it would probably be done
per unit of impervious area. The current program
that is being spearheaded by the city of
Providence, Sheila and others, Ames spoke about,
to look at storm water would rectify that by
making a storm water utility district where
everyone would generate storm water would have to
pay the cost for the storm water and spread it
uniformly, which we were not able to do.

MR. SCHLIAABBA: I wasn't sure I
understood that we were actually looking at
developing a fee structure in the district.
That's one of the things they are looking at?

MR. BRUECKNER: I believe so.

MR. MARSHALL: Sheila, would you
like --

MS. DORMODY: The six municipalities
finished the Phase I feasibility study and agreed
to move forward with Phase II, which would answer
all the logical questions with what's the
government structure, what would the rate be. But
what the state law allows us to do with storm
water district of 2002, assess a fee based on what
somebody is contributing to the storm water
problem.

MR. DOMENICA: One more question.

Caroline.

MS. DORMODY: We're really grateful to
have Ray Marshall and Tom Uva being part of those
conversations. Obviously they have a big stake in
these municipalities, figuring out the answer to
our problems.

MS. KARP: I'm guessing affordability
will preoccupy us, which is a good thing. But I
want to go back to the data showing median income.
And I believe it was median household income for
Central Falls for 23,000?

MR. BRUECKNER: 29, I think.

MS. KARP: Does the bill -- household
as opposed to -- what is it for the property --
what's the median income for the tax paying
property owner in Central Falls? Because renters
often don't pay water and sewer. So the bill
doesn't go to them. The bill goes to the property
owner.

FROM THE FLOOR: That's who the EPA
bases their economic analysis on, and that's why
you were shown that.

    MS. KARP: I want to flag that as an
issue, because the people owning that might be far
more wealthy, so that this is not a burdensome
bill. I can understand it's a burdensome bill to
a renter, but I suspect they don't see those
bills.

    MR. DOMENICA: Carol, what I think Tom
is saying is this isn't the way the rates are
allocated. It's the metric they used for
determining.

    MS. KARP: I wanted to clarify the
metric, because I think that goes to the question
of affordability.

    MR. DOMENICA: You're right.
    Affordability will be a key issue going forward.
    It is time to take a break. Take 15 minutes.
    (Recess taken from 2:30 p.m. to 2:44 p.m.).

    MR. DOMENICA: Next on the agenda, Rich
Raiche, the project manager for Montgomery Watson,
the commission's consultant for Phase III, is
going to go through more detail what Tom went
through on the reevaluation approach.

    Tom, did you--

    MR. UVA: Yes, I want to make one
clarification about shellfishing, the number of
days of closure. Originally I guess the project
was supposed to open additional Area B for 45 more
days and A, 65 more days. The Department of
Health did a study. They compared 2010 to 2006
and found closures decreased by 44 percent, the
number of closures, and closure days by 82
percent. It was much more than 40 days. I wanted
to get that on the record.

MR. RAICHE: Great. Well, it looks
like everyone stuck around, so thanks for your
stamina, at least.

Just to give you an idea of what we
have in store for the rest of the afternoon, we
will start with an introduction of the consultant
team and an overview of the current Phase III
components, get into a little bit of how we'll
evaluate alternatives to those baseline
conditions, including the source pathway receptor
approach to alternative analysis, some of the
green storm water infrastructure that Tom alluded
to that's new since the last time. That
stakeholder group convened into the grey
infrastructure alternatives, talk a little bit
about the water quality model we'll be reviving
for this reevaluation, spend a little more time on
the integrating training framework, since that is
a new approach to this sort of planning effort,
and new to everybody, frankly, in the room. And
that dovetails right into the affordability,
lingering on affordability and wrap up with an
overview of the remaining five meetings and
definition of what those look like.

Before we get into that, it's important
again, you know, I think you have a sense that
this stakeholder group is extremely important to
the success. We've got one year really here that
we're targeting to reevaluate and redefine what
Phase III is.

And while ultimately -- aside from the
fact that the consulting term is absolutely
wonderful, you guys are the ones with the
information, the data, the knowledge, and regional
understanding that will really help redefine what
Phase III looks like. And this group therefore is
probably one of the most important components of
our overall effort in the next year.

So the consultant team is comprised of
MWH, Pare, and ASA. MWH, where I am employed, is
the project team leader. We are roughly 8,000
employees in 35 countries. Our sole focus is on
wet infrastructure. We do drinking water,
wastewater treatment plants. We don't do bridges
or roads or anything else. Our sole focus is on
wet infrastructure. And our mission is to build a
better world.

So the idea of sustainable
infrastructure is incorporated into our DNA. Pare
is our partner on the project. They are planners,
engineers, geotech engineers. They are based in
Lincoln, Rhode Island and Foxborough,
Massachusetts. They have worked with
municipalities within the district and elsewhere
in Rhode Island and Massachusetts.

We also have on the team ASA, the same
group that did the water quality model for the
previous planning effort. We have them right back
on board to revive that model. Again, MWH focuses
exclusively on wet infrastructure. Therefore the
wet weather CSO types of projects are a large
component of what it is we do.

We have expertise in this area
throughout the United States and elsewhere,
frankly. Who cares. Sorry. Because of that, we
are at the forefront of the integrated framework
process. This is a relatively new way of looking at these projects, and we've done some of the very first ones of it, and we're working at several levels on advancing the IPF philosophy.

    Our team, many of whom you will be seeing at these stakeholders meetings, and very likely outside these stakeholders meetings as well, is organized—Matt Travers is our principal in charge. Unfortunately, he couldn't be here. So we did one better. And his right hand, Melissa Carter is here, if you want to stand up and wave. That's Melissa, and I'm Rich Raiche, the project manager for the reevaluation.

    My right hand is Nick Anderson, our technical lead and chief modeler. I guess my left hand is Keith Gardner, civil engineer. I'm running out of body parts. David Bedoya, water quality expert. We also have with us today George Palmisciano, senior vice president at Pare and Tim Thies, project manager at Pare.

    We also have, and this is going to be very important, we'll try to save as much time at the end for questions and answers, Greg Bard is here. He's our financial capacity analysis guru. Am I missing anybody? Thanks. We're also drawing
on expertise from across the country to help us
develop the plan. We have additional local staff
that we just didn't bring down, but I thought it
was important that we introduce some of the key
players in each one of the different disciplines.

So the Phase III baseline, and this is
what was in the current CDRA, the current plan,
the main focus is the tunnel and the interceptors
to capture the flows from about a dozen CSO's,
sewer separation for four additional areas and
then the remaining dozen CSO's are regulated
through adjustments to the regulators so that we
distribute the flows to these other central
abatement facilities.

The probably marquis part of Phase I
was the main spine tunnel. And again, the marquis
component of Phase III is the Pawtucket tunnel,
planned to extend from the Bucklin Point treatment
facility in East Providence all the way up to sort
of the corner of Central Falls and Pawtucket,
right there on the Blackstone River.

13,000 linear feet, 26 feet in
diameter, about 51 million gallons' worth of CSO
storage. Again, like the main spine tunnel, deep,
big, does a lot of good. In addition to that, a
couple of large interceptors similar to the ones
that Tom was showing you that would be deep
interceptors that pick up a few of the additional
CSO's north of that point, one reaching up on to
Central Falls, I guess it would be the west side
of the Blackstone River, and another on the east
side of the Blackstone River to pick up outfalls
in Pawtucket.

And then if you think back to one of
the larger dots, outfall 219, 220, on the
Moshassuck River, there's a large one that we will
need to address and spend a lot of care on,
because the relative flow in the Moshassuck versus
the Blackstone is much lower. So that CSO is
responsible for larger water quality problems in
that river.

Unfortunately, it's sort of on the
opposite side of town from the tunnel. So a
couple of alternatives that even the CDRA had was
a spur tunnel, deep spur tunnel, or an interceptor
especially cutting across Pawtucket.

Sewer separation for four areas, one a
very small area in Pawtucket to the Blackstone
River, and then three areas in northern Providence
to the west of Moshassuck rivers.
As Tom alluded to, sewer separation in these areas, and you know, there's an adjacent area that's currently under construction, they're finishing construction. And these areas, we're talking very narrow streets, very densely developed. The buildings are essentially right up to the right of way. We already have water and gas in the streets, a lot of topography. A lot of rock. So sewer separation in these areas is extremely difficult and costly.

So we'll be spending a lot of time focusing on how to reduce the extent of sewer separation, finding more cost-effective alternatives to that. How do we evaluate this? This is another change from the way things were done 15, 20 years ago. The process by which MWH evaluates these alternatives is the source pathway receptor approach.

The easiest way to think about the way that we look at this is to imagine that you're a drop of rain water. And follow your course as you go from the sky to the river and the bay. When you fall on the land your -- you will first encounter a source control. These are typically like the green storm water infrastructure pieces
that we were talking about a little bit earlier. They tend to be smaller scale, but they are spread over a wider area.

The pathway, once the raindrop gets off of the private land into the road and into the closed pipe system, that's where the pathways are. This has been historically the focus of sewer separation, interceptor relief, near surface storage, things like that.

Finally, once you get through the pipe networks and down towards the end of the pipe, either the outfall of the treatment plant, those are receptor types of controls.

MR. DOMENICA: I have a quick comment on clarification at this point here, an explanation and more detail later.

MS. KARP: So this is a good model, and I know its origin here, but one possibility here is that the source is the source of people contamination as opposed to rain. So you're treating rain as a source that's going to be controlled as opposed to bacteria, fecal bacteria. I want to clarify. There's a different way to look at this model. If you look at it as bacteria as a source of controlling you might go all the
way back up to Worcester. So I just want to be
clear that there are different ways to use this
model.

MR. RAICHE: Yes. When we are going
through and evaluating all the alternatives, we
use a matrix like this to help us think through
what the ramifications are.Traditionally, CSO
plans were really focused on only rainfall that
triggers the CSO's. And typically looking at
pathway and receptor solutions, sewer separations,
interceptor modifications, and tunnels is the big
type of receptor control strategy.

By using the source pathway receptor
philosophy and looking at the watershed more
holistically, we not only enter into the mix the
source types of controls that can help us reduce
the CSO's, but we also are able to expand the
scope of how we look at these things beyond just
the CSO events but how these things operate under
different rainfall events and how the system
tracks, for example, for levels of service. Now,
when you might have a more intense type of storm,
that would impact sewer back-ups or localized
flooding.

And then even beyond that, two extreme
events, when you start getting into deluges that
cause property damage, so we are able to look at
the broader range of situations. Because frankly,
 improvement in one category, if it detrimentally
affects another category, this probably isn't
something that we want to explore further, or we
need to modify that alternative so that we're not
having deleterious effects on other users or
goals.

Now, how do we do it? Well, Tom
already alluded to the fact that we are building a
hydraulic model. There is already one for the
Fields Point treatment plant, and we're building
one for the Bucklin Point treatment plant. And
that's sort of the tool that we use to do this.

It looks at both land use and how storm
water runs off and gets into the system and
overloads the system and then the hydraulic
capacity of the pipes and how the system operates
under storm conditions.

So probably the area that has advanced
most since the last time this went through the
planning process is in the area of green storm
water infrastructure. And in highly urbanized
areas like NBC's service areas, we tend to think
of sewer separation as a way to eliminate CSO events.

But what we need to understand is that anything that keeps storm water out of the closed system amounts to sewer separation. You're separating storm water from the waste water. So green storm water infrastructure is an effective tool to do just that.

Now, you might have heard of low impact site development. Those same philosophies apply here. The goal here is to eliminate water pollution by reducing impervious cover, increasing on site infiltration, eliminating sources of contamination and removing pollutants from storm water run-off. Typically these are on-site endeavors.

So if you have a low impact development, you incorporate these tools, be it rain gardens or special types of soils, open drainage, rain barrels, pervious pavement, those types of things into your development.

Now, most of the Narragansett Bay contributing area is already developed. So what we would be looking at is ways to retrofit this onto existing development, either during
redevelopment or as an alternative to a grey project. You know, again, the sort of tools that we're looking at, rain barrels, rain gardens, or vegetated swales, sort of surface gardens that capture and reuse storm water, recognizing that not all of your area can be impervious or reuse the storm water that in some instances you need to infiltrate or create infiltration galleries for any water that hits impervious surfaces like roofs or impervious pavement.

MR. NACENZI: Can I say something? You know what, I wanted to say this before. Education is the tool and prevention. What's lacking is the public education. The actual person that lives in the house is already developed. In other words, something that should be mandated to communities, educate the general public. Because once they know what they need to do or what has to be done to stop contributing to this storm water infiltration into the sewer system and its combined effects and what's the result of it, people are going to prevent it a little bit and do a little more. Are you following?

If a guy washes his car on a Saturday with the hose, and people let the dogs go all over
the place, fertilizers, whatever. But the point
I'm trying to make is all this depends upon public
education. There are -- people have to be
educated on their level.

MR. DOMENICA: Thank you. Question.

FROM THE PANEL: If I could, if there
were some incentive for an existing homeowner to
engage in a system like that, I think that would
be beneficial towards that per customer rate, give
them some sort of beneficial amount, percentage
off their utility billing, so to speak. That
would be beneficial.

MR. MARSHALL: One thing that I want to
note, since 2003 we've run under Tom's guidance, a
storm water reduction program so that when various
users come in, especially large institutional
users, they have been pointed in this direction
and encouraged and have embraced the concept.

And right now in a three-month storm we
avoid six and a half million gallons of flow going
into the existing system. That's about ten
percent of the effective capacity of the tunnel.
So just we are doing some of these things.

Now the concept is to expand it out to
other areas. Jamie has run rain barrel
distribution programs on a voluntarily basis for people. So some of these are already in place, but they can certainly be expanded.

MR. RAICHE: I guess it also makes sense to mention that we have a sequence of stakeholder meetings plotted out and goals for each one of them. And GSI is the agenda in goal for the third meeting that's -- this being the first.

So I think my last slide -- okay. But we will get into precisely these -- there's an entire workshop dedicated to these sort of things, although I appreciate the comments up front to maybe seed those conversations.

Now, green storm water infrastructure doesn't have to be solely on site or on private properties. You can also incorporate it into the right of way, you know, this same sort of philosophies. Typically you think of medians for sidewalk separation or anything in a parking lot, the primary goal of that frankly has always been traffic calming or traffic direction. These are typically open areas that you can use to your advantage to store and infiltrate storm water.

So as we already started to jump in
here, adoption of GSI area wide would clearly have
a large benefit, because if these small steps are
done over the entire area, it relieves stress on
the interceptors in the NBC system, but clearly a
lot of that is outside the reach of the NBC to
effect.

And this is precisely why Sheila is
working on this sort of thing with the Providence
neighboring municipalities, to do this on a
regional level. That's the sort of thing we'll
talk about and hopefully get some data leading up
to and really focus on it with the third meeting.

Also, as I said, you can retrofit these
things into public ways, and we can use them as
alternatives to some of the hard pipe solutions.
So particularly in those sewer separation areas
that we pointed out where sewer separation is
extremely difficult, not that GSI is easy in those
areas, but the idea being that perhaps those are
discrete projects that NBC can take on in lieu of
hard pipe projects that would be under NBC's
control. Again, those are the ways we can look at
this.

That leads us into what are the grey
alternatives. If the GSI's are the source
controls, the grey alternatives are -- really
focus on the pathway receptor controls. As I
said, if we're able to find discrete GSI projects
that can be done in lieu of hard pipe projects,
then the grey alternative is a smaller hard pipe
contract. And that's sort of our first area of
focus.

The second area of focus is additional
hydraulic areas of control in the system, talking
about hydro slides and bending weirs, that gives
us a higher degree of control of how flows are
controlled and distributed throughout the system.
Then reintroducing the idea of decentralized
storage, near surface storage, which is part of
the original plan before it was reengineered in
the 90's.

The idea here being obviously that CSO
events are a matter of timing. When the amount of
storm water getting into the system exceeds the
capacity of the pipes, that's when you have a CSO.
If you're able to provide temporary storage of
that volume and then release it back in, much like
the tunnel philosophy but on a more diffuse
manner, then you alleviate the CSO's.

Again, things like that, the hydraulic
controls, the bending weirs, are critical in
using these things. A bending weir would
essentially keep flow in the main lines under
normal conditions. And when the level rises in
the pipe, the way the water flops over the bending
weir and diverts the flow into the off line
storage tank for pump out later.

As we said, we want to keep the eye on
what the goals are. The goals are water quality
in the bay. And we will be recalibrating the
original model, which again, gave us an idea of
what would happen. And obviously, that doesn't
exactly match with what has happened.

So we're taking the data in the
intervening years now that Phase I is online,
recalibrating the model, and using that to predict
or evaluate how Phase II has improved the system.
And we'll be using that then to evaluate various
Phase III alternatives, using the same pollutant
water quality goals that were set out in the
previous report, and running it against the new
alternatives.

Again, we've got into this a little
bit, but the primary measures that we're looking
at are shellfish and beach closures. You don't
have to worry about jotting all this down. The presentation will be available on the website after, in case you want the numbers. And also, you know, as Caroline pointed out, the focus is on the bay is saltwater, but we also have the fresh water rivers to evaluate as well.

So we use the water quality model along with the hydraulic model and the engineering alternative sort of in a cycle. So we developed some engineering alternatives. What would they look like?

We use the hydraulic model to predict what the overflows look like. We use the water quality model to apply the pollutant loadings to those alternatives, run the receiving water body model to determine what our water quality resultant looks like. Is it attained, if yes, then we have a successful alternative that we can put in the mix to evaluate against each other.

If not, we have to go back to the drawing board and reengineer the alternative and rerun the hydraulic model and rerun the water quality model to see if we have a technically feasible alternative that we'll want to evaluate against everything else.
All this is planned to be done in the context of an integrated planning framework. As you might have gleaned, the idea behind this is that it coordinates different programs that previously weren't. CSO programs, storm water programs and sanitary improvements. I convinced Tom -- into one the treatment plant and the collection system.

We've successfully done this in Baltimore. While the situation in Baltimore is different from this one, it does have sort of an overarching theme that demonstrates the success of the IPF. The IPF process was able to make the argument for stretching out the compliance deadline.

With the consent order that Baltimore originally had, they were going above their financial capacity, above their affordability criteria. We were able to make the argument that we need to extend the compliance deadline to stay under the affordability criteria. By blending in the CSO storm water and sanitary needs, they also used drinking water.

They came up with a much more balanced CIP plan. Whereas the consent order was driving
everything on the wastewater side, and the storm
water and water were lagging behind, they were
able to make the argument that they needed a more
balanced approach.

And part of the IPF process also
evaluates what the costs and benefits of the
various different projects are. The idea is to
sequence the projects so that you're front loading
the benefits.

Now, a basic tenet or a basic
assumption is that any program is made up of
discrete projects. And the discrete project sort
of follows this cost curve that anytime you're
addressing a problem, there are sort of low
hanging fruit. There are high priority projects
that will get you a lot of benefit for relatively
low cost.

The further you go along in a program,
you're spending more money and getting diminishing
returns. Previously without IPF you would have
external drivers, consent orders, permits, and
then other stuff that you just need to do. That
would force the sequencing. That would drive what
projects get priority.

And unfortunately, what would end up
happening is you're running out that sort of cost curve to the diminishing returns on each one of those different programs before starting the next. The concept is that by taking the integrated approach and putting all of those programs into the mix and evaluating their benefits, you pick the low hanging fruit off of the different programs first before running out your cost curve and spending a lot of money on the smaller incremental improvements.

The other tenet being that there is significant overlap between the programs. CSO and storm water improvements both do a lot to improve water quality in water bodies. So the process starts out with a group like you guys helping us to identify a whole bunch of different projects, projects that are beyond the scope necessarily of NBC is going to execute but will have water quality benefits.

Moreover, they will be relying on the same rate payers, citizens, to fund them. That is a large part of what we'll be doing in -- well, in our off line meetings, some of which we've already started having with local BW's. And then as we advance through the process, we want to fill up
the top of the funnel with a whole bunch of other projects that the same rate payers will pay for and will have similar benefits. So we will then come up with comprehensive project lists and rate them.

So in the past, programs like this, planning efforts like this, really focused on costs and benefits, cost being how much would the capital investment be to construct it and what are the long-term O&M costs, and the benefits, in this case, what are the water quality improvements.

The proponents of -- expanding that to include social criteria. The idea being that if you, as we had done previously, if you're only looking at environmental benefits and economic benefits, sure, you come up with a bunch of things that are viable. But if you add a social criteria, for example, things that add importance to you, open space or quality of life, add a social dimension, you are able to identify projects that are bearable to the rate payers and residents, are equitable, and in ideal cases, sustainable.

In the case of Baltimore, they had something like 21 criteria by which they evaluated
the projects. I'm not suggesting in any way that
we should come up with 21 criteria, but it's a
possibility. The experience in Baltimore, Lima,
Springfield water sewage, has helped us develop a
process for this.

This is going to be a large part of
meetings four and five to step through this
process, both with the NBC Phase III pieces and
also any other storm water improvements or
sanitary improvements that we throw into the
hopper.

And again, a large part of it is the
affordability piece. In Baltimore, there were --
already affordability issues, and if they
continued under the sort of business as usual sort
of model, without doing the financial analysis, it
would become unaffordable for the entire city.

As Tom indicated, there's -- the two
percent thing is something that we talk about.
It's slightly more complicated than that, and
luckily Greg is here, and once I wrap up, we'll
open it to questions. And I would encourage
everyone to pepper Greg with questions at this
one.

But the focus of the next two meetings
is sort of the nuts and bolts engineering. And
Greg won't be here. So we'll beat up on Greg
today since he is here.

But the concept is that there's two
indicators that the EPA uses in their guidance, a
residential indicator that's intended to represent
the burden on the rate payers and a financial
capacity indicator that looks more at who is
executing the project, you know, the municipality,
or in this case, the Commission that represents
the capacity of the municipality to take on that
financial burden.

Just taking a simplistic view of it, if
you look only at Providence and no other cities,
for example, if we did a simple calculation, it
looks as though the program is affordable for the
residents of Providence. However, that simplistic
approach fails to view or take into consideration
a lot of the complexity that goes into these
projects.

And currently the U.S. Council of
Mayors and APWA and others are working with EPA to
redefine what the affordability criteria is. And
our approach sort of anticipates a lot of those
changes and what works in a lot more level of
detail.

The problem with that simple indicator is that it ignores and doesn't take into consideration the distribution of income between neighborhoods. And the difference in income distribution is a huge factor that impacts in neighborhoods different. So a two percent utility burden for a utility district as a whole doesn't take into account the distribution of income.

And we're not even just talking from a city and city or town to town, but neighborhood to neighborhood. Because the details do matter. The -- how the wealth is spread around across the different districts within the city and Providence, has sort of a steeper curve than even the national average.

So what Greg's group does is build a set of financial models. You know, we have the hydraulic model and water quality model and financial model so that as we're cranking through the alternatives, we can see how affordable the sweeter scenarios are.

So again, if you just look at a simplistic level, it tends to indicate that the
program is affordable. But once you break it down
to a more finite level, you find that it isn't
affordable for the vast majority of districts.

Again, the --

MS. KARP: That's based on median
household income, correct?

MR. RAICHE: Yes.

MS. KARP: It's not based on
homeowners, is the value of a property --

MR. RAICHE: That is still and will
continue to be the EPA.

MS. KARP: We have the ability -- we
actually have a Providence plan available. We
have the ability to look at the difference between
median household income, average household income,
and income for property owners in these poor
districts.

MR. RAICHE: Let me step through this,
and then we can get into some of the details of
our experts, including Greg. And you can beat up
on Greg for an hour and a half, if you want.

Again, we went through a broad brush of
all the things we'll be discussing. Hey, that's
today. So we can cross that off the list.

Meeting number two on Thursday, April 10th, there
was a mistake in the agenda. It's Thursday, April 10th. The focus of that will be to look at the grey alternatives.

Meeting number three, May 22nd, and again this will be posted on the website if you want to download it later. And there's more description in the handout notes that will focus on the green alternatives. And I expect everyone to be very excited about that.

In June we'll really start the IPF process. The idea being that focusing early on on the engineering side, we'll be able to start filling the top of the hopper.

And in June and September we'll really crank through the IPF process. By October, we hope to have a good portion of the plan locked down. And then I use the October meeting to refine the recommendation of the plan.

MR. DOMENICA: Thank you, Rich.

Questions? Not just on affordability but really anything that Rich covered.

MS. DORMODY: Let's start with affordability.

MR. DOMENICA: If you could stand.

MS. DORMODY: Sheila Dormody with the
city of Providence. And you were the first person asking. So I think affordability is obviously a big concern for us, especially as we're talking about doing this work, and perhaps the storm water utility and combined impact. So any other number of things that are happening are significant, Providence water rates going up at the same time.

Do you have any good models from other places of how you've been able to adjust for the most impacted communities or neighborhoods or households? Because we have a real diversity of income in the service area for NBC.

MR. BARD: Let me answer that in a couple different ways. First of all, the NWA's approach -- we talked about the EPA's 1997 approach, where we looked at the residential indicator. And they look at some other financial capabilities of that municipality or that district.

The approach that we're working with, the U.S. Mayors Water Council and Conference of Mayors is essentially going into greater granularity. And what we are actually doing, besides building a financial model to understand revenues and rates and debt coverage and all of
the different costs in that model that we then
import in different CNP scenarios to see what the
impact is over the next 20, 30 years, we also
developed another affordability model that ports
in all of the billing data. So we know exactly
what the historical bills are for -- for all those
individual homes.

For the cost data we're using the
census track data. And we're pulling all of that
in. That census track data has the distribution
of income spread out for each census track. So
what we're doing is using an average cost to marry
up the individual bills contained within that
census track cast against the income distribution
of that census track.

And that starts helping us understand
by census track and at that income distribution
level what those different impacts are over the
course of time as rates increase.

And so what we're seeing here is not
just necessarily, hey, two percent for NBC as a
whole. We can now go in, because we know that
almost any census track there's some lower income
levels that are tremendously impacted, and we're
seeing that's not even two percent, but that's at
five or even ten percent.

And as rates are kind of increased over five, ten, 15, 20 year period, that actually spreads, and nothing usually ever gets better. So just up here, you can kind of see where there's yellow and green and different things like that. Those green areas on average that would say that that census track is above two percent, but you could actually drill down further. And you would say, in those first few income brackets, there's an affordability issue there.

So first of all, I wanted to let everybody know here's the level of granularity we're looking at beyond what the EPA 1997 document is actually offering. And I would like -- I like some of the other comments given the data that you have, yeah, there's census track data that offers property values, and you can pull that off of the county records and different things.

On that, I haven't seen where -- it's not wildly accepted at this point to be able to take billing data and cost data and do the ratio against actual property values. So that's where we have been focusing on the income level.

Now, to go back and answer kind of the
second part of your question on affordability,
you're right. It's the biggest concern. And
there's different ways -- and you have to realize
that one part of this is we need to really analyze
and look at the affordability. It's not just the
city of Providence. This is going to include all
of the 15 communities also as part of that effort.
Now, we then have to -- sometimes we get a
question, and it's actually on a rate
implementation issue. So that's kind of a
separate issue than this analysis.

And I think maybe the second part of
the question is, depending on how you're actually
going to develop or implement your rates, then
there's different types of models or types of
things to offer.

So if you need -- if you're doing a
storm drain rate for a storm drain utility,
whatever the mix is, that's where you're
developing again the impervious data but also
educational credits for the schools and other
types of on site mitigation. And you're
developing a credit program to try to help people
give them some ability to offset some of those
affordability impacts.
So that's where there's this process and then kind of the rate implementation piece. Did that answer your question?

MS. DORMODY: I'm wondering if there are other models out there, a utility that created a life line rate for these types of services or some --

MR. BARD: Right. Every utility given these different types of constraints, the AWWA, they basically say, hey, any place there's always going to be those demographics that are going to need help. Internal to your policies as well as state law, then that's where you can actually implement low income and life line and other types of programs.

But kind of as a financial guy, I also say you want to basically be able to know what those different impacts are and -- because you could be -- subsidize issues could essentially occur. But as long as those are adopted policies within the utility, then they can do it. There's a number of different programs like that that can be implemented to watch out for. Are you looking at senior citizens on fixed income, disabled or low income, and there's different programs
appropriate to target those.

MR. DOMENICA: A question right there.

MS. DORMODY: My point is, obviously, but it's plausible that our rate base as a whole could withstand the cost of the program like this, but many property owners within that rate base would not be able to withstand those costs. And I think knowing that granular data, it's very cool, will help to inform what we think is okay this is okay.

MR. BARD: You're right. This data gives the policy makers the ability to say what are the abilities to say what are those impacts and the fact we are looking at all the customer bills --

MR. DOMENICA: To the right.

MR. WALKER: Mike Walker, commerce RI. It's nice that you do this by the census track, but what are you doing as it relates to the business community and industrial and commercial users and what the rate impact is and has been in the past and what the profile looks like for the cost.

Right now, as I look at the tariff, every homeowner, $500, by the time you do the
meter charge and you haven't pumped a gallon through, unless you have the smallest pump, you already exceeded it. So are you going to be doing a sensitivity as you look at different scenarios that look at where the rate would land on a commercial and industrial sector and benchmark it against our other neighbors and look at competitiveness before coming forward with some recommendations.

MR. BARD: Very good question. This is actually one of the issues at the heart of what U.S. Mayors is basically taking to the EPA. And on March 27th, we're presenting to the Mayors Council and talking about these issues.

The current EPA 1997 guidance only focuses on the residential indicator. They do not have any discussion as it relates to where the different financial impacts or metrics on businesses, on commercial customers and on the industrial base. We see that that's one of the weaknesses of the 1997 guidance methodology, as you can see, where it's kind of a residential indicator.

We can discuss potentially different issues, for these other financial capabilities,
for bond rating and net debt property value and 
some of these capture a portion of the impacts to 
the commercial side, but really not in its 
entirety. So this is one of the -- those ongoing 
discussions on that.

Now, because we're dealing with 
individual customer bills, and given the scope of 
this, and putting it in line with the EPA's 
methodology and then enhancing it, the current 
scope and budget that's been discussed with me 
only really focuses on kind of the residential 
factor and kind of rolling these things up against 
the median household income.

So that saying, the commercial impact 
would probably need to be a separate analysis or 
body of work, but I would still say is very, you 
know, could be very critical or could be an 
important community value for this. That's 
something that this policy group would need to 
make that determination.

MR. DOMENICA: Jan, do you have a 
question?

MR. REITSMA: Jan Reitsma with the 
governor's office. My question was going to focus 
on the rate implementation aspect of it. I think
it's really great that we're going to have more granularity on the problem statement, but I think it would be very helpful for this group to get as much information as possible on whether there are examples out there where solutions are being tried out to come up with answers with.

So how do you come up with a system that can be administered without collapsing under its own weight of complexity and yet be fair? Do we have to look beyond the borders of this country? I don't know.

I'm very interested in how things went in Baltimore, for example, because I think there's some similarities there. But how do you do that? And that's just as important as the more sophisticated analysis of the impact.

MR. BARD: And that's where I would like to draw on the experiences that I have had. I've been a municipal financial officer in charge of the charge -- I've been a chief financial for Colorado's third largest facility. I'm on the rates and fees and affordability and asset management committees for AWWA as well as in the government financial officers association over at Capital Planning for the U.S. and Canada.
And over the last few years, because of those exact issues that you have just raised, there has been a number of different studies in publications, some of which I've been involved with, that talk about what the best practices that are out there for rate implementation to accommodate some of the affordability issues.

We all understand that just because it doesn't look like we can forward with it that doesn't usually get us off the hook. Therefore, as we go forward and we prioritize and optimize, how we can afford how we mitigate some of those affordability issues.

That's where there's a number of different programs that are itemized. And I'm more than capable of bringing some of those different items for policy consideration and providing that to this group.

MR. MARSHALL: I think it sounds to me like a question for subsequent affordability workshops. And it seems to me it's boiling down to, are there real life applications in specific cities where they have done this and how have they done it. So that seems like a question that will keep coming up.
MR. BARD: And you're right, you start -- you do this analysis, you analyze the different CI pump stations, and you kind of cast out and say, what's the cost, what's the impact. You know, you have to maintain the viability for the financials for NBC.

And then you end up moving to another stage saying, okay, if this is what we're saying, we're going to move forward with -- to meet all of the different water quality control issues now, then that usually kicks into, well, now what do we need to do? There's the education, the analysis, all these different program options that you can use.

That evidence is there. It is in the U.S., so that's good.

MR. DOMENICA: Carol, your turn.

MS. KARP: I actually have a kind of major comment, but I want to clarify one thing. I'll ask, are the wastewater treatment rates or the Bay Commission rates pegged against water rates or is there a separate meter, and I think I want the answer, I'm asking a question, I know the -- I'm guessing wastewater is pegged against water, and our consumption basically determines
the sewer rate. So in fact, water is a really important resource, but that we really ought to be protecting it.

So in fact, all those presentations focus on the wastewater, but instead, we really probably ought to be looking at water which is -- it's based on a particular address, address uses water and then -- why is this analysis about affordability, it has to be based on the address, has to be based on the value of the property that's using the water.

And then I wanted to go back to the source pathway receptor model. It's the same issue. If you think of water as being part of a pollutant, then we're going to think of all the soft solutions to soft engineering approaches to deal with this pollutant source. We'll deal with expensive hard solutions like tunnels. If you don't think of water that way, if you think of it as a valuable resource in fact should never enter into wastewater system if at all possible until we capture rain water which is not yet contaminated, and we figure out how to bank it and infiltrate back into the system so we use it as a valuable -- instead of the tunnels. This should be a last
So to the extent we catch and keep it out of the -- and you start billing people for what they use for water, and that brings in commercial and industrial users, there should be an incentive to use less water. That's me.

MR. DOMENICA: I think that's the core of the source pathways receptor approach is to do what you can at the front end, at the source end, and go forward.

MS. KARP: That way you are -- don't have to charge users very much money, because it's the sort of the New York City water filtration argument. The water never gets thought of as a waste, wasted resource; it gets thought of as a beneficial resource, and it's going to go back into the drinking waters. And then you get your -- everybody in the water supply district contributes to that.

Right now we're delivering water to east bay. Maybe it goes in the reverse direction. So water gets backed in reservoirs over there. But I don't think we should be talking about costing out expensive systems before you get the basic program thought about or the goals thought
If I may say one last thing.

There's -- this occurs in a watershed, so you have to have the boundaries of the whole project. You can't look at any commission -- just as a box here. There's everything that comes into the Blackstone River above BVDC. That's going to affect water, water quality downstream.

So I think it's kind of dangerous to cost out what the Bay Commission has to spend to address these sources, these overflows, without looking at what Worcester is putting in, Woonsocket is putting in and so on. It's dangerous for us to do that, Bay Commission.

MR. DOMENICA: Very good. Other comments or questions?

FROM THE PANEL: I assume you're contractors with NBC?

MR. BARD: Correct.

MR. GALEN: What is your responsibility to use the data to evaluate and over a period of time to come up with firm recommendations to this committee to act upon? Since you're contractors with NBC, what is your responsibility to evaluate all this data within a certain period of time to
come out with firm recommendations to this
commitee on which to act upon?

MR. RAICHE: The primary focus is to
redefine what NBC has to do for the bay. It's
interesting that that question brings up what
Worcester and woonsocket are doing for the bay.

In terms of our water quality test, we
are incorporating those sort of things. There are
various questions we need to answer along the way,
and those are in the mix.

Ultimately, what it is that we need to
recommend is what it is that NBC will do with its
systems and what Phase III will look like. We're
using the IPF to expand that analysis, again,
recognizing that there are various other projects
that the same rate payers are going to be paying
for similar water benefits.

But ultimately, a lot of those are out
of NBC's control. We're putting it into the
evaluation mix that we have a much broader
understanding of everything that's going to take
place in the region.

MR. BARD: To answer that again on the
financial component, we want to basically be able
to develop a model. So this group says, here's
the defined amount of CIP's as these estimated

costs for these different scenarios, what are the
different affordability impacts, how does that
align to the EPA's 1997 model, and how does it
actually play out into the next 20, 30 years of
the affordability model.

    That gives us the ability to basically
come back and say, here are the impacts. So not
only can you see the financial model as far as the
projected rate increases, but also the
affordability impacts. And we could drill down
the granularity level. And then that information
is actually packaged up into a final report or
recommendation.

    But the good thing is all of those
things are established. It really becomes maybe a
baseline component if you needed to look at larger
implementation issues such as regionalization or
other things. This could be a core piece.

    FROM THE PANEL: They came up with
proposal A with so many millions, is that your
responsibility --

    MR. RAICHE: Could you repeat the
question?

    FROM THE PANEL: The previous
stakeholder, Phase I and II, came up with profile A, B, and C and D. Is that your final responsibility to come up with costs for proposals?

MS. KARP: For all alternatives A, B, C D?

MR. RAICHE: Yes.

FROM THE PANEL: It is?

MR. BARD: Yes. It's what's the project, what's the cost, that CIP component gets put into the financial model. Then the results of that go into the affordability model.

FROM THE PANEL: Do you have a time limit on what you're supposed to come up with that?

MR. RAICHE: We have a goal to wrap up our mission here with the stakeholder group and develop the recommendations to get right for approval for this year.

MR. LIBERTI: Angelo Liberti. Yeah, I guess I would sort of, trying to clarify in my mind, it was my understanding the affordability guidance always has had two major components: Calculating a percentage of median household income as a rough guide, not a carved in stone
requirement, but a way to ensure some degree of consistency across the nation. And then it talked about other drivers or factors and high unemployment, high property taxes.

    MR. RAICHE: You're going along the list.

    MR. LIBERTI: It seemed like in the past those things were to argue that maybe a 1.2 percent is the right target because these other factors are high. Is it switching now so that more of those factors go into the calculation of the percentage in the first place, or are they just getting sort of more examples?

    And it's sort of six of one, half dozen another, I realize, but I'm trying to figure out how new this -- I think in the past NBC attempted to look at things like unemployment. This issue of property owner I believe came up last time. And it can be considered, if you choose to consider it, after you do this. I'm just trying to I guess get my mind around what goes inside the percentage calculation and what's an external nebulous kind of --

    MR. BARD: Right. Going back to the EPA methodology from 1997 that's up here, a lot of
this was really kind of simple calculations. You do the work. You go through the different formulas. The hard part is more or less gathering up all the data, interpreting that data, and putting it into the model.

And this was used supposedly as the EPA's general guidelines for consistencies across the U.S. And it was typically used as, once again, a guidance component. But a lot of times in different EPA regions, it became something more static saying, you know, we're only going to consider, you know, going to 20 years if you're above the two percent.

And so by having those guidelines in place, over time it seemed to in different regions become interpreted as being more rigid. And as the EPA went and said, hey, of the 772 communities across the U.S. that have severe issues on combined sewer overflows, we're going to crack down on you, and here's what we have. And that's really, you know, created some of the push back saying, wait a minute, this doesn't necessarily capture all of the different elements that are occurring in our municipality.

So there has been, you know, I think a
number of different discussions and some changes
in people's perception of affordability.

The downturn of the economy by itself
had a major impact. And that's where even against
household income against property values you saw
household income drop drastically and property
values also fluctuating. And even that, as a
standard metric, even with the downturn in the
economy, it wasn't necessarily something that
seemed to be a good forecast tool at a certain
certain point in time.

So we can look at not just the
residential indicator. We can draw on all of the
different strengths and weaknesses, but it's at a
high simple average type of calculation, and these
that's where a number of different groups are
trying to say it's more complex than that. How
can we really have our fair story be told. And
how can we use that to try to sit down and have
discussions to say what should our cost be and
what can we achieve over what type of time frame.
And those are the new discussions that are
changing.

But otherwise, all of these elements
are basically going to be analyzed, as well as the
affordability piece.

Now, NBC, we've been gathering up all their financial data, their billing data. One of the next steps we're going to need, because it's just not about NBC on this analysis. We need to have some of the other financial information for each of the other communities so that we can try to capture a snapshot for the baseline financial plan of this, is kind of what all the different costs are associated with these different programs.

So that's one of the things as we identified for you. And now you know who I am. I'm going to be looking for those finance directors, finance managers and the public work people to find out how much are you really spending on your side of the system so I can try to calculate some of those costs going forward, understanding that what isn't being done and what asset management work and different things haven't been done, that's usually a gap on some of those different issues.

To address one other point, even if this IP, integrated planning framework, had water, sewer, and storm, you know, as a complete
component, the body of work that you're looking at specifically for NBC's functionality that we just discussed here still would have to all be taking place, including what the different CIP scenarios are and grey infrastructure and green infrastructure and all those different scenarios. That would still be one component, if you look at both water and sewer and storm.

And one of the elements that we always have to remember doing, say, conservation is that any impact on sewer actually does -- or impact on water usage does have an impact onto the flow cost component for sewer too.

So on that effect, those are integrated. But this body of work still is important as a stand-alone piece.

MR. DOMENICA: Thank you. What you're saying, if you conserve water, the rates could go down, the revenue goes down, but the costs on the Clean Water Act side could stay the same.

MR. BARD: Exactly.

MR. DOMENICA: That's a challenge.

MS. KARP: That's a perverse incentive.

MS. DORMODY: So we are a decision making group or advisory group to help inform NBC
if it gets referred to DEM for a final approval?
Tell me more about exactly what that --

MR. DOMENICA: I will let Tom.

MR. BRUECKNER: The last time we had stakeholders we had a unanimous decision with what we should go forward with. The only objectives where were the.

FROM THE FLOOR: I can't hear.

MR. BRUECKNER: The last time we had the stakeholders, we basically, when we finished, after educating people as to what the requirements were and what we were proposing, I would say there was unanimous -- near unanimous agreement as to what we should do, that the alternative we selected made sense.

As I mentioned, I think it was only the industrial users from one group who represented at the stakeholders meeting who objected saying they thought the rate increases were too great. We're now at the point where we recognize that rates are a very, very important factor going forward.

And what we would like to do, because we have we feel there is a diversity of people of the stakeholders representing different groups, the municipalities representing industrial users,
chambers of commerce, what we'll call
environmental groups, governmental agencies,
regulators, to try and come up with a plan that we
think we can go forward with that is affordable.

We're not going to take a vote at the
end and say, this is the plan, but we do want to
get feedback from you during the meetings as to
what are your concerns about the plan going
forward.

Certainly one of our concerns which we
already expressed, and we're the stakeholders, is
the cost of the program. There are other issues
such as water quality. You still want to attain
water quality.

There's the issue of what the
regulators will require us to do. In the end, we
may not have a lot of choice, because we are
mandated to do certain things. So I would say you
certainly are an advisory group to tell us what
your concerns are. I think you also bring to the
table some information that may be helpful to us
in understanding what we need to do and what your
concerns are.

So my goal would be that when we're
done, we can all pretty much agree that the plan
that we came up with really is the best, given all
the constraints that we have to deal with.

So I guess it would be the same as we
did the first stakeholder. And Brian Bishop isn't
here, but I remember Brian, the first set of
stakeholders was very vocal. He had some strong
opinions, one of which was he thought the program
was a terrible idea. But when we went through,
and I don't want to speak for Brian, but the sense
I got at the end is Brian understood what we were
trying to and what we had to do. And what we came
up with was probably a good compromise to achieve
what we had to.

One of the big problems with the first
evaluation obviously was the cost estimates. They
were way below what it really cost us to do this
work, which has driven the rates much higher and
has put us in this position of what is affordable.
And as I mentioned in one of my slides, that's one
of the things the EPA says, keep spending money
until you can't afford to spend anymore.

What is that? And when you're done
spending that money that you could afford later
on, when you can afford more, then spend more
money.
So right now today, what is it we're supposed to be spending and what can we get for that money that we're required to do.

MR. DOMENICA: I think it does in many respects, the S curve that Rich put up captures it. There's a certain amount of money you have to spend to get any improvement. Then you get a pretty good return on your investment as you go up that curve, but at someplace it levels off.

And you can spend vast amounts of money for very small incremental benefits. We need to figure out from NBC's point of view, in terms of Phase III, where we are on that curve. Find that optimal place.

FROM THE FLOOR: I think the thing I want to point out, and that is when we look at the affordability, although it is an affordability for NBC, it really is the affordability for the people who live within the district. It's not just us they have to pay. They have to pay taxes, because they have these other program requirements related to water quality that are going to be heaped on top of our rates.

So when we look at affordability, we want to include that as well. That's why we did
sewage infrastructure. And we want to look at
storm water as an issue that Providence would you
say can forward.

MS. DORMODY: We care about you getting
the right answers.

MR. MARSHALL: If I can just add on to
what Mike just said. It's not where on the curve
we should be and how much. Let's say it's $400
million, to pick a number. It's when do we spend
that money. It's not different than when we look
at the homes and say, I need to redo the bedroom,
the kitchen needs a new roof, new furnace, and you
come up with a list. And clearly there's probably
very few of us who can do all those things at one
time or within four or five years.

So you start thinking, okay, how do I
spread it out. And that's what we want this
process to be about. We're not saying we won't
spend the money. It's a matter of maybe, when we
spend the money. It's about whether the rate
payers can pay the bills.

MR. HOLMES: I need a new roof. I want
a new bedroom. There's a difference between needs
and wants. And that's part of what we need to
figure out. What do we need to do and what do we
want to make happen. There's a lot of benefits to
this other than, yeah, the water is clean. You
know, that's yeah, the water is clean. Yeah, the
water is clean enough to gain more shellfishing
grounds. The water is clean enough that fisheries
come back.

If Rhode Island had the Atlantic salmon
fishery it had 300 years ago, there would be zero
unemployment in Rhode Island. Because that
fishery was big enough that -- I mean, it was an
unbelievably wealthy industry.

We don't have it anymore because we
dammed up the rivers and made a mess out of
everything. So they are all gone. There aren't
any. You can't find salmon in Rhode Island. But
if we tore the dams and cleaned up the water and
cleaned up and the fishery came back, you watch
the state go up and its welfare and its
affordability and its, you know, jobs and all the
rest of that stuff.

It could be an enormous economic
engine. But it's totally overlooked. And that's
a shame, because we're looking at this, and I get
it. The affordability. And I got a house. I got
to pay the sewer rates. I got to do all that
other stuff.

But if I had my choice to go back fishing as opposed to working at a yacht club, I would go back fishing tomorrow. But because the fisheries have declined, a lot of fishermen who want to be fishing are doing other things.

But the future, if we clean up the bay is mind boggling. If we clean up the rivers and streams and all the other stuff that we can take care of, the future is mind boggling. And that's what I'm here to speak on. Because I've lived here all my life, and I love it.

MR. DOMENICA: Last comment.

MR. REITSMA: I'm glad Phil said what he said, because it's a positive thing. I think it's important for us to keep in mind it's what it's about. It should be a positive thing.

I have a bit of a problem with only focusing and characterizing things in a negative way. I know for a fact that there are people at EPA that are not about spend some more money and then weigh them when you have money again, spend more money.

That's not the way it is, Tom. The people at EPA are all for innovation, come up with
new ways of doing what needs to be done. That's what we should be focusing on. We have a lot of people in this room who have a lot of capability to come up with new ideas and new ways to work together to come up with solutions, hopefully that can save us money and achieve the outcomes like the ones Phil is talking about.

And I think that's how we need to approach this. Because I don't want to discount the difficulty, both the financial difficulty, the technical difficulty, all those things, but I think there are new ways of doing things, and we ought to empower the people proposing those.

Like what's being tried in Providence and surrounding communities. If we focus on that and we try to tap that talent that is either in this room or we have access to, I have a feeling we may come up with solutions. I think we have a talented consulting team. If we focus on that and the spirit in this room is really positive, we might be surprised with what we come up with.

MR. DOMENICA: Thank you. Thank you to everybody else. Great opening session.

MR. BRUECKNER: Just one comment. Next meeting is Thursday, April 10, 1:00 p.m. You
notice the meetings after that are at 9:00 and the
other, there is a record that we have the
stenographer. When we get it, we'll put it on the
website. Thank you.

(The meeting concluded at 4:03 p.m.)
CERTIFICATE OF REPORTER

I Hereby certify that the foregoing pages are a complete and accurate computer-aided transcription of my original stenotype notes taken in the Matter of NBC STAKEHOLDERS GROUP, which was held at Narragansett Bay Commission, One Service Road, Providence, Rhode Island, on March 12, 2014. Signed this 1st day of April, 2014.

__________________________________________________________________________________
Margaret R. Golden, RPR
Notary Public

My commission expires: October 14, 2015
Narragansett Bay Commission

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