
Committee Meeting

of

SENATE URBAN POLICY AND PLANNING COMMITTEE

“Long-term solutions to flooding problems of the Assunpink and Shabakunk Creeks”

LOCATION: Committee Room 4
State House Annex

DATE: September 10, 1996
9:30 a.m.

MEMBERS OF COMMITTEE PRESENT:

Senator Dick LaRossa, Chairman

ALSO PRESENT:

James C. Amon
Don Apai
Thomas G. Baxter
Charles R. Betz
Eleanor Blake
Alfred J. Brenner
Alfred W. Bridges
Richard M. Buck
Christopher Budzinski
Frank Cirillo
David A. Gibbons
Clark D. Gilman
Joyce E. Golden
William J. Guhl
Marilyn Hier
Barry R. Hogan

Steven J. Jacobus
Mike LaRossa
Gwendolyn I. Long
Stanley Lulewicz
Anthony S. Mangeri
Joseph McIntyre
Peggy McNutt
Gino A. Melone
Richard J. Miller
Ralph Persico
Gregory J. Puliti
Louis Raymond
Richard C. Reilly
David Stem
James A. Waldron
Fred R. Walters
Kathleen M. Wollert



Hannah Shostack
Office of Legislative Services
Aide, Senate Urban Policy
and Planning Committee

Meeting Recorded and Transcribed by
The Office of Legislative Services, Public Information Office,
Hearing Unit, State House Annex, CN 068, Trenton, New Jersey

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APPENDIX:

Fax with attachments
sent to Hannah Shostack
from Jim Moldow
Chairman
Concerned Citizens of
Hillsdale & Westwood

1x

ses: 1-126 (Internet edition 1997)

SENATOR DICK LaROSSA (Chairman): Ladies and gentlemen, for those who are participating, would you please-- There are some name tags, and I know there will be people who will be coming in throughout the morning and the afternoon session to help us in dealing with this problem. So if we could get those folks who are here to find their spots. (panel complies)

Good morning. I am State Senator Dick LaRossa.

Can you hear us in the back of the room all right? (affirmative response)

This is the first ever, to the best of my knowledge, Regional Municipal Flood Summit. It is a pervasive problem that has existed for, I guess, decades in the Mercer County area.

A couple of housekeeping items first, if I may. You will notice the size of the tables and how long this is. There are name tags in front of you. I would greatly appreciate it if, when anyone is going to make a comment, you could possibly, at all, identify yourselves prior to your comment.

In the middle of the room are the representatives from the Office of Legislative Services. I want to thank them for laying the room out and putting all the sound equipment up.

Everything that is said here through the microphones will be recorded for transcript purposes so that somewhere down the road, when we have an opportunity to deal with some of the issues, we'll have a written record of what occurred here today and, hopefully, we'll have a plan of action that will get some solutions.

So, again, I want to thank Harry White and the representatives of OLS for the tremendous work here.

The reason for identifying yourself by name, if you would, is so when they do the transcript they know who it was who said what it was that was said. I know that might be a little bit difficult, but do the best you can. If you would help us with that, and we would appreciate -- I know this may sound-- I'm not trying to do a schoolteacher routine, but if you could let us know if you need to speak, and we'll try to recognize you from the Chair and have this moving as quickly as possible.

I believe we have a number of representatives from State, county, Federal, and municipal government here. We'll go around the room momentarily so people know who is at the table.

Again, I want to thank everyone for coming this morning and, again, those who will be here this afternoon.

On June 12th of this past year, we had a major incident. I love that government buzzword. It's called an incident. The flooding in Mercer County devastated a number of communities: Trenton, Lawrence, Ewing, and so on.

For those of you who don't know why I finally called this Summit, it is that -- and for the people in the back of the room who are the residents and business owners -- I went to one agency, very gracious, very helpful, and I got referred to a second one. I went to a second agency and got referred to a third one. I went to one government body and got referred to another government body. So it happens even to the members of the Legislature.

It became very apparent that the only way this issue was ever going to be addressed adequately was if everyone who had a stake in this, either from being a victim or being somebody who can solve the problem, was at the table at the same time.

The people who are around the table in front of you are representatives, to the best of my knowledge, from the City of Trenton, Lawrence Township, and Ewing Township. We have, I believe, people from the Delaware Raritan Canal Commission; DEP; DOT; the Army Corps of Engineers; the New Jersey Watershed Authority; and I know I missed a few other people in there as well.

If I may, I would like to just take a quick opportunity to go around the table. I'll start from the furthest end on my right, working our way back up here. In no particular order, if you would just very briefly give us your name, where you are from, and what agency you represent.

MR. RAYMOND: Lou Raymond from Colonial Lakelands Civic Association in Lawrence Township.

SENATOR LaROSSA: All right. What I would like to do, also, is in front of you -- only in State government red means go. (referring to microphone) So when you see a red light in front of you, the microphone is on.

MR. RAYMOND: Lou Raymond from Colonial Lakelands Civic Association in Lawrence Township.

MR. BUDZINSKI: Chris Budzinski, Municipal Engineer from Lawrence Township.

COUNCILMAN PULITI: Greg Puliti, Councilman, Lawrence Township.

COUNCILMAN MILLER: Red means go?

SENATOR LaROSSA: Red means go.

COUNCILMAN MILLER: I don't get red, but-- Rick Miller, Councilman, Lawrence Township.

MR. GUHL: Bill Guhl, Municipal Manager of Lawrence Township.

MR. BRENNER: Al Brenner, New Jersey Department of Transportation.

MR. REILLY: Rick Reilly from Land Use Regulation. I am also a Ewing resident.

MR. JACOBUS: Steve Jacobus from the Department of Environmental Protection.

MR. GILMAN: Clark Gilman. I am the Chief of Floodplain Management for the DEP and also the State Coordinator of the National Flood Insurance Program.

MR. MANGERI: My name is Anthony Mangeri. I am with the New Jersey State Police Office of Emergency Management. I am responsible for mitigation and recovery.

SENATOR LaROSSA: Is your mike on?

MR. MANGERI: Yes, sir.

SENATOR LaROSSA: It is on. I think what we have is we probably have so many microphones that it is probably not powerful enough, but we'll do the best we can.

MR. BETZ: Charlie Betz, Trenton Office, Emergency Management Coordinator.

MR. WALDRON: James Waldron, Director of Public Safety, City of Trenton.

MR. McINTYRE: Joseph McIntyre, City of Trenton Sewer Utility.

MR. HOGAN: Barry Hogan, Director of Public Works, City of Trenton.

SENATOR LaROSSA: Let me try one other thing. If anybody has a mike that is on right now, turn it off. I think that is part of the problem, because we can only handle five mikes on at a time. That could be part of the problem, as well.

MS. LONG: Oh, okay.

SENATOR LaROSSA: That was the problem.

MS. LONG: Gwen Long, Chief of Staff, City of Trenton, representing Douglas H. Palmer.

MAYOR BRIDGES: Al Bridges, Mayor of Ewing Township.

MR. WALTERS: Fred Walters, Business Administrator, Ewing Township.

COUNCILMAN LaROSSA: Michael LaRossa, Councilman, Ewing Township.

COUNCILMAN APAI: Don Apai, Ewing Township Council.

COUNCILWOMAN WOLLERT: Kathleen Wollert, Ewing Township Council.

MR. BAXTER: Tom Baxter, New Jersey Water Supply Authority.

MS. GOLDEN: Joyce Golden, District Director for Congressman Christopher Smith.

MS. HIER: Marilyn Hier, Staff Assistant for Congressman Chris Smith.

MR. PERSICO: Ralph Persico, Coordinator, Office of Emergency Management for Mercer County.

MR. STEM: Dave Stem, Mercer County Engineer.

MR. AMON: Jim Amon, Delaware and Raritan Canal Commission.

MS. McNUTT: Peggy McNutt, Delaware and Raritan Greenway.

SENATOR LaROSSA: All right. Thank you very much.

I would like to start the discussion this morning with a couple of, let's say, caveats. We all recognize that flooding is the issue that we're trying to address here today. Sometime this afternoon we will have some information for people who have been victimized so that-- We apparently have found some things out with regard to FEMA and some of the relief that might be available, and that came through Congressman Smith's office.

However, what we're trying to accomplish today is to come up with an understanding of the magnitude of the issue. It isn't just flooding. It has to do with a number of waterways, tributaries, retaining basins throughout a regional area, and to come up with some workable solution or plan of attack that all of the parties concerned can, hopefully, agree to, at least, pursue, if not agree on the actual, ultimate solution.

I would also like to urge the participants to, if you will, think outside the box. I'm really not interested in what can't be done, because can't

doesn't solve the problem. I'm more interested in hearing some ideas as to what can be done. No matter how outrageous and outlandish it may seem, it may not be that outrageous and that outlandish.

Solving and dealing with an issue after the fact doesn't help us, because when we talk about and concern ourselves with money -- which is, obviously, nobody wants to spend money today -- the question is: How much money do you spend piecemeal time after time after time if you don't, once and for all, attack the problem that we have at hand?

The areas of the people who are around the table today represent-- We're talking about the Shabakunk, Assunpink, Delaware Raritan Canal, and -- realizing it is very difficult to see standing on the easel over there (indicating)-- But what we have coming down, meeting in a *V* in, basically, the Trenton area is, coming down from Lambertville is one branch of the *D* and *R*, coming down from New Brunswick another branch of the *D* and *R*, and in route coming up with the Shabakunk and the Assunpink, crossing it somewhere in the Route 1 area.

We have a tremendous volume of water. We've seen retaining basins and so on. I would like to-- I'll ask anyone who would like to open the discussion -- perhaps, the emergency management people or even the local officials -- to give us some idea as to magnitude of what happened on not only June 12th, but a little historic perspective as to what we have seen. Maybe Trenton or Ewing, let me do that, and then, I'll come to Lawrence next.

Who would like to start this off?

Please.

MR. BETZ: Senator, in regard to the City of Trenton, the flooding of the Assunpink Creek has been going on since the 18th century. Every time it rains and we have anywhere from 1 to 2 inches of rain there is the possibility of the area flooding.

Over the years, the Pond Run Creek that runs in Hamilton Township was channeled. As a result of that, that creek also runs into the Assunpink Creek just below Nottingham Way, where it comes into North Clinton Avenue in the city.

Later on, between South Warren Street and South Broad Street, the Assunpink runs into the Delaware River at that point in Area Five -- Area parking Five. As a result of that, at one time, that area flooded also, retaining water, and it spread out in a large area there. They since have covered that with concrete and since built a State building on the top of it.

Now, there is no way to get down in this area to see if there is any clutter or debris that is piling up in this area. Just this past year, through the cooperation of the State Office of Emergency Management, we had the State DOT come down. The new highway that was put over from Greenwood Avenue to the Barlow Street Circle in the City of Trenton was completely blocked up with debris from trees and large tree trunks. The State did clean that out. Later on, at the Montgomery Street overpass of the creek, I had to make contact with the county, and they came down and cleaned that area out.

Over the year, the foliage and everything else has just completely covered that area of the creek. The businesses along this area, Mulberry Street -- this water is stopped because of the bridges that go across these waterways. It was recommended many, many, many years ago that the bridge that crosses

the Assunpink Creek at Nottingham be enlarged, because this is a buffer, also, that stops the water and backs it up into the area of Mulberry Street.

We automatically know that when we get any kind of rain the first area that is going to flood will be Nottingham Way at Delaval on the underpass. That is the first that we know we're going to have a flood problem. After the creek crosses Mulberry Street, it goes behind Hetzel Field. It is pretty well channeled in that area, but because of the bridge that goes across South Olden -- or North Olden Avenue -- once the water reaches the level of the bridge, it becomes another buffer, and the water then proceeds around that on to North Olden Avenue, ending up down Taylor Street which is a low-lying area.

There is also an outlet that runs across Taylor Street from the North Clinton Avenue area which is a storm drain that runs into the creek. If the water level of the creek comes up above this outlet, there is a turn-off valve there that the property owner at that end has to close off. Once he closes this off, the water then backs up on to his property line on Taylor Street and Taylor Street floods.

When we get down further, there is no really big area that floods any further down until it goes into the Delaware River, but those main areas there from, I would say, from Taylor Street, North Olden Avenue, back to Mulberry Street are a very, very big concern to not only the property owners, but also to the businesses that have occupied those vacant buildings down there, as well as the City of Trenton, and definitely my office.

SENATOR LaROSSA: Thank you, Charlie. Charlie, thank you.
Mayor?

MAYOR BRIDGES: Thank you very much, Senator.

First I would like to thank Senator LaRossa for convening this meeting and pulling people together, because he did hit the nail on the proverbial head when he said it is frustrating to get to the root of the problem when there are so many arms of the problem that local government has to deal with.

It is no surprise to those of you sitting around the table -- those of you in the room -- that Ewing Township suffered greatly during the storm of '96 and the preceding storms as well. A major reason for that, I think, is that we have a multitude of problems.

Many of us are familiar with the problems of the flooding of the west branch and the east branch of the Shabakunk, but we also have the canal, the issues related to Gold Run, issues related to the water table and the flood table throughout the Township that create problems on even many of the side streets. So it was no surprise to some of us that with the storm we had just a few months ago, we sustained damages in excess of \$8 million. That \$8 million was shared by individual residents, by businesses, and by the municipality as well.

Seeing some of the devastation and chatting with the people who were impacted was certainly a very traumatic experience, because I have literally seen videos of rivers going through people's homes. They open up the back door, open up the front door, and just watch the water go through. Clearly, something has to be done. Clearly, that situation can no longer be tolerated.

I won't get into, certainly, at this discussion today, what should have been done, what could have been done. We do need to look forward and attend to those issues that will relieve the flooding within our community.

As many of you in the room know, we have ongoing, right now, the study by the Army Corps of Engineers that will address one piece of the problem -- let me state that again, one piece of the problem -- in Ewing Township. The cost of that project is estimated to be, in and of itself, in excess of \$8 million. Ewing Township's share of that cost is projected to be in excess of \$2 million. That is a lot of money for a community like Ewing Township. We are going to need some support from the State, from the Feds, from the county, if necessary, to bring that cost down, because, again, that is a lot for our taxpayers to bear.

Having said that, and I know the council is supportive of this, because I've talked to the members individually, they are also committed to finding the resources to address that problem. But even if we do that -- the Army Corps' report says it will reduce the flooding -- it will not eliminate the flooding. So we need to be constantly vigilant on ways to bring that down.

As I have had conversations with my colleagues in Lawrence Township, who I am sure will speak shortly, that needs to be done. That study needs to be done in a way that is not negative or going to impact on Lawrence Township or our good neighbors in the City of Trenton. That is, again, why it is appropriate that all of us are around this table.

Even if we solve that problem, however, we still have the Gold Run. We still have the canal. What it all boils down to is that this is going to

cost Ewing Township -- the local government -- millions of dollars to resolve our problems.

Having said that, as well -- and I've already had conversations with representatives of the Zoning Board and Planning Board within the Township, as well as other people who may develop -- we need to make sure in-house that future development in the community is not going to add to the problem, but any development that comes in will somehow help and reduce the problem within our community.

So a monumental problem, and I'm glad to see so many of the representatives from all levels of government to help us attend.

SENATOR LaROSSA: Thank you, Mayor.

If I may, the third municipality that is impacted directly, Lawrence Township, can give us a little bit of an overview of what is going on in Lawrence with this problem.

MR. GUHL: Thank you, Senator.

I would like to reiterate Mayor Bridges' comments about thanking you for putting this together.

Our problem in Lawrence, while not as pervasive as those visited upon Ewing Township, for those who were affected it is every bit as traumatic. Our problem is really pretty much concentrated along the Shabakunk Creek, and almost all of the flooding in the last storm affected residences. I think there were one or two businesses, but as I said, it doesn't visit upon Lawrence nearly as severely as in Ewing.

Notwithstanding that, we also recognize the need for a regional solution. Mayor Bridges addressed the Army Corps of Engineers' study on a

portion of the Shabakunk and what reductions that would cause in flooding in Ewing Township. As I recall, that report said that any remedial work done in Ewing Township, while not having a significant downstream effect, would have a modest increase in the amount of flooding in Lawrence Township.

I think that the Corps' report said that the impact would be de minimus. But if I were one of those residents who saw five or six feet of water in my basement, I wouldn't want to hear that there was a solution in Ewing Township to reduce flooding there that was going to cause the water in my basement to be, instead of five feet, five and a half or six feet. So, obviously, we need something which will reduce the problem in Ewing and, at the same time, contribute to a reduction in the problem in Lawrence Township.

The Shabakunk starts in Hopewell, runs through Ewing, and then, runs through Lawrence. By the time the flood waters get to Route 1 in Lawrence, I mean, they're just completely out of control. So to do something in Ewing which will send more water to Lawrence Township is, obviously, not acceptable for the local officials in Lawrence and even less acceptable for the residents who are suffering at the hands of this problem.

I want to thank you. I don't know if any of the other representatives from Lawrence want to say anything, but I think that outlines the situation for us.

Thank you.

SENATOR LaROSSA: You pass for the time being? (affirmative response)

Joyce Golden, from Congressman Chris Smith's office.

MS. GOLDEN: Thank you, Senator.

Congressman Smith had planned on being here this morning, and he really appreciates you taking the lead with this Summit, but he is with his family. I believe that you know his father is in intensive care in Saint Francis Hospital, so that is where he needs to be right now.

Anyway, Chris gave me this statement that he asked that I read.

“The flooding problems facing Mercer County and, in particular, those towns located near the Assunpink and Shabakunk Creeks concern all of us here today. It is my hope this Summit, which is a follow-up to a meeting I hosted on July 19th, will result in a long-term, permanent solution to the floods which have devastated many Mercer County municipalities.

“Storms and floods in June caused substantial damage to many homes and businesses in the area. I was pleased that the Small Business Administration and the Department of Agriculture have made low-interest loans and other aid available for those who incurred storm damage, and the Department of Transportation is still considering my request for additional assistance.

“Although there was not enough damage for the President to declare a major disaster, it did underscore the need to address the Assunpink and Shabakunk Creeks flowing quandary.

“I am encouraged by the Army Corps of Engineers and Natural Resources Conservation Service involvement in this process and their commitment to continue to provide technical assistance as we progress toward a concrete solution.

“You can be assured that I will continue to provide my support and assistance for all future efforts which may result from this Summit.

“On a broader scale, I would like, also, to mention some of the flood assistance programs being administered through the Federal Emergency Management Agency for flood victims. FEMA, through its Federal Insurance Administration and the Mitigation Directorate, administers the National Flood Insurance Program.

“In 1994, the NFIP was amended with the passage of the National Flood Insurance Reform Act of 1994. Three major provisions of the law affecting the NFIP are: to increase lender compliance, add mitigation insurance to flood insurance policies, and develop a mitigation assistance program.

“The NFIP makes federally backed flood insurance available in communities that adopt and enforce floodplain ordinances to reduce flood losses. It combines mitigation and insurance to protect people from flood damage.

“An important aspect of the amended NFIP is the authorization of a Mitigation Assistance Program, which will be designed to provide grants for states and communities to develop local flood hazard mitigation plans to reduce future flood damages. Furthermore, it is intended that program will provide assistance to states and communities to undertake mitigation projects, such as elevation of buildings or relocation of buildings out of the floodplain before a flood. This would, obviously, help to reduce the amount of damage from flooding and the cost of disasters.

“The implementation of the Mitigation Assistance Program is dependant upon the issuance of regulations by FEMA. According to FEMA

officials, there has been an initial draft of the regulations which was rejected by James Lee Whit, Director of FEMA. Redrafting of those regulations are continuing, and FEMA is hopeful that they will be completed shortly. This program may prove to be very beneficial to our efforts to fix Mercer County's flooding problems.

"Thank you."

SENATOR LaROSSA: Thank you, Joyce. It is encouraging to know-- One of the issues we were talking about early on was money and mitigation, and it sounds to me like FEMA is headed on the right path.

What I would like to do is-- The other representatives around the table from the various State agencies, you've heard a little bit about, again, why I asked you to be here. You have heard a little bit from the communities in terms of how they view the problem. I would like to, perhaps, start on this side. (indicating)

Maybe, Tony, we'll start with you, and then, we'll come across the table to this side. (indicating)

As I see it, and forgive me for injecting a layman's view into the view of the world here, but it seems to me that there are probably three or four things that are causing the major problem we're dealing with.

Number one, is a substantial amount of development, if not overdevelopment. I believe we have retaining basins that are either too few, too shallow, inadequate, or in the wrong place.

I don't know that the bodies of water that exist now have adequate flood control mechanisms on them or are necessarily able to be regulated at an appropriate time and place based on the volume of water that is out there.

Lastly, is that we have no idea, as I think Chris mentioned before, as to just how clogged and cluttered a lot of the tributaries and the streams are where this water is supposed to be finding its way, supposedly, clearly and freely -- where we might have bank erosion. We have sediment in there.

The kind of idea I'm talking about in terms of part of the solving is, we see road crews on any given day out there picking up debris and garbage from the side of the highways, and it might be less environmentally intrusive if we could get some of those same crews out and start to clean out some of the streams as well.

But, again, given those as some of the bases of the problem, we'll get to the funding on that shortly--

Anthony, is there anything in what I just laid out there that impacts on your Department and what you bring to the table?

MR. MANGERI: The Office of Emergency Management has been working with FEMA to be prepared for the new regulations. Mitigation has been a mainstay of emergency preparedness and emergency management for a long time.

While local government's job is to respond to the health, safety, and welfare of its citizens, the county and State Emergency Management Systems are there to support local operations.

When it comes to natural hazard risk management mitigation, the Office of Emergency Management has developed a program and is working with FEMA to center and focus New Jersey's policy when it comes to risk management. When those grants and funds become available, NJOEM does

work with local emergency management officials to make sure that there is awareness and technical support on strategies for risk management.

We are very proud that we are part of a group now known as the New Jersey Hazard Mitigation Team, or State Mitigation Team, which is a collection of multiple agency representatives with expertise in given areas to look at these kinds of problems in a roundtable, somewhat similar to this, to come up with creative solutions. We will continue to make ourselves available to help work with the different State agencies and local governments to expedite some of the assistance that might be needed or to help different agencies see the priority in risk management and mitigation.

SENATOR LaROSSA: You talk about plans, and I know there have been plans on the table before. Forgive me, everything kind of runs together after a while. Some of the plans that have been on the table, does anybody care to discuss one? We had a meeting at Chris Smith's office and, I think, at the New Jersey Watershed Authority. Some of the plans that have been out there--

What were some of the plans that have been proposed, and why haven't they moved? How is that for an entree?

MR. GILMAN: Well, I think I have mentioned this before at earlier meetings: There have been two formal studies of flood control in this basin.

The first study was done by the Soil Conservation Service. Its report is dated March of 1982. It was a very comprehensive study. They basically looked at a combination of six or seven different plans which included, off-channel storage; on-channel storage; pumped off-channel storage;

diversions to the Delaware River; channelization; a number of different types of handling the problem. They found, basically, that none of these -- only one, actually, of these proposals would have a favorable cost-benefit ratio. In other words, Uncle Sam isn't going to invest any money in a project unless the benefits are greater than, in fact, the cost.

The only thing that Soil Conservation found that would be favorable in terms of Federal government interest was a nonstructural project involving flood proofing on the west branch of the Shabakunk Creek. Basically, this had a cost-benefit ratio of 1.5, or it would be \$1.50 of benefits for every \$1.00 of cost.

What it involved, really, was, basically, purchasing and either moving or demolishing houses that were very close to the stream that suffered significant damage and flood proofing other structures that are on the outer limits of the flood hazard area. The cost of this project -- the total cost -- was somewhere on the line of \$3.2 million.

They actually found nothing that would suitably resolve the problem on the lower Assunpink Creek. This proposal -- this nonstructural proposal -- was entirely along the west branch of the Shabakunk Creek in Ewing Township. That was all that they could come up with.

They looked at all kinds of things including detention basins up in the headwater areas. They found that these were not feasible. The topography wasn't suitable for them, and the drainage areas were too small.

The Corps came along, some years later, after the '87 flood, and they did a study. Their study is dated June 1992. Again, they looked at,

primarily, the west branch of the Shabakunk Creek. The project they proposed, at the time, cost \$6.1 million.

It involved, basically, deepening and, in some areas, placing walls and underpinning bridges from the mouth of the west branch of the Shabakunk up to a point that was downstream of Parkside Avenue. The plan, basically, only modified the channel itself. It was, primarily, a deepening of the channel with the existing bridges. They also proposed removing the damaged bridge at Thurston Avenue. Again, the cost of this project, at the time, was \$6.1 million.

I think the Mayor mentioned that that now would be about \$8 million. That sounds about right.

But, unfortunately, and this is the Corps' own report-- Their own report indicated that this really was not a solution to the problem. Their own report stated:

“Neither the channel modification nor the bridge removal will alter the type of flooding experienced in the study area. The proposed plan simply serves to reduce the frequency of nuisance flooding and the magnitude of flooding in larger events.”

Now, this report was reviewed by the Department of Environmental Protection. In fact, there was a letter sent to the Corps, dated October 8, 1992, and it wasn't a very favorable letter. Just two paragraphs out of this basically say-- This is quoting from the October 8th letter, signed by Larry Schmidt, who was our Director of the Office of Program Coordination.

“It indicates that the project, as proposed, will not alter the type of flooding experienced in the study area. The proposed plan simply serves to

reduce the frequency of nuisance flooding and the magnitude of larger flood events.

“The Department concludes that after completion of the project flooding will still occur within the study area. People who live in the impacted area will still be inconvenienced and experience damage to their property as a result of floods. The damage incurred will be less than experienced now, but the damage will not be eliminated.

“Since the project, as proposed, is marginal in terms of meeting the goals of flood reduction and protection, the New Jersey Department of Environmental Protection suggests that the U.S. Army Corps of Engineers reconsider its own participation in this project.”

What we’re basically saying is that if this project even were to go forth, there is a good chance that the DEP-- We couldn’t really participate in it. It doesn’t meet our criteria. Basically, we require, before we will get involved in a project or fund a project, 100-year flood protection.

This project, basically, reduces the 100-year flood, perhaps, a foot along the portion of the stream. It is not a solution.

SENATOR LaROSSA: Clark, would you just explain that a little bit. I’m sorry to interrupt. I heard what you said, but I’m not sure that I understand what you said.

MR. GILMAN: Yes.

Well, first of all, the DEP-- Right now, we have no money for flood control anyway, but in the past-- We spent the last bond issue. We received \$25 million back in ’78, and that money is all gone. There have been no new appropriations for flood control, so we’re basically broke anyway.

But the truth is that our regulations and standards normally require 100-year flood protection before we'll participate in a project.

SENATOR LaROSSA: Now, what does that mean when you say it requires 100-year flood protection?

MR. GILMAN: That means that we would eliminate flooding from a 100-year flood, any damage at all, complete protection against a 100-year flood. You don't want to put the water back in the channel, hold it in a reservoir, or whatever, so it would totally eliminate the damage that would occur due to a flood of this magnitude.

SENATOR LaROSSA: Okay. My first question with that is: Do you know or does anybody know, based on what is in place right now, infrastructure that is in place now -- basins, lakes, streams, whatever -- are we at a point where we do have existing 100-year flood protection?

MR. GILMAN: No.

SENATOR LaROSSA: We're not even at that level?

MR. GILMAN: No, not at all. I mean, basically, there really is no effective flood control project or plan for the west branch or any of the northerly tributaries of the Assunpink.

Now, the Soil Conservation Service, which is now the Natural Resources Conservation Service, developed a comprehensive plan for this basin in 1964. They finished construction of the last element of that project about two years ago over in Hamilton. They built a whole mess of reservoirs, like seven of them. Most of them are on the southerly tributaries, and they effect, primarily, the main stem of the Assunpink Creek.

I must admit that this recent flooding we've experienced would have been significantly greater had those reservoirs not been in place. But, in effect, their studies failed to show any real way of controlling of floods on the Shabakunk, the Little Shabakunk, or the Shipetaukin. There was a reservoir proposed on the Shipetaukin, which would have been important to Trenton, but it was never built due to difficulties of getting approval from Lawrence Township, in particular, and getting around the acquisition of the property required from the people who owned it.

But, essentially, their project is complete. Again, they were asked to reexamine the area after the floods of '75. The report of 1982, basically, was that response, and they really found that there was nothing else that they could do or the Federal government could participate in doing to resolve the problem. This is particularly the problem of the west branch and the lower Assunpink.

SENATOR LaROSSA: Mayor Bridges.

MAYOR BRIDGES: Thank you very much, Senator.

The point that was made, for my mind, is an exceptionally critical point for Ewing Township. First, I do agree with the reading and the interpretation of the Army Corps' report. The plan as proposed will not eliminate the problem attend to the 100-year flood, but will reduce the problem for the impacted residents.

It is important to point out that our request in meeting with the Army Corps at the front end was to produce a plan that would reduce or eliminate the flooding. What they came back with was a plan that would provide some reduction but not eliminate the problem.

In pressing on that point, what would we need to do to look at a project that would eliminate the flooding? The informal information I received is that it would require the taking of much more property than is involved in the Army Corps' plan, the building of much larger retention basins along the way, and, again, going onto private property, literally demolishing some homes which, I think, most residents -- particularly those who may have their home stake in the way -- agree is not a particularly good thing to do.

So we have a plan before us, or at least, being considered which is the best that we can do given the circumstances of development which has taken place. Therefore, it is somewhat frustrating that we cannot get the State participation in the plan to help with, again, our share of the costs, because it will not eliminate the problem.

Again, it was represented that there is no money available anyway, but if there were to be money available, it would certainly be less burdensome for the residents of Ewing Township, again, to spend that \$2 million. Again, I just can't emphasize that enough. That is a lot for us to attend to one part of our problem. We still have work to do in other areas of the Township.

I would like to know what I could do as Mayor, what the Council can do, what staff can do to get State support or State participation in that plan which is coming forward? Is there anything we can do or is it a lost cause? You're not going to do anything?

MR. GILMAN: Based upon our review, the project is such that it doesn't meet our standards. We can't support it. You could go--

SENATOR LaROSSA: I'm sorry. What is lacking that it doesn't meet the Department's standards?

MR. GILMAN: Well, it just doesn't provide a high enough level of protection. I mean, the bottom line is, if you spend this \$8 million, you will reduce the level of what we call the 100-year flood. The Corps calls it the 10-year flood, by the way. The Corps is very conservative in their design. You will reduce the level of flooding that we would anticipate regulating by, maybe, a foot -- at most a foot.

Now, \$8 million to reduce the flood level a foot, that doesn't sound very meaningful to me. As our letter pointed out, the people who get flooded will still get flooded, it will just be a foot less deep. Now, to us, that is not a solution. Okay?

We don't have a plan. I don't know if there is a plan. It has been examined, now, by two Federal agencies who have-- This is their business. They do a good job. They haven't been able to find a plan that really resolves the problem.

SENATOR LaROSSA: Before I come back to an idea of a plan, let me go to Fred Walters, Business Administrator.

MR. WALTERS: Thank you very much, Senator.

Clark and I have had a long-standing relationship in terms of dealing with the flood problems in Ewing Township, as well as other areas in this county.

He is absolutely correct when he says that the State, even back in 1987, as well as 1992, gave us really no option and nowhere to go in terms of the Township's pursuance to try to rectify our problems. We were given the same basic information that Clark just alluded to: no money; the project

doesn't warrant any further discussion; it will not relieve, to our standards, what it should.

That kind of reminds me of when we sit there and watch an athletic event. We watch a basketball official's call or an umpire's call, and we can sit back, and we can certainly question it, but to no resolve. That certainly doesn't answer the question. That doesn't answer the problems that we have.

We have tried over all of these years to seek some solution and some method to come up with a way that we could help, if not totally resolve, substantially relieve the flooding problem in Ewing Township.

I'm glad we got into this discussion, Senator, because I think this really begs the question: What can we do? There is no funding available. There is no acceptable plan. I'm kind of lost.

SENATOR LaROSSA: Fred, I think you can't fund a plan that doesn't exist. I think that may be the fundamental problem, that there is no plan. I think that is one of these-- We maybe want to come up with, at least, some plan of action. If not a detailed plan here, today-- I don't really believe that everybody will get to the table and say, "This is what we need to do," but at least we can set the direction.

I want to go back to something that was said earlier about there being no plan, or the plans that have been on the table are inadequate. You know, it is going to lower it a foot, so instead of having five feet in your basement, you have four feet in your basement. That is not a solution.

Taking property where it is people's homestead, I don't believe is a solution, only because when you take the property and demolish it, you still haven't done a doggone thing about the flooding in the first place. That

property may be gone, or that building or structure may be gone, but nothing is changed. You still have all the water coming down in the same place. Nothing has been solved. Nothing has been reconciled.

If I may -- and at any time, any part of this discussion, don't wait for me to call on you, just give me some hand sign to be acknowledged-- One of the things I would like to suggest is, I mentioned something once before about the heads of the tributaries, and certain places, and so on, is where we have seen--

For example, out at Mercer County Park, this enormous lake which apparently, in conjunction with something that happened out in part of the Assunpink, actually reduced the magnitude by having that huge area. Somewhere along those tributaries, be it, I guess the Shabakunk, the Ship--

What is it called?

MR. GILMAN: Shipetaukin.

SENATOR LaROSSA: Shipetaukin, excuse me. These Indian names catch me on occasion.

But whether or not-- You're talking about taking properties. Where those flood-prone areas are, if, in fact, you were to take some of those properties, is it feasible to create some type of holding body -- be it a lake-- If the head of the tributaries--

The suggestion I had a number of weeks ago was along I-95, where, at one point, there was a proposal to put an interchange for Route 31 -- 95, going through Hopewell, heading up to New Brunswick. That is about a 30-acre tract of land where the only thing it is useful for is they were trying

to put a truck weigh station in there. Now, the elevation may be wrong, but the question is: Can that be dug out?

Can the area near the Mercer County Vocational School on Bull Run Road, the Sypek Center -- where, at one time, they were talking about building a maintenance garage-- That retaining basin and that area back there, can a lake or some type of body of water-- Somewhere where these streams are flowing, can there be something created that, in fact, might mitigate it in conjunction with some other activities such as getting those crews out and clearing the debris out of these streams?

The plans that exist, do those plans include anything of that nature? If they didn't, what can we do to get those ideas looked at in terms of their feasibility?

Tony.

MR. MANGERI: Senator, I think you hit the nail on the head. There has to be an integrated, overall plan or approach. I think, from what I'm hearing, there seems to be a variety of stagnant plans of analysis of the problem -- what we call hazard analysis in Emergency Management -- but what there is not is an overall look at a strategy of local government, county, and State governments to handle a given community and its natural hazards.

You mention acquisition as a problem, and I agree with you; it is a problem. But voluntary acquisition, structural measures, land use regulations, even just decision-making skills, and knowledge, skill, and ability when it comes to environmental decision making are all factors of creating a local mitigation strategy -- appointing a local mitigation officer, somebody who can work with planning and zoning boards and elected officials so there is

information readily available on natural hazards in the community when decisions are being made.

They are the activities that Emergency Management calls local hazard mitigation planning and have now, aggressively, been encouraging local governments to participate in. There is no mandate for such type of planning, with the exception of participation in the National Flood Insurance Program by local government, but it just makes good sense.

All these issues, all these structural analyses are valid, but there are other activities that can be done to reduce risk and vulnerability over time.

SENATOR LaROSSA: Down at the end of the table.

MR. RAYMOND: Lou Raymond.

The gentleman from DEP said that they won't even look at a project unless it guarantees to protect for the 100-year flood. If you look at the way Hamilton, Ewing, Lawrence, and the City of Trenton are laid out -- overbuilt -- I don't even think God can guarantee 100-year protection.

So this means that everything here will be for naught, because we can't guarantee that we are going to protect for the 100-year flood. We have to start somewhere. We have to do something. That ought to be chopped off right there.

SENATOR LaROSSA: Yes.

Go ahead, Clark.

MR. GILMAN: When I talk about the fact that the plans on the table really aren't entirely effective, I don't mean that there is nothing that can be done. Okay?

I don't think you're entirely correct when you say that acquisition of property isn't exactly the way to go either. In all honesty, this new Act that was passed -- the new Flood Insurance Act that was passed in August two years ago -- is, to some degree, going to force the acquisition of land.

The Administrator of the National Flood Insurance Program, when they finally get these regs done, is supposed to identify what they call repetitive-loss structures, some of which are located in the floodplains of the west branch of the Shabakunk Creek in Ewing Township. Those people are going to be given an option. Either they are going to voluntarily allow themselves to be bought out, or they are going to have to somehow retrofit their homes and raise them above the flood levels.

The Federal government under this new law is going to provide some funding -- either loans or grants, I'm not sure exactly what, because the regs aren't done -- but the bottom line is this is a major problem in this State and in this country.

We have what we call repetitive-loss structures. Five percent of the structures insured by the National Flood Insurance Program are receiving like forty percent of all the claims, and they're draining the fund. A lot of them are here in New Jersey. The new law targets these structures.

Now, there are some people -- and some people, actually, in Ewing Township -- who have been repetitively flooded who, I believe -- I really do believe -- if they were offered fair market value for their property, they might be willing to sell it and move someplace else, buy a house somewhere else. There are a lot of people who are opposed to this idea, but more and more

people are thinking favorably about either retrofitting, raising the houses, or selling out and moving the houses.

Now, in addition to this type of program -- and this is what Anthony is, by the way, talking about in mitigation -- a major effort in the future is going to be to either flood proof or eliminate structures that are repetitively damaged.

In addition to that, certainly, a comprehensive stream maintenance program in Mercer County would help a lot. You get one debris blockage from stuff that has been tossed into the stream -- and God knows our streams are literally garbage dumps-- You get one debris blockage at one bridge, and you can raise the water level three or four feet right there and cause major damage to adjoining properties.

There is also a possibility of selectively replacing bridges. One of these the Corps proposed to do was to, basically, remove the Thurston Avenue Bridge in Ewing Township. That one bridge causes two or three feet of backup of water. If that bridge were fully removed, the abutments completely removed, and the channel widened out in the one location, you're going to eliminate or, at least, reduce the level of the flooding in the apartments just upstream. Now, that bridge has been sitting there since 1987. It hasn't been touched. In fact, it has a fence around it. It even makes it worse.

SENATOR LaROSSA: Let me just make sure I understand something that you just said.

The blockage in the streams, whatever that is constituted by, that is a problem upstream, not downstream?

MR. GILMAN: It is a problem all over.

Wherever you get a debris blockage, you can increase the level of flooding several feet. A clean stream, particularly when it comes to nuisance flooding, goes a long way to improving the conditions.

SENATOR LaROSSA: But isn't that-- Relative to all of the other plans that we've been talking about, isn't that a practical, doable program?

MR. GILMAN: Right. It is. It is not a solution though. See, it doesn't change the characteristic of the flooding, but it does help.

Now, unfortunately, again, for years the State of New Jersey has reluctantly participated in this type of work. In all honesty, there have been a number of pieces of legislation that provided money -- never for this area of the State, but for North Jersey -- that would have allowed us to do desnagging. We call it desnagging, clearing, cleaning. That never worked, because everybody wanted the money for other things.

We did have a program that we just finished up this year. It was a 10-year project up in the Passaic River Basin where the Legislature gave us \$2 million and said, "Look, we want you to clean these specific areas." Then we were able to go to towns. It was nice. It was a beautiful law, because, basically, it told us where to do the work.

If you gave us \$2 million and said, "Clean the streams," nothing would ever get done, because everybody wants the whole ball of wax. But in this piece of legislation, up in the Passaic, it told us to do certain, particular problem areas. We went up. We got the towns to do the work. We spent money to clean the streams.

Again, that could, possibly, work in Mercer County. There are areas where there are debris blockages. There is debris, and were the money

to become available, this is something we could pass on to local governments. There probably should be a comprehensive stream-cleaning program.

As you indicate, you see the road crews picking up the trash along the roads. You don't see anybody working in the streams, and Lord knows those streams are garbage pits. People are throwing stuff in there constantly: lawn clippings, sweepings.

SENATOR LaROSSA: I want to come back to that as to what it takes to get people in the stream to clean it up.

Gwen.

MS. LONG: Thank you.

I wanted to add the City of Trenton's frustration in terms of the issue of a plan not being good enough or not promising enough relief. We are at, as you know, the awkward position of being dependent upon what happens in the townships in terms of our flooding. So were there not to be a particular plan, it creates a major problem.

I wanted to put on the table a couple of issues that have come up already. One has to do with our determining that we just have to concede certain areas. So the issue in terms of acquisition of property is one that we need to look at. But, once again, that is going to take the plan in order to take advantage of the legislation that has been talked about, in order to have those finances.

But we do have the repetitive flooding, and to the extent that our neighboring townships are not in a position or have not been able to provide or find a plan, and we have, in terms of checking with our own engineers, not been able to be given anything that we could do that would dramatically

change our situation, that piece does need to be on the table, because we have to say something to the residents and businesses of the community that is going to be different.

The second issue has to do with the point that has just been made, and that has to do with the maintenance of the streams. It is something that I raised at one of the prior meetings we had -- I believe, at the Congressman's office -- which really comes to the issue of who has primary responsibility for that as an ongoing task. It really doesn't get us anywhere when it is a bunch of finger-pointing. I would imagine that part of the finger-pointing has to do with the fact that nobody has the resources to take it on and to continue it on an ongoing basis.

So I guess in terms of when and where we go in terms of an actual plan, I would like to have some discussion in terms of the issue for those communities that realize that there is nothing that we can build, there is nothing that we can make, that we are just totally dependent upon how much rain comes out of the sky and what our neighboring townships are able to do, or are not able to do, in terms of both resources and plans. But we do have to give some relief to our community.

SENATOR LaROSSA: Okay.

Rich, and then, we'll come to Kathy.

MR. BUCK: Yes. This question is for Mr. Gilman.

A question for you: You said that the \$8 million project which would result in about a foot of flood relief really wasn't feasible. What would this cleaning the streams cost, do you think, and how much flood relief would that result in?

MR. GILMAN: To clean the streams, it is not something-- You can't compute the effect, you really can't. It doesn't change the characteristic of flooding at all. It is a cosmetic thing, but, as I said, one local blockage of one culvert can cause a major difference in water surface. Certainly, a clean stream-- Water flows a lot more rapidly down a clean stream than when it is cluttered with debris.

So it is not something you can measure. The cost would be a fraction of building a project. Again, what it means is somewhere along the way someone has to shift priorities from patching roads, maybe, to cleaning streams. Now, again, it certainly is possible -- it has happened in the past -- where money could become available for this type of work through the Legislature or from somebody else where we could pass it on.

Remember, again, this is Steve's ball of wax now. You need permits to do this, too.

MR. BUCK: That is what I was just going to ask. What sort of bureaucratic hula hoops do you have to jump through, and how long will it take?

MR. GILMAN: There are different types of permits. Okay? There is a very simple stream-cleaning permit for just removing debris. There is a more comprehensive one involving cleaning debris and sediments down to a depth of two feet.

Is that right? (questioning fellow panel member) (nonverbal affirmative response)

But, at any rate, there are several different situations. My own experience-- Again, we did this at the Passaic River Basin. We had to get

Stream Encroachment Permits -- they call them Stream Cleaning Permits. We, basically walked the stream, as has been done, apparently, in this situation, and we determined where trees should be removed, where fallen stumps and where shoals and sediments should be removed.

We worked with the land use management people. They were part of the whole scheme. The permits-- Again, that made the system of getting the permits much easier.

SENATOR LaROSSA: Rich, excuse me for interrupting.

Has that ever been done here?

MR. GILMAN: No, it never has been.

SENATOR LaROSSA: It has never been done?

MR. BUCK: How long would it take to get that done and who--

MR. GILMAN: Well, I said, first of all, there has to be a mandate from the Legislature to give us the money to do it. We've only done this in the Passaic River Basin. We've done this in the Passaic River Basin. We've had several appropriations made to clean streams in the Passaic River Basin.

We've only done it, actually, in one other place and that was down in Ocean County in a retirement community. But, again, first of all there has to be funding and involvement of our Department. We're not mandated to go and do this kind of work.

SENATOR LaROSSA: But are you talking about actually doing the cleaning or just walking it to see where the problems are that need to be addressed first?

MR. GILMAN: Well, that has been our procedure. Now, the similar thing is, when we were given a directive to do this work, we were given

so much and told to clean these streams. They gave us \$2 million and cleaned the streams.

What we did was we got together the local governments who were involved. We explained the law to them, told them how-- They indicated an interest, and then we got together-- We got my own people. We, basically, managed the project. We got land use management people who would have to permit the project. We had local people.

We walked the streams. We figured out what should be done to maximize this desnagging, clearing, and clean process. Then it went right along. I mean, the people from land use management were part of planning what should be done. The environmental people were there with us walking the streams. We made decisions right on the site as to what should be done, what shoals should be removed.

Remember, Fish and Game people -- what you look and see as debris in the stream, they see as habitat. A fallen tree, that is a habitat for the fish. So they don't want you to remove tree stumps. They hold the bank.

So these things-- Decisions as to what should be done to actually maximize the hydraulic efficiency of the stream is something you, actually, make a decision on in the field with the appropriate environmental and permitting people. Then, you can go ahead, get the permit, and do the work.

You, basically, maximize the effectiveness of the existing stream. You're not changing the hydraulics of the stream. But, again, a clean stream does a lot better than one that is blocked with debris when it comes to carrying rainwater.

MR. BUCK: One other thing about the maintenance: I know in Ewing, at the request of Mayor Bridges, we had sent out jail crews to clean up certain clusters of embankments and bridges. Once the initial sweep is made, you guys do your survey and say, "Okay, we need to remove this debris at these certain points along this stream."

Once that big cleaning is done, like a Roto-Rooter, and it just takes maintenance, is that the kind of maintenance that can be done periodically by the men in orange suits? Is it that sort of an easy thing or does it require (indiscernible)?

MR. GILMAN: To some degree, yes.

MR. BUCK: How intense?

MR. GILMAN: You're talking about the prisoners, now?

MR. BUCK: Yes.

MR. GILMAN: They pick up garbage. You can go a little further than that. The prisoners wouldn't be cutting down fallen trees or removing shoal materials or whatever.

MR. BUCK: I guess that is my question. Once the stream is clean, what sort of maintenance can they-- Is this the sort of maintenance that is within their scope, to go in there and pick out -- they can pick it out?

MR. GILMAN: Picking out the debris, that is no problem at all. But that is only part of the problem.

Remember, when a shoal builds up material in a stream, it builds up for a reason; there is a bend in the stream or there is some hydraulic characteristic that causes it. If you remove it, it does eventually accumulate again. You would probably have to go in again.

In the case of this Passaic River program we just finished, we did it once and the program was extended over a 10-year period. We went back and did a couple of areas twice. Again, this is only cosmetic. This doesn't really have a major effect on the flooding, but it certainly helps. It certainly can reduce the problem.

Then, again, there are-- Both the SCS' report and the Corps' report, they mention certain bridges that are particularly inadequate. Now, again, replacing one bridge, that could be a million or a couple of million dollars to replace one major bridge. Plus, if you have to raise the road, you have problems of access of property, local-- There are all kinds of problems, but that is one thing that can be done. Selective bridge replacement could, in some cases, lower the level of the floods along these streams. It doesn't provide a solution, but it can help.

SENATOR LaROSSA: But all of these things are all partial, but if everything accounts for 10 percent-- You get 10 things that account for 10 percent, then, all of a sudden, instead of some massive undertaking, all of these things contribute to an ultimate solution. They are practical, and they are doable.

Kathy.

COUNCILWOMAN WOLLERT: Thank you.

What I'm hearing is some very interesting discussion, but it all seems to boil down to one thing and that is money, in one aspect or another. I think, as far as a direction to take, it is obvious from hearing representatives of different governments in the county that we need a county program. Because, certainly, one township or city does not want to have negative impact

on the others within our county. I think it is very important that we are sensitive to those issues.

The other issue is, in my opinion, development. I don't think that is something that too many of us are going to be willing to really deal with in hard terms, because every community is looking for ratables. Unfortunately, the building of a bigger ratable base in a town involves development. Development, in this particular area, generally involves problems with water runoff.

We happen to be living in a low-lying area of the State where we have areas, particularly in Ewing, that are on floodplains. Trenton has areas that are on the floodplain, as I'm sure Lawrence, and so forth -- Hamilton -- does also. When you develop these areas, and this is only my opinion, but from what I've seen, you put in certain things: retention basins, detention basins, drainage. They don't always work to the point that they should, particularly in major floods or major downpours as we had in June.

While that was the exception, I know Ewing, for years -- I've lived there many years, and we get a lot of flooding. I know the Mulberry Street section of Trenton has, traditionally, gotten that same sort of flooding, if not worse.

Again, it is a matter of development and paving over of these areas that really are not suited for it. We don't have proper drainage. We need to expand that. I think it has to be expanded on a county level. Certainly, the towns are not all able to do this.

I know, as Al pointed out, Ewing is going to have a very difficult time. We can't fund this entirely on our own. We certainly need State help,

Federal help. I think it is much more productive to do it at that point in time than to apply for Federal assistance or State assistance to alleviate damages done to our towns after the fact of the building being done. I just can't emphasize that enough.

I think that Gwen hit a good point and I think, also, Clark when he said that there are properties that, probably, should be taken back because there is no really good way to alleviate the flooding in those areas. It also serves to create a flooding problem in other areas. It just pushes it off. I think you can see that if you go around this county at times of flooding situations.

Again, it really comes to dollars, because the taxes are important to maintain a good base. Also, the dollars for preventing this type of thing, as Clark said, are nonexistent, at his Department at any rate.

So I would appeal to those people who are in State government and the Federal government to take that message back to the necessary authorities to appeal for help. I would also appeal to the towns and townships, perhaps, to be a little bit more stringent in their granting of building permits.

Again, it's a tough call to make, because you need and you really depend on those taxes, but I think you're putting yourselves in a double-jeopardy situation when you allow building in areas that really should not be built upon.

Thank you.

SENATOR LaROSSA: Thank you.

Let me go to the end of the table, and then, come across here. (indicating) What I'm doing is coming up to Barry, and then, we'll come across.

MR. GUHL: I just don't want people to get carried away on the value of desnagging. Desnagging, actually, upstream turns out to be, I guess, kind of an artificial detention for downstream flooding.

When I watch water cascading over the Shabakunk into the Lawrence Shopping Center, and I hear about the fact that, because of snagging upstream, the water level is two or three feet higher, let's say, at Parkside and Olden Avenue, what we know is, if we do the desnagging, that means that increases the capacity for water to flow downstream where we already have flooding. So I don't want anybody to conclude that desnagging is any consequential solution to this problem.

The real problem is, of course, that the predecessors of people who are sitting here today have, in their communities, allowed development to occur in places which are within the 100-year flood line, or the 50 year, or the 25 year. I have to say, when the June 12th event occurred, very predictably -- you know, it was a 100-year storm-- We looked at the 100-year flood line and, son of a gun, all the houses that were within the 100-year flood line had flooding.

So it isn't-- There is nothing artificial happening here. This is predictable. Absent of a solution which provides, I guess, upstream detention capacity or some way to channelize the flow so that it doesn't penetrate in the areas that are built upon, we're reduced to being faced with this problem repetitively. I don't know if there is enough money from any source to provide the amount of detention capacity that would be necessary.

When I look at the flow levels that are running into Colonial Lake, for example, when trees the size of these pillars (indicating) are carried along

like so many toothpicks, I recognize that it is going to take an enormous amount of detention or retention upstream in order to minimize the amount of flow that is going down the Shabakunk. I don't know if people with the DEP or the Army Corps have solutions to that problem, but that is the sum and substance of it, at least, from where we're sitting in Lawrence Township.

As to current development, I can only speak for Lawrence, but I know that our lien development ordinance is such that-- Well, first off, you can't develop inside the 100-year flood line. But, in addition, you can't do a development which doesn't reduce the amount of flow off-site as compared to the current drainage on the site.

So, if anything, it seems to me that future development ought to minimally, probably, help with the problem, assuming that everybody is using the same standards in terms of detention and retention on-site in their ongoing development.

I don't want us to lose the desnagging issue as though-- I heard Rich Buck pursuing it as doggedly as though, you know, "Gee, we're only a little ways away."

Senator, I heard you say, "Gee, 10 percent, 10 percent, 10 percent." I wouldn't want anybody -- and I'm sure the DEP people can speak far more intelligently on this issue-- But I wouldn't want anybody to conclude that desnagging presents a 10 percent solution to the problem downstream, because I am quite confident that it doesn't.

MR. STEM: Senator, one comment. The selective bridge replacement -- although, when Thurston Avenue was brought up, I thought the problem there was more of backwater from Pennington Road, but--

How do we get around the fact that by removing selected bridges we're increasing the flood elevation downstream significantly, and under current regulations that puts us in a very difficult situation? We would have to actually have legislation or jump through, I don't know, I think an act of God, I guess, to remove an encroachment that was going to increase downstream flooding.

SENATOR LaROSSA: Bill, before you answer that, let me inject one thing here. If there is in part of this Summit today a need for, at least, State legislation for, on a permissive basis, to allow things to take place where your hands are being tied in terms of being able to do certain things, let me know what that is. We will draft that, run it by you specifically to see if it makes sense and it addresses that particular issue, so that we untie your hands.

Sometimes, we are our own worst enemies in that we want to pass a well-intended regulation which, in turn, creates a bigger problem, because we have now created a bottleneck where some logical activity can't take place. So let me inject that, and I will know to do that.

MR. MANGERI: From analysis of the current legislation and authorities that have been around in State government and county and local, in the regulations, part of the problem is that we've taken piecemeal approaches to natural hazards. We have legislation for erosion. We have legislation for floodplain. It's funded on a here-and-there basis. There is not an integrated approach. There is something called a State Hazard Mitigation Plan. There is an analysis of hazards, risk, and vulnerabilities in the State.

Now, what is needed is the coordinated approach of the Office of Statewide Planning, the DEP, Emergency Management, Transportation,

Community Affairs for Housing and Standards, and the UCC issues. That is maturing now, but, again, there is no integrated funding systems to look at projects, look at vulnerabilities and say, "You know what, Tom, you're right. You really do have a problem. You really do have an issue. You have a responsibility, here is assistance toward that responsibility."

With the exception of planning issues, there is nothing, as far as funding, for the general concern of natural hazards, or what we call integrated hazard management. There is a little bit for this and a little bit for that and a little bit for this, but no overall approach.

Emergency Management strongly advocates, now that there is a State Mitigation Team, a State Mitigation Program, and a new Federal emphasis called the National Mitigation Strategy where the Federal government is saying, "Hey, everything from housing codes to disaster relief now must be evaluated against risk management and how to reduce risk and vulnerability in the future" -- there needs to be that type of restatement or reemphasis in legislation.

SENATOR LaROSSA: All right.

I will ask the transcribers from OLS that that last statement, somehow, be notated so I can move on that and capture what you said, because that, obviously, is a need that we need to address.

I'm sorry you had a-- Just identify yourself for the transcribers.

MR. JACOBUS: Steve Jacobus. I'm with Stream Encroachment.

What Dave was referring to was, the stream encroachment rules were revised in 1995. Predominantly, they are looking at minimizing increases to flooding in the areas. In bridge replacements, we became more strict and

required that if it is a replacement bridge you can't raise the upstream water surface by any level, and if you're opening up the bridge, you, basically, can't allow it to increase flooding downstream.

However, in the context of a flood-control project, I think we're flexible enough where we can look at it and work with you on that.

UNIDENTIFIED MEMBER OF PANEL: Write that down.

SENATOR LaROSSA: Yes. The pens are working furiously right now. (laughter)

Yes.

MR. STEM: Senator, what it would mean is, and correct me if I am wrong, Steve, it would require us to actually go out and secure easements from every place downstream where we are actually raising the water level, otherwise be subject to--

MR. JACOBUS: The main intention was that we had a lot of places and projects where, to solve the upstream flooding -- which was being five or six feet upstream of the bridge -- they were opening up the bridge and just letting all that water go down. So we ended up that the next bridge downstream got the five or six feet of water.

The way Stream Encroachment deals with-- We deal with it on a case-by-case basis. So we have to really evaluate everything as if that is the only thing being done. If we are looking at it on a comprehensive basis and looking at what the impacts are downstream-- Even if there are impacts downstream, if there are no buildings or houses that are being impacted by it, we're flexible enough where we can let that go on the basis of the intent of the project.

SENATOR LaROSSA: Barry.

MR. HOGAN: Senator, back to desnagging.

It may not be favorable upstream, but I believe downstream it would be very favorable to the City of Trenton, as we would like to have the Assunpink run into the Delaware as fast as possible so we could take more water from upstream.

About three or four years ago, the State had a program called Clean Shores, where they supplied inmates to municipalities to go in and pull out trees, limbs, and things out of the streams, especially the Assunpink. The City would provide Dumpsters and heavy equipment, and the State would pick up the cost of disposal and supply the inmates. It was very successful. I don't know why it stopped. I assume it has run out of money, the case may be, but maybe we need to look at that program to assist us.

Through our own engineers, we understand by desnagging the stream, it may reduce the level from six inches to a foot, at best. Though that is not very impressive, on a marginal flood that may be helpful. So maybe we should consider that.

SENATOR LaROSSA: Okay.

Go ahead.

MR. GUHL: I just wanted to make sure everybody understood that we should be looking for solutions which are not a sum zero game, where the remedial actions upstream result in additional flooding downstream.

SENATOR LaROSSA: Right. That is what--

MR. GUHL: Particularly since we're downstream--

SENATOR LaROSSA: Right.

MR. GUHL: --we have a-- If I were sitting where Mayor Bridges is sitting right now-- I'm sure he is empathetic, but given the order of magnitude of his problem, I'm sure he is looking to do anything to rid Ewing of its problems.

I just want to make sure that everybody understands that there may be remedial actions which help Ewing Township which are to the detriment-- If this were to create higher water in areas in which there was not going to be building damage downstream, we probably would be very sympathetic. But to the extent that our property owners are already suffering, solutions which only push the bump under the blanket from Ewing to Lawrence, we're not going to look too kindly upon, and looking for law changes that will allow that to happen, obviously, is not something that we would be particularly supportive of, as well.

Thank you.

SENATOR LaROSSA: All right.

That is one of the things I had mentioned from the very beginning. That is why this is a regional Flood Summit not, if you will, singular in nature, because the solution in one place that causes a bigger problem some place else isn't a solution.

Lou, I'm sorry. Go ahead.

MR. RAYMOND: I have a bunch of photographs here -- we're talking about this desnagging -- they must be maybe six years old, approximately. We had some of our members walk the Shabakunk from Colonial Lake all the way up through Lawrence/Ewing Townships. The only time the stream really seems to get cleared out is during the heavy rains and

when we have flooding. Then, it all ends up abutting against the bridges and causing more flooding.

But I bet you if you walk that same stream right now, you would still find most of that debris lying in the stream. This stuff was turned into the Water Watch Group, which is in conjunction with the DEP somewhere along the line, and they were supposed to send Enforcement people out to try and find corrections for this or make people clean up their own little area.

I think if we walked through this stream and got the people whose backyards abutted up against this -- businesses, I'm talking about -- where they just use it as a dump, throw it down the hill-- If we made each person clean up their own little bit, like cleaning your sidewalk and your front porch, we would have a nice, clean stream where we wouldn't have this stuff piling up against the bridges making little minidams every time it rains.

SENATOR LaROSSA: It brings up one other question, because something about the desnagging in the streams, the clearing out, and so on-- Now, I'm hearing something--

Something I'm not hearing today, which I have heard in the past, and that is: Who has the right or permission, if you will, to actually go into the stream and clean it out? Now, whose responsibility is it? I mean, maybe that is the wrong question to ask.

UNIDENTIFIED MEMBER OF PANEL: No, that is the right question.

SENATOR LaROSSA: Is that the right question to ask? All right.

Whose responsibility is it? Granted, if there is debris being thrown, which is violation of an ordinance or something, if it can be tracked, obviously, those people should be held accountable for whatever they're doing.

Correct me if I am wrong, I have been told -- Tom, you might have been the one who straightened me out on this -- that, even though we may want to go in and clean the streams, the portion of the stream that is behind a piece of property is the responsibility of the property owner. Is that correct?

So is it safe to say that you -- whoever the you is -- would have to get some kind of permission, for lack of a better choice of words, from the property owner before you could actually go in there with the orange suits or a piece of equipment to clean that out?

Is that an accurate statement, anybody?

MR. GILMAN: That is correct.

MR. WALTERS: May I respond to that, Senator?

Senator, if I may, I would like to respond to that to some degree, and it is almost on the basis of reluctance, because I'm almost afraid to share with my colleague in Lawrence what we have initiated in Ewing.

We have begun, since the floods -- and we did this previously-- We did it back in '87.

By the way, let me just step back a second. I think three main issues we're dealing with here, obviously, are: funding, planning, and regulation. Back in '87, when Ewing attempted to go into their creeks and do an extensive cleaning, we found that we were violating certain regulations. The DEP let us know in no uncertain terms that we were doing so and disallowed us to continue to do what we were attempting to do.

This past flood, we initiated that program again. We are doing an extensive cleanup program. I readily admit it is difficult on our resources. It is difficult on manpower, and there are some costs associated with it, there is no doubt about it. But we felt the urgency, and we felt that it was necessary to do so. We have even utilized, with the help of the county -- the prison officers -- to do some work for us in the streams. So a lot of the comments that are coming out here, we have initiated in Ewing Township.

I'm not so sure what the effect is going to be downstream; although, we have had a walk-through, in conjunction with our Mayor, with DEP officials. We have walked the entire Shabakunk. We have had visual inspection by officials from DEP. They have submitted to us a set of regulations. They have submitted to us a set of standards to be used for certain permits, some of which are a little bit more lenient, some of which are a little more restrictive in terms of what you want to do with the creek.

We have found that the general cleanup, based on the conditions we have faced with the flooding and the storms we had, are permissible. When I say the basic cleanup, I'm talking about tree removal, shopping cart removal, deterrents such as that.

When it comes down to bridge reconstruction and larger issues such as that, as well as stream adjustment, if you will-- I'll use the word adjustment for want of a better word. In stream adjustment or channelization, the permits become much more regulatory and become much more difficult to obtain. We are still seeking to be able to do that.

I believe the Army Corps of Engineers' study has indicated that channelization was part of what they were going to suggest be done, as well as

some bridge removal. The effect is absolutely correct. My colleague, Bill Guhl, admits and says very clearly that it probably will have an effect downstream, but as the Senator has indicated, that all has to be controlled somehow when this thing is ultimately done, when it is completed.

But in the meantime, we have started that. We have gone through the process. We are probably more educated than any other community here in terms of what you have to do for permits, how you have to obtain them, and what you can and cannot do. But I have to tell you, we are in the process, at this very time, as I speak, cleaning creeks -- cleaning the west branch of the Shabakunk.

We have requested that the county take immediate action on the Thurston Avenue Bridge. They have begun that process, but they, again, were concerned about what we could do with the actual structure. We can remove the top of the bridge. We can create a walking path over it, but what can we do with the structure, and what effects will it have? That has been somewhat of a roadblock. I am encouraged to hear some comments here today from DEP officials that that may not be a deterrent, or at least as large and substantial a deterrent as we thought it would be.

If we can continue to move on that in the direction that we are, as quickly as we are, I think we can make it work for us, and taking into consideration--

Bill, you know we share all good things with Lawrence, as well as bad. If we have to share some more water with you, we may have to do that.

But, having said that, I think we are moving correctly, and I think we are moving and progressing.

Senator, I think the other thing we have to consider here today, as well as some of these issues that are important to all of us, is the overall game plan. Are we going to be able to establish some plan that is acceptable to all of us? Are we going to be able to, somewhere along the line, have funding available to us? Number three, are we, somewhere along the line, going to be able to make some adjustments in the regulations that we have now, because they do seem to be somewhat of a deterrent?

SENATOR LaROSSA: Fred, I'll just inject a conversation I had with a mayor almost a year ago regarding putting the urban bill together which was recently signed by the Governor.

I asked him, "If I gave you a check tomorrow to do everything you wanted to do, how long would it take you to get started?" His answer was, "I have no idea." I said, "Why do you have no idea?" He said, "We don't have a plan."

I think that, fundamentally, is the difficulty. I mean, how high is up? You can't go after funding unless you know what the plan is in the first place. If there is some marginal agreement, at worst or at best, as to what it is we need to try to accomplish--

So I think I will make a suggestion. First off, what Ewing has done is, you've gotten the Army Corps involved. A letter was handed to me-- Also, there apparently are cost-sharing ratios for projects undertaken by the Army Corps which are mandated by law. I would respectfully suggest -- forgive me if it has already taken place, but I don't know, so that is why I make the suggestion -- that both the officials from Trenton, as well as Lawrence, perhaps

meet with Ewing in terms of what process they followed to be able to get some of that Army Corps participation.

Again, if there is a percentage the Army Corps can pick up here, a percentage that can be picked up in Lawrence, a percentage that can be picked up in Ewing-- The fact that there are Federal regulations coming out of FEMA which may provide a major funding source for some of these projects which appear imminent, based on regs being adopted, I think that is one thing to proceed on, so everybody is kind of working on the same page. I think it is critical that everybody is on the same page.

MAYOR BRIDGES: Senator, if I may, one point that has to be made clear--

We do appreciate the offer that was made by Congressman Smith. Even though Ewing is not in his district anymore, we continue to use the good services of his office, as well as Congressman Zimmer and our State Senators.

It was reported to us that there is no guarantee that the matching money from the Feds, from the Army Corps, is going to be available. Some years ago, it was \$6.1 million. Probably, there is some increase in that cost right now. Whatever it may be, it is clear that we are going to need the support of our Federal representatives to make sure that Ewing does receive that matching point, whether or not there is participation by the State and assuming we move along to reduce the problem.

I just wanted to make that point very clear, because it was made clear to us by the Army Corps' representatives.

SENATOR LaROSSA: Good.

Don and then--

COUNCILMAN APAI: For the tape, Don Apai.

Three questions. Number one, to the county, how quickly are we going to solve the Thurston Avenue Bridge problem? Secondly, I was listening to Mr. Hogan talk about the use of the prisoners in the past for the stream clean out. It sounds from Mr. Betz that there certainly is a need down there for the Assunpink, which is the lower level, problems to get resolved.

Maybe, Dick, this is for you. Maybe you ought to look into finding out what happened to that program and getting that program going again.

The third question is: You had suggested something about retention basins up there near the vocational school -- a lake or something near Route 95, whatever the situation is -- how far have you gotten in that program? Is that part of the solution? Is that something that is doable?

SENATOR LaROSSA: That is one of the questions, hopefully, we want to, at least, get answered. As I said, I don't want to know what can't be done. I want to know what can be done.

Al. Then, I'll come back and answer your questions.

MR. BRENNER: Thank you, Senator.

Al Brenner, New Jersey DOT. We're not going to offer any money, so I just wanted to say that. (laughter)

What I would like to offer is a suggestion to develop a plan. I think that is a priority, because we already know that, okay, money is pretty tough right now, so let's concentrate on the plan. I agree with some of the things the Senator stated as far as retention basins.

I think a good way to expose good ideas is through something called value engineering. DOT implements this when we have a real serious problem, something that has been plaguing us for years, and we want to resolve it. This fits right into the mold.

Basically, you get a group of people together, and believe me, you don't have to be an engineer to be in value engineering. That is the great part about it. It would be Ewing Township, Lawrence Township, Trenton, the DEP; it could be anyone. It could be home owners. It could be other officials.

But, basically, in three days a group of people would study this problem, and they would dig up as much information as they could. They would come up with some wacky ideas, and sometimes, those are the best. I agree with the Senator.

I have a few wacky ideas about Gold Run Creek, and maybe we can discuss those later.

But I highly recommend value engineering. I think, number one, it would be a great way to get everybody together. Number two, everybody would know what everyone else is thinking. One of the rules in value engineering is never say, "No," and never say, "That is a bad idea." So everybody gets to voice their opinion. Everybody's ideas would be heard, and in three days, I think, some kind of a solution or some kind of plan could be adopted.

Usually, when we come out of a three-day course, we usually have sketches. We have cost estimates. We have life cycle cost estimates. We have other drawings and plans that either we prepare or have already existed. I think this would be--

Again, reinforced, this would be a perfect opportunity to have something like this performed.

SENATOR LaROSSA: Did you volunteer?

MR. BRENNER: Yes. I always volunteer.

SENATOR LaROSSA: Okay.

I'm going to come back to you on that, because I think, obviously, with a body this large, to get everything out on the table and have some of these ideas flow is important. But I think there is going to be a second and a third step beyond this, which, again, is to pull all of this together, answer questions, such as Don just raised, address the personnel that may be available, the funding issues, and so on, and have a coordinated plan.

I think we're uncovering, if you will, turning over a lot of rocks. No pun intended.

MR. MANGERI: I just wanted to point one thing out that the gentleman from DOT reminded me of, and that is that these types of workshops are very important. What he just described is what we call mitigation strategy and development.

SENATOR LaROSSA: You just volunteered, Tony.

MR. MANGERI: And he volunteered.

What we call mitigation, DOT calls design. Planners call it something different. We all look at things and use terminology. One of the benefits of getting together and developing an overall strategy at the local level, with cooperation of local, county, and State-- No one is an island unto themselves. No discipline of expertise is an island unto itself.

Bringing people together, looking at it from a multidiscipline, multiagency approach, and developing creative solutions, then, looking at the Federal funding sources-- So that if funds are not available that doesn't mean that it is not a good strategy, it just means that we have a road to go down. We just have to find the funding and assistance to go with it.

SENATOR LaROSSA: What I would like to do is to come up with a little discussion on some of the-- So far, I think, the one issue that has been raised that everybody seems to be in agreement of, some marginal, at best, solution is the desnagging.

But some of the other things which we have mentioned on a very peripheral basis-- Something that was mentioned at the very beginning of this is the -- and, I think, Kathy, you mentioned it and Bill Guhl, also, with regard to the amount of development, and with development comes a certain requirement in terms of detention basins, handling runoff. Obviously, if there was no runoff and everything stayed inside bounds, that would take care of a major issue.

Is there any program that exists in State government, local, whatever it is, where anybody actually goes out and takes a look to find out whether or not the number of retaining basins are:

In the right place; whether there are enough of them; whether they are the right size; and, in fact, whether or not those retaining basins are clear?

I'll give you one specific example, for those of you who are local to the area. There is a new development on Ewingville Road -- I forget what the name of it is, but it is right on the bend across from, I guess, Club 88 -- and there is a retaining basin which is at the bottom of a hill right next to that

particular branch of the Shabakunk. When that fills, which doesn't take a heck of a lot, it spills out of the basin into the stream, and you're right back where you started from. It strikes me as very odd that the pipes that feed into that are at ground level, rather than having any kind of depth to that particular body.

So is there any kind of a regulation? Is there any kind of a program? I mean, you talk about inspections-- Before you can solve a problem, you have to know it exists. Before you can desnag, you need to know where the snag is. If you need a basin, is there any program or any regulation?

How are these retaining basins inspected, if, in fact, they are inspected? I would suspect that the DEP would be able to answer that.

MR. GILMAN: There is a State storm water management law. It is actually part of the municipal land use law. It makes storm water management, primarily, a local issue.

The State of New Jersey provides the regulations and guidance. There was some initial funding to do regional studies which dried up years ago. But the bottom line is that storm water management is a local matter. Local communities have been, over the years, encouraged to adopt storm water management regulations and regional planning was encouraged.

But the interesting thing about the State law is that it says that storm water management planning, which is supposed to be done at the local level, is supposed to be paid for by the State. The State is actually supposed to-- The law says that whenever a municipal land use plan comes up for renewal, which is every five to seven years, the local government is supposed

to incorporate storm water management regulations, but the State of New Jersey is supposed to pay for 90 percent of that cost. It is a 90/10 deal.

But the initial amount of money-- In the original law, there was really no money appropriated. We stole \$2 million out of a bond act, and we split that.

SENATOR LaROSSA: That did happen before I got elected, right? (laughter)

MR. GILMAN: Yes. This goes back at least-- This goes back about 10 years.

But if you check the law, you will find -- it is under the municipal land use law -- it does talk about local administration of storm water management, but the planning is supposed to be paid for by the State.

Of course, the money-- We originally stole \$2 million, half of which we used to encourage local governments to adopt storm water management regulations, and the other half we divvied up for management plans.

Now, what happened there was the management plans got all messed up, because, about the same time, we passed the Freshwater Wetlands Act.

If you want storm water management -- and these are the problems, Dick-- If you are going to build regional detention facilities, where you build them is usually in a freshwater wetlands area. Freshwater wetland regulations prohibit it.

So we spent \$1 million doing regional storm water management plans 10 years ago that really never got very far, because they conflicted with our own regulations in terms of freshwater wetlands.

Another thing I wanted to point out, too, just to back up what Mayor Bridges said: Officially, the Corps of Engineers and the SCS, who have been our flood control people for years and years and years-- According to the executive branch, the President's direct orders, the Federal government is not to get involved or fund local protection projects or flood control any longer.

So, in all honesty, this is true not only of flood control, but shore protection. The New Jersey congressional delegation has been, actually, putting money back in the Federal budget -- the Corps' budget, in particular -- for flood control and for shore protection, because, officially, the President of the United States has told the Corps of Engineers -- and you know there is a Colonel in charge of every district, he reports to the President, that is his commander-- Officially, the Corps doesn't have any money for any of these things, not even for additional studies.

SENATOR LaROSSA: Didn't we-- Forgive me.

You talked about storm water management.

MR. GILMAN: Yes.

SENATOR LaROSSA: Wasn't that part of a recent bond issue or not? We just did some kind of--

MR. GILMAN: No, we had-- There was a total of \$30 million in that last bond issue for Blue Acres. That is for acquisition of land. There is \$15 million for the acquisition of coastal properties and \$15 million for acquisition of flood-damaged properties in the Passaic River Basin.

SENATOR LaROSSA: I think, in refreshing my own memory, just realized what happens.

Hannah, if you will double-check this for me? (speaking to Committee Aide)

I believe that on almost an annual basis, what the Legislature has done recently is that there is a storm water management-- There is, I think it's the Water Supply Authority -- forgive me for not having the right agency -- but whoever it is that manages the storm water projects has a cap on their bonding capacity. I believe that in each of the last several years that that cap has been raised-- It hasn't been raised. There has been emergency legislation with them that allowed bonding beyond the cap, rather than raising the cap, but I think that happened again this year.

So I think there probably is storm water bonding money available, because I seem to remember that we have raised that cap every year for the last several years, and not knowing that that is part of might contribute, if you will, to funding part of this particular solution.

But, Hannah, would you double-check that? I think we did that as part of the Appropriations Act or a separate bill prior to the end of the summer -- before we broke for the summer.

MR. GILMAN: Storm water management is still handled by the DEP. There is a State program, but I'm not sure even who is in charge of it anymore. I was originally in charge of it, but it has been about 10 years.

SENATOR LaROSSA: Yes, but I seem to remember -- forgive me, it's not fresh in my mind -- that there was a cap or a capacity in terms of storm water projects, and that because there are so many projects in the pipeline it

is a very convoluted process. As the commitments were made, then, we had to go back and authorize the bonding after the commitments were made only because-- But I think there is funding in that pipeline.

Come over here (indicating) and then, we'll come back.

MR. AMON: Senator, I'm Jim Amon from the *D* and *R* Canal Commission.

The Canal Commission was given authority to administer a land use regulatory program that would protect the canal from flooding, amongst other forms of potential intrusion as a result of new development. Consequently, the Canal Commission administers a storm water management regulatory program within all of the watersheds of all of the streams that contribute -- that have a hydrologic connection -- to the canal park.

The Assunpink Creek does not. We have no record of the Assunpink Creek ever, in history, flooding into the *D* and *R* Canal. So we do not enforce our regulations in the Assunpink Creek Watershed. But our regulatory program covers, I believe, all of Ewing Township, almost all of Lawrence Township, and a significant portion of Trenton.

The problem is that our regulations affect only new development. We cannot require any existing development -- any developments that existed prior to 1980 when our regulations became effective -- to do any retroactive storm water management programs.

But any project, within that review zone area, which encompasses at least an acre of new impervious surface, has to have a regulatory program that retains the two-, the ten-, and the hundred-year storms, so that the rate

that the water leaves the site after development does not exceed the rate that it is leaving the site prior to development.

You asked about enforcement to make sure that these regulations -- or the basins that are built are built in accordance with what we have approved, and I'm afraid I'm going to have to fall back on something that has come up again and again. We don't have the funding to do the inspections that really ought to be done. We have done some analysis in the Millstone Valley, and our analyses led us to conclude that our storm water regulatory program has lessened the severity of flooding in the Millstone Valley.

There are a lot of factors involved in flooding, so it is a little hard to pound our chests and say that our regulations are solely responsible, but the severity of flooding from similar-sized storms prior to the institution of our regulations was worse than it is now.

SENATOR LaROSSA: A question: Are there floodgates or, I don't know, locks or something on the canal that help control flooding in the canal? How do I explain this? I know where the canal, basically, runs. You say there is an impact with the Shabakunk coming into the canal?

MR. AMON: It flows underneath it, so we regulate it for flood control.

SENATOR LaROSSA: The Shabakunk flows under the *D* and *R*?

MR. AMON: Yes.

SENATOR LaROSSA: It does not flow into the *D* and *R*?

MR. AMON: No, it doesn't.

SENATOR LaROSSA: Is there any impact relative to the region that we're talking about with regard to the amount of runoff? What about the

converse? Is there runoff from the canal into those streams? I mean, of conversely? Do you have a way of lowering the water table and releasing water in the canal?

MR. AMON: I would like to answer your question by doing what has been so highly criticized this morning, and that is by pointing to somebody else. (laughter)

The canal is managed as a water supply system by the New Jersey Water Supply Authority. So they do an extensive amount of work in controlling gates and managing overflows and spillways to prevent excess water in the canal.

Tom Baxter, the Executive Director of the Water Supply Authority, can give you a much more specific and informed answer than I can to that question.

SENATOR LaROSSA: I'll come to Tom in a second.

I just want to acknowledge Councilman Gino Melone and Councilman Frank Cirillo from the City of Trenton East Ward and Council At Large.

Thank you for joining us this morning.

Tom, would you like to respond to that?

MR. BAXTER: I guess before I do, I would like to acknowledge as part of this what Charlie Betz said. He made a comment that this area has been flooding since the 1800s.

The designers of the canal we find, as we get smarter, understood this, perhaps, better than some of the engineers of today do. They recognized that there was flooding. They provided structures to carry the flooding

underneath the canal in a number of locations. Gold Run is one of those. The Shabakunk flows underneath after it comes out of Colonial Lake. There are, I guess, two places where the Shipetaukin goes underneath the canal, as well.

We find, in a recent incident, that, perhaps, the capacity of those conduits might be greater than some of the bridges that are downstream and have had a problem. They also, I think, recognized that when they operated the canal with locks, which permitted the flow, they constructed passive devices. Passive devices are side overflow weirs. There are a number of those. There is one at Cherry Tree Lane which allows excess flows in the canal, coming from the City of Trenton, to flow into the Assunpink.

Most of those storm drains that come in from the City of Trenton come into what is now the Trenton conduit. There is a place where the *D* and *R* Canal goes underneath Route 1 for a long stretch. That structure is owned by DOT and was constructed in the '50s when the canal was converted to a water supply.

Similarly, all of the locks on the canal, in the '50s, were converted from locks, which permitted barge traffic, to flow-control structures, which permitted the management of the water for the purposes of water supply. For those who don't know, the canal is a direct water supply for approximately 500,000 people, directly and indirectly for, perhaps, as many as 1,250,000 people. Some of that water even comes back down to Lawrence Township, believe it or not. It comes back down that far.

So there are active structures. We have people who operate those active structures. We have passive structures, which were constructed by the original designers of the canal, because they knew that if not in all cases -- their

travel and transportation then being by mule or horseback -- they would not be able to operate these things on an active basis. They did construct these passive structures. One of those is at Gold Run. There are others up in the northern part of the county near the County Workhouse. There is one there, as well.

They were there because the designers recognized that there was flooding into the canal, and there was a need to do something with that flooding and do it on a basis which did not require an individual to go someplace and do something.

SENATOR LaROSSA: The question is: Does the canal ever flood? Does it overflow?

MR. BAXTER: Oh, yes. The canal floods.

SENATOR LaROSSA: Then, how do you accommodate that? Is that-- I'm looking for anything that-- As I said, this is part of the 10 percent or the 5 percent or whatever.

MR. BAXTER: There, on incidents like June 12th, are overtoppings of the canal at Gold Run and at Cherry Tree Lane. Those things happen. They were designed to happen. There was another one, because of some things we have done to minimize flooding in Gold Run, that happened just downstream of Gold Run. That happened because there was, in the area of the Trenton County Club, perhaps, as much as 10 inches of rain that fell in four hours.

We heard a 100-year storm mentioned earlier. In the Gold Run Basin, there are people who speculate that that was as much as a 200-year

flood. Nobody designs for a 200-year flood, unfortunately. Should that occur again, the flooding will be the same as it was before.

But in the area of Abernathy Drive, because of the rate of flow that came off of the Trenton Country Club, the canal did overflow. It overtopped. There was some movement of soil into the backyards of the people who live along Abernathy Drive, and very nearly, had it been a little bit worse, had our people not been on the job, we would have lost the canal there, and we would have lost the water supply for the central part of the State of New Jersey.

We have not had many overtoppings in the six years I have been there. The only other place that I can recall where there is a mixing of water occurs is in the area of Alexander Road in the Millstone Basin, which is not what we're talking about, and, of course, in the Lower Raritan, anytime we have an event say, like the one that occurred in January, it is not possible to tell where the Raritan River begins and the canal ends. They become one body of water.

In the area where we are concerned, in Mercer County, there are seldom overtoppings of the canal.

SENATOR LaROSSA: When it gets to that point, does it just overflow or are there things that you can open to allow the water level to drop, such as going down closer to, I guess, the river?

MR. BAXTER: Yes. To be more specific, we have constructed and enlarged a release facility at Perdicaris Place. That is something that we operate. We have also constructed enlarged release gates in the area of Scudders Falls.

In recent years, recognizing that that, perhaps, was not adequate to manage the additional amounts of rain -- and I think that we are seeing additional amounts of runoff that, perhaps, the original designers of the canal did not anticipate -- we constructed additional passive structures by lowering the canal towpath in the area of Washington Crossing to Scudders Falls to permit these overtoppings in a designed location where there was protection, so the canal embankment would not fail, and the water supply would not be lost.

SENATOR LaROSSA: Thanks, Tom.

MR. BAXTER: If I could, Senator, there is one thing that can't be lost, and probably part of the reason why we're here, because our purview is more of water supply than it is flood control, there are some significant water quality aspects that arise from all of these runoffs that arrive in the canal. Not so true in the areas where water flows underneath the canal, but with a lot of these smaller creeks that do have access, the storm drains from the City of Trenton, we do have concerns and those events with water quality, as well.

SENATOR LaROSSA: Thank you.

I'm going to go back to something that Jim Amon said a little while ago. He is not here, but he talked about the retaining basins that the Canal Commission has in, I guess, the Mercer County area.

You said, there is no provision, there is no entity, there is no body to inspect or evaluate that basins actually exist and they are where they are supposed to be and at the depth they are supposed to occur?

MR. STEM: Senator?

SENATOR LaROSSA: Yes.

MR. STEM: The basins are a requirement of the local development in either the site plan or subdivision development, and they are, basically, the responsibility of the municipality for they are an integral part of the improvements. So they would have the basic responsibility for inspection during construction, like any other improvement.

SENATOR LaROSSA: Okay.

Forgive me, this is one of the few times that, it would seem to me, if you're looking at the impact, regional approaches, and so on-- Do we need to -- I hate to even suggest this -- somehow standardize size and capacity of these basins? I'm sorry, if we have the amount of development that is going on and there is no place for the water to go, it is called a flood, I think, to really put it in layman's terms. It seems to me that one of the things to do is to find some way to hold it.

Correct me if I'm wrong, but one of the ways to hold it for development has been the basins. But somebody had to adopt -- and forgive me for my short tenure -- the regulations and say, "You're going to put retaining basins in." Now, was it a regulation or a statute?

MR. JACOBUS: Basically, with-- The latest thinking we have on it now, to go back to what Clark was talking about before with the storm water management regulations, that is now being worked on by the Office of Land and Water Planning in the DEP. I have been working with them for the last couple of years to revise the storm water management regs.

One of the areas that we are trying to really develop here is the concept of regional planning, where we get, basically, everyone -- the

municipalities, the counties, and even the builders -- involved in looking at the area, seeing where the problem areas are.

One of the things that I get off here-- The old concept always was build a regional detention basin somewhere to hold all the water. One of the other options that we have is to look at the area. It probably would work better in undeveloped areas, but instead of having one regional basin or having everybody require a basin, look at it from a regional approach, see where the problem areas are and actually schedule the water -- look at how the water goes in, and what areas--

There may be areas where we can get the water out faster so the river can handle it without exceeding its banks, hold it up in another area, so we can actually time the water as it comes down, and control what the levels are. But, again, this is wishful thinking because it does go back to a full regional approach and having everybody available to look at it from that standpoint and to amend their ordinances in that fashion.

Predominantly, what we have been trying to do is looking at it from a regulatory standpoint, like you said. In stream encroachment, we require that you detain the water and you actually hold back the rates of flows so we can control the volumes. That is the worst way to look at, since it is on a site-by-site basis, and it is not accounting for the regional point.

All the storm water management regulations that are coming out now are deeming to, if there is a regional approach, we will follow that approach. The way we're looking at that to go is to get all the municipalities involved. If we have areas that flood out, to leave them as undeveloped. Let them flood. Let them be the detention basins or the storage areas. Put more

controls over what the storm water runoff allowed is, and that would include areas that are out of the floodplain, because that is where the major contribution to storm water comes from.

It doesn't do much good if you do a study now, design all of your controls for a 100-year flood, and then, all of a sudden, you allow unlimited development, and all of a sudden, you have just doubled the volume of water that you have to hold.

But to go back to the storm water-- There are provisions and we have been rewriting the storm water management regs. There are provisions in there for funding. At the moment, we actually do have some funds set aside, but the regulations haven't caught up to the point where it is even proposed yet.

SENATOR LaROSSA: Forgive me for being a little hung up on this one area, because I am still flabbergasted that everybody is left to their own devices on this. Is there no pro forma formula which says how big, how wide, how deep, and where?

MR. JACOBUS: No.

MR. GILMAN: There have been storm water management regulations. I worked on them 10 years ago. As far as the design criteria, they have been available. Those regulations are currently being revised. But there have been State regulations that have been provided to local governments -- that was 10 years ago, at least -- that, basically, provide design criteria.

Now, these, again, are for an individual basis. They are not based on any kind of regional plan, but they tell you what kind of storms you should be designing for, for both quality and quantity.

SENATOR LaROSSA: Would I be--

MR. JACOBUS: One of the things that I have found out is, the old regulations were, basically, for detention basins, and you had to hold back the predisposed flow rates that came out of the basin. Unfortunately, what that didn't account for is the additional volumes.

So, while we were holding back the peaks, the peak flow rate out of the basin wasn't increasing, the volume of water coming out of that was actually increasing. So the latest that we going down to now and looking at, based on a few studies in Jersey, is reducing the peak flow rates out of the basin.

Currently, under stream encroachment, when you design a detention basin, you have to design it so that you are reducing the two-year flood rates by 50 percent of what it was preexisting, and the ten- and the hundred-year by 75 percent. Now, that is an attempt to account for the volume of water and allow the water to be held on site longer so the stream can handle it better.

SENATOR LaROSSA: I understand what you're saying, but let me ask the Lawrence, Trenton, and Ewing officials on this one. Is it appropriate or inappropriate for the local governing bodies -- because the last thing I want to do is, again, have the State come in heavy-handed and do whatever it is-- But is there some logic to having the municipalities themselves sit down and say, "What do we need? How big does this have to be? Where do they need to go?" And, if, in fact, we're looking at a regional solution, it would seem to me that everybody has to kind of be on the same page.

Is it something that, realistically -- and I'm not trying to be sarcastic, so please don't think that-- Is it realistic to expect each individual governing body to really coordinate with each other as to where these things go? Because Ewing does something and it affects Lawrence, Lawrence then affects Trenton. They want to clean out the flow under bridges.

Is it realistic to expect a joint adoption, if you will, as to where these basins should be, to come up with some kind of a criteria? Is that something that should be done in conjunction with the State? Should it be a regulation? Should it be a statute?

Because I'm at a little bit of a loss here. Again, it keeps coming back-- I keep hearing the same thing. You have to do something with the water, and so far, I haven't heard anybody talk about what you're going to do with the water, other than putting up a big tent and just allowing it to all go downstream and go directly into the Delaware. It seems to me it has to do with flow, and it has to do with holding it some place.

I mean, is it realistic, Bill, to pull something like that together?

MR. GUHL: Well, I'm not sure, to tell you the truth. As was said earlier, we examine-- Detention basins are built on an individual development basis, typically. We get a subdivision site plan. There is a calculation. We've already heard about what the calculation has to be.

I think I learned one thing today, and that is that just, on an individual development basis, having the water stay on-site so that the flow at the peak is lower, doesn't necessarily eliminate the possibility that there will be flooding, particularly, if all the basins aren't coordinated in a way. If you're

holding it back and then they're all releasing, on a delayed basis, at the same time, I can see where that would create flooding. It will just create it later.

As to whether there is a way for the municipalities, on an individual site plan basis, to, somehow, coordinate; I don't see how that is going to work. But somebody here is certainly free to enlighten me as to how it will.

SENATOR LaROSSA: Well, my only suggestion would be, to go back to something that was said earlier, the DOT euphemism was value engineering.

Clark, what was the DEP euphemism?

MR. GILMAN: That was mitigation planning.

SENATOR LaROSSA: Mitigation planning. Okay.

MR. GILMAN: Mitigation strategy.

SENATOR LaROSSA: Mitigation strategy. I love it. Okay.

But it would seem to me, Bill, if we can get part of this value engineering or mitigation strategy and get DOT, DEP, the local governing bodies, and, perhaps, the people who have the responsibility for the streams, either for management, maintenance, whatever it is, perhaps that coordination can take place. But it is never going to take place if everybody, again, tries to do it in isolation.

I think maybe you hit the nail on the head. As you said, I heard a little while ago, if everything rises at the same time, or releases at the same time, you have the same problem, it's just later. So if there is some coordinated effect where Trenton rises and releases it sooner, then Lawrence rises, releases it a little after Trenton does, and Ewing rises and releases it last,

so that the capacity downstream-- Maybe that is the kind of coordination. Maybe there is some way to do that.

I'm not an engineer, but it sounds to me like part of the value engineering, this mitigation strategy, which, in fact-- The basins of and by themselves are-- What I'm hearing you say is the basins are not the solution, it is how they are used and how they are coordinated is what the solution is.

Is that a fair comment to make? Is it, potentially, given that set of circumstances, part of a bigger solution? Is that fair?

MR. BRENNER: Yes.

SENATOR LaROSSA: You would agree with that?

MR. BRENNER: Yes.

SENATOR LaROSSA: These are the kinds of things we're trying to get through.

I do want to go back to one other thing which I didn't hear the answer to, and that was the responsibility for some of the stream cleanup, as well. I mentioned it as the individual land owners, property owners, and so on.

If, in fact, that is the case, is there a process in place that allows a governing body to go in and, not necessarily require it, but to get some of that cleanup done? How can you go in, if the property owners are not predisposed to do that? What devices do you have at your disposal to get that done?

Let's not worry about-- We could have the orange suits come in, have backhoes come in, but if you can't get there because somebody is stopping you from going in, that is something else. So before we ever get to that, how do you handle getting onto the property to desnag, or clean up, or whatever?

Fred.

MR. WALTERS: Senator, could I just add one more item to that? How do we repair? How do we make repairs to individual properties that have been devastated by the fact that actual backyards and land has been removed because of the flooding. Just add that to it. I would like to hear the answer myself.

SENATOR LaROSSA: Yes. I do know, for a fact, that one house on Bull Run Road -- and forgive me for it, I have to tell the story -- applied for a permit because there was a septic field that was being washed away as part of the Shabakunk. They couldn't get the permit, put riprap in to stop the field from being washed into a fresh running stream, and was fined \$3000 for stopping a septic field. This is the kind of--

MR. WALTERS: Just one more horror story, if I may, Senator.

Then, when permits cost individuals up to \$5000 to do any work on their particular properties, I believe is another hindrance.

SENATOR LaROSSA: Okay.

Greg, I'm sorry. I'm trying to--

COUNCILMAN PULITI: I just want to make one reminder. I think one solution that was mentioned earlier, and I hope the Chair will give it equal time later on this afternoon, is the 30-acre retention basin, because that seems to benefit everybody here at the table. I mean, all these ideas sound very well, but that seems to be like the one major solution that could possibly work for everybody and please everybody.

So I just hope that you will devote as much time to that solution as you have done with all of these others.

Thank you.

SENATOR LaROSSA: Absolutely.

Like I said, I want to build the lake. I want to deepen the retaining basins. I want to coordinate. The best of all worlds-- But, hopefully, by the time we get out of here today, if we don't have a specific plan in terms of what needs to be done, I think, we will have a specific plan as to who needs to be there and charged with responsibility to come up a plan to get it done.

Because, one of the things which, quite frankly, I'm very surprised at -- I think Clark said it before -- is there have been proposals on the table, but it doesn't strike me that there has ever been comprehensive, coordinated, regional approach on this, which is one of the reasons why it has never been solved. Everybody hasn't been together at one time -- all the interested parties.

I'm not trying to exclude anyone else in the county, but it seems to be that it really is in the Shabakunk Basin, for lack of a better choice of words, where it seems to be permeating everything.

So I'm not trying to shortchange anybody, but, Ray, I agree, we'll try to do that.

We're still waiting-- The Army Corps' people had, in fact, said that they would attend. They have not shown up yet, but I do want to ask the Trenton/Lawrence officials, if I may -- only because I keep hearing Ewing doing this-- I'll share a copy of this letter with you. Again, cost-sharing ratios for projects undertaken by the Army Corps of Engineers are mandated by law.

Has there been any application for comparable projects in either Trenton or Lawrence? Because, again, if we're talking about coordinating something and -- a piece, a piece, a piece -- if Ewing has a piece being paid for

by the Feds, Lawrence has a piece by the Feds, Trenton has a piece by the Feds, we've got storm management where there are bond issues and moneys available through the State. Has that taken place, at all, in those areas?

MR. GUHL: My understanding, from Senator Lautenberg's office -- and this has been, I guess, a couple of years -- was that the Army Corps not only wasn't funding studies like that, they would only fund studies in which there was a threat to human life. I believe that was the standard that the staff person at Senator Lautenberg's office gave me and, frankly, gave me no hope that they would fund a similar study. Nor would they fund any flood reduction projects which were not threats to human life. Maybe some of the State officials have more information on that.

MR. BETZ: Senator, in regards to the City of Trenton: After the June 12th and June 13th fiasco we had in Trenton, we did apply to the Corps of Engineers. They sent us an application. I talked to them personally on the telephone, and they told me, after the application was submitted, it would be at least a year before they could even come into Trenton.

MR. GILMAN: Senator.

SENATOR LaROSSA: Just to say I share your frustration is an--

MR. GILMAN: Senator, on that matter, in all honesty, I have any number of projects with the Corps. Most of these small projects and these investigations are under what they call Section 205, I think.

In all honesty, that particular part of the Corps' budget is underfunded this year. There actually are no new studies being started and no new flood control projects being constructed this year, because there isn't

enough money in the budget this year to go around to pay for the existing work they're doing. So everything has been put on hold for a year.

MAYOR BRIDGES: Senator, for the record, I would like to just note that Ewing Township, in order to have our study completed, did spend \$60,000 on the study. That was not money that came from the Feds, the State, or anyone else. We had to put that money up front.

There were three stages of the project. The first stage, the Army Corps did come in. They did do a walk-through. That was at their cost. The second phase was a \$60,000 study. We do have that. That is being updated, or is updated now. Then, the third phase is the mitigation, where we would have the proportionate cost of completing that project.

SENATOR LaROSSA: I was just handed a note that the Army Corps' representatives will be here at the afternoon session at 1:00. So, sorry about that, but there will be, I'm sure, a question or two that we may have for them, as well.

What I would like to do is-- We will have lunch set up for the members and participants in -- what is the room? -- Room 101. We will be breaking shortly, because I have to go over to the Governor's office momentarily.

I want to go back. Joyce, you mentioned something in your comments earlier, early mitigation. Correct me if I am wrong, Congress has approved that program already?

MS. GOLDEN: They did, but what happened was they drafted the regs, they gave it to the Director, and the Director said, "No." So they are redrafting that again.

SENATOR LaROSSA: Turn your mike on. I can't hear you.

MS. GOLDEN: Oh, I'm sorry.

What they did was they did the regulations. They gave the regulations to the Director. He wasn't happy with them, so they are redrafting them now. Our Legislative Director in Washington will get back to me with that. He is working on that for Chris. So I can give you an update when I get back to the office.

SENATOR LaROSSA: Okay. Thank you.

What I would like to do is, this seems to be a logical point to break right now -- waiting for the Army Corps to come in, to also discuss some of the ideas that, I think, have been on the table. I think it has been productive. I think I have found, personally, a lot that I was not aware of.

But, before we do that, can we go back to the one question which I still don't really have the answer to, which is: How do we go onto property and clean this stuff out? Who does it? Who has the responsibility? Who pushes the button to get it done?

MR. GILMAN: Well, I said in the past, it has always been done by the local governments. Again, it does require approval of property owners. They have to go in and either get easements, rights-of-way, or approval to enter the property. It has always been that way.

SENATOR LaROSSA: Is this a catch-22? That if an individual owner wants to clean out a piece of water that is running behind their property and they don't have the permit to do it, yet you want it cleaned out--

MR. GILMAN: It is a catch-22 all right.

The fact is, there was a new law passed -- what, two years ago, Steve? (addressing another panel member) There was a new law passed that was designed to change this. Okay? There was one word taken out of it; that was removing of soil and sediments. I believe that that bill was put back in the hopper of the Legislature last year to be amended to put that word back in.

There was a very simplified law passed two years ago that would allow local governments, through their engineers, to apply for stream-cleaning permits, but they gutted the law by taking out a couple of words.

You didn't need a permit, by the way, prior to this law being passed, to remove debris and garbage from a stream. They passed a law. It was supposed to-- We can provide an easier way of doing this by allowing local governments, through their engineers, to make an application to remove debris, garbage, and sediments. They took the word "sediments" out. I helped draft that law. It was removed. What it amounts to is a totally useless law.

There was never a rule that said that you couldn't go in and get debris and garbage out until they passed the law. If the words "and sediments" were in that law, that would allow local government officials to get a permit on a very rapid basis to, basically, do stream cleaning.

Right now, you still need a stream cleaning permit. They are still not that difficult to get, but it a considerable greater effort. That law was put back in the Legislature just last year to amend it, to put those two words back in, but I have no idea whatever happened to it. It probably never got out of Committee.

COUNCILMAN APAI: Dick, the answer to your question is, it is O'Toole's (phonetic spelling) law.

SENATOR LaROSSA: What?

COUNCILMAN APAI: O'Toole's law.

SENATOR LaROSSA: O'Toole's law, not Murphy's.

COUNCILMAN APAI: No. O'Toole's law. Murphy was an optimist. (laughter)

SENATOR LaROSSA: I usually call that LaRossa's law, but that is okay. (laughter)

MR. WALTERS: Senator, if I could just share with everyone here?

We did the investigation, that I alluded to a few minutes ago, with the DEP officials. I do have a letter here in front of me which spells out the methodology, the way that the permits can be obtained, and what those permits are for. It alludes to four different categories based on permit requirements.

They are: Hand removal of debris, the removal of eroding trees, the removal of sediment, bank stabilization, and then, it alludes to the Army Corps of Engineers. So if anyone needs a copy of this particular document, I will be glad to share it with them.

SENATOR LaROSSA: That is what you are allowed to take out, under whose letterhead?

MR. WALTERS: The Department of Environmental Protection.

SENATOR LaROSSA: Okay.

So we have a criteria, I guess, that we can use as a pro forma. But I still don't hear the answer to the one question. Who goes onto the property and when and how?

MR. JACOBUS: At this point, I don't know. Generally, stream cleaning, like you said, requires a permit to do it, but we don't require anyone to do it.

SENATOR LaROSSA: Okay. But a property owner has to get a permit to clean the stream behind their own property?

MR. JACOBUS: Basically, right now, what is termed stream cleaning-- The only time they would need a permit to do anything would be to remove sediments from the stream. If he wants to go in there and remove garbage, trees that fell in, whatever, it would not require a permit.

SENATOR LaROSSA: Am I correct in assuming, based on something I heard before, that also depends on how long the tree has been there? In other words, if it fell down there five years ago, it is no longer a fallen tree, it is a habitat?

MR. JACOBUS: For what it is worth, I don't think we would make that distinction, but there is-- Generally, from Fish and Game's standpoint, they would look at it as a potential habitat. But a lot of times, at least with Fish and Game, we can get them to go out there, look at it, and have it removed -- have their rejections removed. Generally, I would say even if it has been in there for several years, there is no problem in removing it.

SENATOR LaROSSA: Okay.

Go ahead.

MR. BRENNER: I just wanted to point out that a lot of times the DOT will go onto private property, and we find the property owner very cooperative. I have been involved with this for 12 years, and we have done a lot of damage to personal property, private property. We have fixed whatever

we have damaged afterward, but the people lived through whatever they had to deal with, and they were very cooperative. I find that all over the State.

I do go statewide with the repairs I do, and statewide I have found that every property owner is very cooperative. I think the townships would find the same if they were to go onto somebody's property and try to do work. People are, basically, very receptive to that.

Just to point out that we do have some DOT structures in the area in question, and we do look for input from the private sector, the public sector, people call in things -- you know, "There is a blockage in front of the structure, could you have somebody come down and remove it?" So we do look forward to hearing from people, and hopefully, we do respond rather quickly to those calls.

SENATOR LaROSSA: Okay.

Greg.

COUNCILMAN PULITI: Yes. I just have a question.

Where does the Federal Clean Water Act come into play in all of this for regulation, or somebody who can say, "They have to clean up"? Where it is not a cost to the town, where if they are creating the problem? Can somebody answer that question?

SENATOR LaROSSA: I don't know, but if nobody has the answer, you may want to hold it till the Army Corps' people come. They may be more appropriate to respond to that.

COUNCILMAN PULITI: Very good.

SENATOR LaROSSA: Lou.

MR. RAYMOND: Whatever happened to the riparian rights law where you have access to a stream up to a certain part -- the mean high water level -- where each municipality could go in to pick up debris that is going to eventually float downstream and block something else? Why would you even need a permit for that? As long as it is in the streambed--

As you said, a shopping cart, the stump of a tree that just floated into this area, why couldn't that just be picked up by the orange suits or each individual town's people who repair roads, take care of the parks, and stuff like that?

SENATOR LaROSSA: Anybody?

MR. GILMAN: The truth is, riparian law only applies to areas down there that are above mean high tide. The streams in this State are actually not owned by the State. Under the streams-- Most of the properties go right to the center of the stream. So, essentially, every foot of streambed, once you get out of the tidal areas, belongs to individuals, property owners, and they have the right to keep you off of there.

As the DOT representatives said, most property owners are willing to let you go in and do the work. They're very happy. But there are always those one or two people who are ready to come out with a shotgun and shoot you, and that holds up the whole project. So that is the problem.

MR. WALTERS: Senator, as I indicated a little while ago, we are doing that specific thing at this moment in Ewing Township. I have to also concur with the representative from the DOT. We haven't had one rejection yet. In fact, we have had a multitude of requests to come in and please help

them get the debris out of the streams. So we are presently doing that with in-house forces.

I'm glad to hear we're not violating anything. (laughter) We did, obviously, go before the DEP. As I said, we had a walk-through. We did obtain permission for that nonpermit kind of thing. If we go a little bit beyond that, well, so be it.

SENATOR LaROSSA: Let's break at this point and take our lunch break. We'll be back at 1:00. The Army Corps' people will be here. Hopefully, by the time we are finished, we will have, at least, a plan of action and people who will be party to developing that.

Greg, save your question.

COUNCILMAN PULITI: I certainly will.

(RECESS)

AFTER RECESS:

SENATOR LaROSSA: Ladies and gentlemen, we ask that people resume their seats.

Good afternoon, and welcome to the continuation.

There are two things that I would like to accomplish this afternoon -- actually, three things.

Number one, a representative, Stan Lulewicz, from the Army Corps of Engineers is joining us. He is behind the sign that says "Bill Mueller." He is kind of appearing incognito.

Secondly, I would like to recap, at the end, what we have uncovered, or discovered, I guess.

Number three, to come up with a plan of action which will probably incorporate having parties together, specifically, who have participated in this, and begin to have the interested parties start to put a plan together. Then, whoever the parties are who need to integrate and work on parts of those plans, come to the table and get those things done: coordination, legislation, funding, and so on.

What I would like to do, for the sake of argument, and I know that you may think this is folly, but for the time being, I would like to take, if you will, the money issue off of the table. I know that sounds crazy, but if we proceed with the attitude that there is no money, ergo, we can't do it, we're never going to develop a solution.

I think any logical, comprehensive plan that makes sense, that everybody agrees to, can be funded. We'll find a way. Let's get the plan first, and then, somewhere along the way, we'll find the funding. We can find money for a whole bunch of things, but we just have to make the commitment to get the plan done first. Then, we can move it forward.

I had a brief conversation with Stan just a little while ago about what his knowledge was of the issue, the problem, and so on. He indicated, again, a regional approach. He has been working with Ewing in the past, and so on, but also indicated the Corps' availability to work with other municipalities, as well.

Greg, you had a question before we broke.

This is Greg Puliti from Lawrence Township. Before we broke this morning--

Stan, forgive me -- just to give you an update, we talked about retaining basins, coordinating flow in the retaining basins. We talked about stream desnagging, the widening -- channelization hasn't really been part of the conversation -- the issue of upstream, downstream, the Delaware Canal being a part of this, some of the things that FEMA may be able to bring to the table.

Obviously, the Army Corps, in the discussion, has played a major part based on the plan that was, I think, submitted with and developed with Ewing Township, but I think you were involved in, as well. But there are some ancillary questions from other members here.

On this side of the room (indicating) we have people from the City of Trenton, DEP, DOT, and Lawrence Township, and so on, and so forth.

So, unless you want to make an opening comment, I'll just go right to our members.

MR. LULEWICZ: No. Just go right--

SENATOR LaROSSA: I'm sorry. The red light means on.
(referring to microphone)

MR. LULEWICZ: Oh, okay. Sorry.

SENATOR LaROSSA: Only with the State of New Jersey does red mean go.

MR. LULEWICZ: No, I'm available here to answer any questions.

SENATOR LaROSSA: Greg.

COUNCILMAN PULITI: Yes.

What led up to the question that I'm about to ask was talking about property owners and the ability to go onto the properties to desnag debris and to clean up the streams. There seemed to be a question of who had the authority to have the property owner clean it up, or does the municipality have to go in and clean it up?

My question was: Where does the Federal Clean Water Act come into play as far as the township saying the property owner is responsible for cleaning up their portion of the embankment that abuts the stream?

MR. LULEWICZ: Well, I think we try to follow the DEP in most of the cases. The DEP has the jurisdiction for clearing and snagging. Any time we do any Corps' projects we have to go to the DEP, at this point, especially in Ewing Township. I believe we're developing a plan.

Years ago, we had to coordinate with the DEP to get the State approvals. We had the necessary Federal approvals, because it was a Federal project at that point.

But I think in your case, since it is not a Federal project, you would certainly have to go to the State first, as I understand it, to do any clearing or snagging yourself.

COUNCILMAN PULITI: So, basically, do we have any authority -- and I guess I'll have to pose this toward the State -- to go in, or do we have to call you guys just, basically, say, to go to the property owner to clean it up, or do we have to take this project on ourselves?

MR. JACOBUS: Again, I think it is a case of-- If you had to go in and remove debris and garbage, then, there is no permitting necessary. If you are going in to remove sediment, then, you would need a permit from us.

As far as the authority to go in there and just do it, I don't think we have the authority to make you go in and do it, unless it was done in a violation.

COUNCILMAN PULITI: Well, I guess that is what my question was. If the property owner is in violation, what actions do the towns take to go about having them remove it so it is not a cost to-- I know we wanted to take cost off of the table, but--

SENATOR LaROSSA: No, no. I'm only taking off the table of it being an element that says you can't do it. There is always a cost associated. I don't want that to become an impediment that bogs it down.

COUNCILMAN PULITI: Fine.

Anyway, I just wanted to bring in on the table, and we can follow it up later in closed conversations.

SENATOR LaROSSA: I mentioned this before, have you been approached by Lawrence in the past or Trenton in the past with regard to the whole Shabakunk problem, or has it only been Ewing that has really approached the Corps on this that you know of?

MR. LULEWICZ: Based on my experience, only Ewing Township came to us. We recognized years ago that it was a regional problem. We need to study the entire watershed. However, Ewing Township had, I believe in 1987, a flood that caused substantial damage at the Thurston Avenue Bridge. That started the study process.

We had a letter from Ewing Township to be a sponsor. What we need to have in the Corps is to have a local sponsor. A township, a county, or a state could be a sponsor for a study that we do in the Corps. At that time, I met with Fred Walters and the Mayor of Ewing Township, and we did get a

letter asking the Corps to see if there is a Federal interest in only looking at the west branch of the Shabakunk Creek.

So we did that, at that point, but we need to get a letter from somebody asking the Corps to study a problem. That is what we need to have. We just can't go out there and study, as you know, anything at all. We need to have a township level or State--

At that time, in 1992, when I completed the study, there was no interest at all for us from Trenton or anybody. The only interest was from Ewing Township.

SENATOR LaROSSA: Well, it could also be not knowing that you guys are there and that was available, too, sometimes.

MR. LULEWICZ: I'm not sure we spread the word in those years. You know that the Corps does flood control, but we tried to advertise. We do have flood control capability.

SENATOR LaROSSA: Okay, but there is nothing, at this point, to preclude you from -- you have a comprehensive document relative to dealing with the west branch of the Shabakunk -- taking that and working with Trenton, Lawrence, the county, and so on, and then, expanding that into a regional evaluation?

MR. LULEWICZ: No, there is none. This will be, probably-- The Shabakunk Creek, the west branch will be a piece of it, certainly, but we need to have an overall plan, as you mentioned, with the retention/detention basins or some clearing and snagging for the other areas.

But as I look at the entire area, there are so many municipalities involved here. I think it would be worthwhile to explore it from a regional

basis, because, as you know, as you fix the upstream problem you might cause something downstream, and so forth. We need to work as a community to do that.

SENATOR LaROSSA: Thank you.

Lou.

MR. RAYMOND: Stan, we have spoken over the phone, over the last couple of years, concerning Colonial Lake. How far did you actually come down the Shabakunk in your study? Did you go anywhere past Olden Avenue, Spruce Street?

MR. LULEWICZ: Yes. We went-- The project that we proposed in the 1992 report, extended from the Thurston Avenue Bridge up to Spruce, the actual construction. We did look at downstream impacts past Spruce down to Colonial bridge, and found there to be increases of a tenth of a foot, very minimal, from the project that we recommended, which was, at that point, widening the creek, deepening it so we could have some substantial flows pass through and avoid the damages that we were claiming.

So, at that point, through the models that we had available to us, there was very minimal or no impact from the project downstream of Ewing Township.

SENATOR LaROSSA: Is there anyone here-- Forgive me, because I keep hearing "west branch" and I have lived in Mercer County my entire life, explain to me what the two branches are, where they are, and where they cross. I know this may sound silly, but even though we've all lived here, which is the west branch and where does it cross where in Ewing Township?

I didn't know until, I think, we met either with Clark or with Tom Baxter, that my entire life, I was under the assumption that the Assunpink, somewhere, was in Ewing Township. Never did I know that the Shabakunk flowed into Colonial Lake. Correct me if I am wrong, it flows into Colonial Lake and the Colonial Lake becomes, really, the mouth of the Assunpink, pretty much? I mean, so far as Mercer County goes.

MR. GILMAN: No, actually the Shabakunk is a tributary of the Assunpink. The Assunpink flows up in back of the Community College and all the way back down into Monmouth County. The Assunpink is a rather large stream. When you get down to Trenton, it is draining almost 100 square miles of area.

Now, the Shabakunk Creek is probably about 15 or 16 square miles of area. It begins at Colonial Lake and flows up adjacent to -- under Route 1 from Colonial Lake along the shopping center -- the Lawrenceville Shopping Center. Then, it runs up past Notre Dame High School and, then, up in back of the State college -- the New Jersey College of New Jersey -- Trenton State College. (laughter)

SENATOR LaROSSA: Take your pick. All of the above. (laughter)

MR. GILMAN: The west branch comes off of the Shabakunk Creek very close to just upstream of Notre Dame High School, flows up under Spruce Street, then, up under Olden, and then, right along Olden Avenue all the way on up until it crosses under, and then, it runs up toward Thurston Avenue and up toward the airport.

SENATOR LaROSSA: All right. The west branch--

MR. GILMAN: That is the west branch.

SENATOR LaROSSA: That is the west branch, then, the--

MR. GILMAN: The west branch drains only five square miles. It is a relatively small stream. It is actually four-point-nine miles, I think, at its mouth.

MR. LULEWICZ: Yes. It is a very small stream.

SENATOR LaROSSA: And the other branch originates at Colonial Lake?

MR. GILMAN: Yes. The Shabakunk Creek flows into the Assunpink Creek just below the Colonial Lake dam, right. Then, it proceeds up under Route 1, along the edge of the Lawrenceville Shopping Center, crosses under Princeton Pike, Route 206, runs up along Notre Dame High School, and then, it kind of wiggles its way up all the way up to what used to be Trenton State College. Then, it actually goes up into Hopewell Township.

SENATOR LaROSSA: Where do the two branches of the Shabakunk join?

MR. GILMAN: They join just upstream of Notre Dame High School.

MR. WALTERS: Right behind our Road Department on 4th Street, Senator.

SENATOR LaROSSA: Okay. That is where the two of them join?

MR. WALTERS: That is, basically, where they join.

MR. GILMAN: Right. Now, you have to remember there are other streams, too. There is a Little Shabakunk Creek, which you don't hear

too much about, that flows up through Lawrence Township up towards Rider. It runs up just adjacent to Rider College.

The Shipetaukin comes off upstream of Bakers Basin Road, runs under the canal, past the old Sleepy Hollow Motel, under the interstate highway system and the canal, and then, that runs up into Princeton Township. Again, that is interesting, too, because that stream was relocated when they built the canal in the 1800s. You get a big enough flood, the water actually goes back to follow the old channel. It runs down flooding Route 1, Route 287, Route 295.

MR. WALTERS: Senator, just to elaborate a little bit and maybe make it a little bit clearer for you, because I know you live up in that area--

The west branch begins at Rambling Creek Park. It doesn't begin there, but for identification purposes, right by our municipal building, it runs down Rambling Creek Park and joins at the back of our Road Department. That is one that goes down Olden Avenue, then Terrace Boulevard, and all that.

The east branch is the one that runs through Trenton State's back lake and then, in turn, goes across Green Lane and joins at the Road Department.

SENATOR LaROSSA: Okay. Which brings up another one of the questions we were talking about: retaining basins. I heard this before.

I've heard the explanation four times, and it still doesn't make sense, so forgive me for asking this question again. Clark said it a number of times.

We were talking about the ability to have the water flow freely or to hold it someplace, and so on. There are, right now, existing lakes: Colonial, the two lakes at Trenton State College of New Jersey-- How's that? Is that better? (laughter)

MR. WALTERS: Located in Ewing.

SENATOR LaROSSA: Located in Ewing. (laughter) That is the concession I'll make.

With those bodies of water, can anything be done? Is there any suggestion? Can anything be done with those bodies of water, in as much as it seems that all of these streams seem to either flow into or out of? You know, to use them as some additional kind of a retaining basin, for lack of a better choice of words?

I know it is a permanent body, but I don't know how more full a permanent body can get. But other than creating a new lake, before we even talk about that, is there anything that can be done with the existing bodies -- Colonial Lake, Trenton State, and I can't remember what else there might be?

MR. GILMAN: The Soil Conservation Service -- now the Natural Resources Conservation Service -- in their study in 1982, they did look at all kinds of different storages. There is also the Whitehead Mill Pond, too, that is down there along Whitehead Road by Goodall Rubber. That is another dam on the main stem.

Now, the problem with these dams is they are recreational lakes. They have a permanent pool of water behind them, and really, to have them function for flood control purposes, there has to be a way of storing additional water above what is normally flowing over the dam.

To do that-- If you raise the dam, for example, at Whitehead Lake or Colonial Lake, you would actually back up water onto the properties adjacent to those lakes. I must admit that I was one of the guys who designed the development, for example, around Colonial Lake. I worked for Thomas Tyler Moore (phonetic spelling) then, back, maybe 30 years ago.

But in all honesty, were you to try and raise the level, for example, to provide flood storage in Colonial Lake, you would flood all the homes that live around the lake. The lakes at Trenton State College are not actually on the main channel of the Shabakunk Creek. They are actually off the channel.

The Soil Conservation Service -- now, the Natural Resources Conservation Service -- they did look at using those lakes and the playing fields at Notre Dame High School as off-channel storage. They found that that didn't work. They actually considered pumping the water into those lakes, and they actually considered putting a pipe from the upper part down into the Delaware. All these things, they really weren't effective in terms of providing sufficient flood control.

Both the Corps and the SCS looked at detention basins up in the upper, upper areas above Carlton Avenue. You have to understand that above Carlton Avenue you're down to a drainage area of about a mile and a quarter on the west branch. That is about 20 percent of the area that is drained by the stream. The area up there is pretty flat. It divides into a number of smaller tributaries, and there really isn't much of an opportunity to build a basin.

In other words, to build a basin you have to have some suitable topography. You have to have a gorge or a valley you can put a dam across, and you don't have that up there.

MAYOR BRIDGES: Senator, if I may.

First, with regard to the college, it should be noted that the dredging that took place a couple of years ago was done after the completion of an Army Corps of Engineers' study that did widen the area so that that could capture more water during a runoff period, which is really the only way that it is going to serve that purpose -- if you make it wider. Because if you don't do anything, it just flows over and creates a problem. So I'm not sure how much more can be done within that area. Perhaps the upper lake could be examined a little bit, but the lower lake has been dredged and widened to accommodate additional runoff.

Having said that, though, if I can turn our attention back to the Army Corps for a moment. The representation that the original study and the updated study, now, did take a look at the area from the Thurston Avenue Bridge down from that area is correct. That is what was requested.

When I met with the representatives of the Army Corps a couple of weeks back -- Mr. Mueller and Mr. Gruber (phonetic spelling) -- I inquired about the impact of the upper end of the Shabakunk, the western Shabakunk. That is the area above the Thurston Avenue Bridge, the area that intersects with the airport, in particular, examining the runoff.

In the updated plan they were going to take a look. Does that address that at all, and what does it take to include that area within the study, the scope of the study?

MR. LULEWICZ: You're talking about the area near the Carlton Avenue Bridge, up there?

MAYOR BRIDGES: I'm talking the area that is north of the Thurston Avenue Bridge, Carlton and beyond, yes.

MR. LULEWICZ: Basically, what we did in 1992, we had the entire watershed models. We have an model of the entire watershed, west branch of the Shabakunk Creek. We could look at it again in those areas. There is a model available. We just have to, maybe, update it to see if there is anything else we can include in that portion of the study. What kinds of alternatives, you know?

Maybe a detention basin or something like that, but, as Clark mentioned, in some of these you have to control a pretty good amount of drainage area to make it work. The topography has to be there, because it is not cost-effective to do it.

MAYOR BRIDGES: Right.

MR. LULEWICZ: So some of the detention basins you might go away, I'm not sure.

MAYOR BRIDGES: Because, again, as a layperson not as an engineer, given some of the impervious coverage we have within that area--

MR. LULEWICZ: Right.

MAYOR BRIDGES: --the airport and other areas certainly feeding in, it would seem not to make sense to examine the whole area without looking at the detention and retention basins up in that area, as well, that feed downstream and create the problem down at the lower end.

MR. LULEWICZ: We could take another look at it as part of the regional plan or just a plan on the west branch. There are models available to do that.

SENATOR LaROSSA: You mentioned up near the airport, which, again, brings up two or three other bodies of water. Is there any bearing talking about off-off-stream storage and so on? You have this lake, or two bodies of water, at the golf course in Mercer County which is up near the airport. You have the lake at Katzenbach. Do they have any bearing? I mean, they must have a bearing on something, but are they their own problems or are they interrelated to the rest of the issue we're dealing with here?

MR. LULEWICZ: My thinking is, is that you have to look at it from a regional aspect, again, because what we did was we just looked at one single aspect, which was the west branch. You have to look at the whole region to see what kind of impact those lakes would have.

SENATOR LaROSSA: Yes.

MR. GILMAN: Dick, the lake up there at that Katzenbach School--

SENATOR LaROSSA: Right.

MR. GILMAN: That is on Gold Run. It is a different stream.

MR. BAXTER: And the one on the golf course, Senator, goes into Jacobs Creek.

MR. GILMAN: Right. They're different stream systems, so they have no bearing on this one at all.

SENATOR LaROSSA: None? None whatsoever?

MR. GILMAN: The Katzenbach School, that dam is on Gold Run. That is a totally separate drainage basin, and as he pointed out, the one up on the golf course is Jacobs Creek/Ewing Creek system. So they are not part of the system.

Another thing just to point out, on page 86 of the Corps' report, they indicated that an examination -- this is the area upstream of Carlton Avenue, because they looked at this. They said, "An examination of this area revealed that this site has minimum storage capacity and limited basin control, which would result in minimal impacts on stage reduction."

The cost of this measure -- which would be some sort of detention facility in that area -- was about \$6 million, which would render it infeasible. Therefore, it was eliminated from further consideration.

So the Corps has looked at that area. It is right in their report, page 86, page 87.

MR. LULEWICZ: That is the one that I was referring to, because that does not control a lot of drainage area to make an impact. It is too far upstream to do anything.

As Mr. Gilman mentioned, that is the whole case: topography and how much drainage area you can really control at that point. There is not a heck of a lot that you could do up there.

But we could certainly look back, and maybe we could do something else. But in 1992, the cost was prohibitive.

MR. BAXTER: Over \$6 million.

SENATOR LaROSSA: Tom, and then, we'll come to Lou.

You were going to say something?

MR. BAXTER: I'm done.

SENATOR LaROSSA: I'm sorry. Go ahead.

MR. RAYMOND: Senator, what we're trying to do now is-- What we're saying is, the closer we get to the bottom of this thing-- Where

they come into the Assunpink, the more water we can retain there, we would be better off. Whereas, upstream it is not really doing much good because it is only the beginnings of these little streams.

How much deeper can we make Colonial Lake? How much more water can we hold at Colonial Lake without raising the dam but deepening the lake to retain the majority of this water that is coming down? Let it build up in Colonial Lake before it goes on into the Assunpink. We have been trying to do this for the last nine years -- to get it dredged -- in Colonial Lake, but money problems, again. But if it can be done and it is going to solve a big part of the problem, why not just deepen Colonial Lake and get as much water in there as you can?

SENATOR LaROSSA: Before I ask Clark to respond that, as far as having--

Go ahead, Clark, do the response. I'll come back to my own comments.

MR. GILMAN: Well, you see, deepening an existing lake has no effect on flood control. You have to have available storage where the lake couldn't be full.

In other words, if you wanted to deepen Colonial Lake, you have lower the spillway or lower the water level permanently to provide flood control. There is no effect. A lake has no effect on flood control if it is full when the flood starts. It just goes over the spillway. So dredging an existing lake does not provide flood control. You have to raise the dam so that when it rains you can raise the level of the lake four or five feet to store that

additional water. So, as I said, dredging a lake doesn't do a thing to help the problem.

SENATOR LaROSSA: Lou, did you follow that?

MR. RAYMOND: Yes. But, now how about with a spillway at the lower end that you could control to keep the lake not full until it needs to be full when the surge of water comes through? You don't have to keep a lake full all of the time.

MR. GILMAN: Well, that would be a possibility. The only problem with that, and I hate to admit that I am part of that problem, is that there are homes built all around Colonial Lake, and they aren't that far above the normal lake surface. So you really can't raise the dam without flooding the homes around the lake.

MR. GIBBONS: That is not what he is talking about. He is talking about lowering the spill so you can lower the lake.

MR. RAYMOND: Lowering the lake, not raising the dam.

MR. GILMAN: Well, that is a possibility. You could, perhaps, dig the lake deeper, lower the existing spillway. That might be a possibility. Again, it would have to be looked at. You have to study it to see how much storage you could develop that way. That is a possibility.

SENATOR LaROSSA: Is that something that the Corps could participate with?

MR. LULEWICZ: Yes. We could probably look at this, sure.

SENATOR LaROSSA: Okay.

I'm sorry. Al.

MR. BRENNER: The problem I run into dealing with the 20 dams the State owns is that on most of our structures, most of our dams, no one has established a normal pool elevation. That is the first problem. So, in this situation, probably, a normal pool elevation could be established.

Secondly, timing is very important. A lake could be lowered prior to a storm event, and then, a lake could then be filled with X amount. You would bring it up to a flood stage level and, then, allow it to go downstream. So there are things that can be done. We just find that there is a lack of knowledge, perhaps, for lack of a better word, and just no one has established what normal pool elevations are in all of the lakes that I deal with in the State of New Jersey.

SENATOR LaROSSA: That sounds to me like it goes back to a little bit of the coordination thing we were talking about before with the retaining basins. That we may actually have everything at our disposal, but the fact is that none of it is coordinated and that could be-- We may actually have all of the answers. It may just be in how to coordinate it -- the left hand knowing what the right hand can and can't do.

MR. BRENNER: Well, that is exactly the way I feel. I think with today's technology we could time things to allow for flows at certain times. I think we have to tap into the latest technology to allow us to do that. In the course of a storm event, we could adjust levels of lakes more quickly than we do right now. I don't think we adjust any lake level.

MR. GILMAN: Well, I don't understand why you have a problem with normal pool. Normal pool, in most cases in the State of New Jersey, is the level of the permanent spillway.

In most cases, there is no way of draining that lake. There are outlet valves, and they are required by -- and many of them are very old-- Our regulations presently require that the outlet valve must be able to drain that lake like in 48 hours. But it drains-- That is under a normal dry-weather condition. The amount of water that goes out those outflow valves is so small in terms of flood flows that, as a practical matter, there are very few dams in the State of New Jersey that could be lowered prior to a flood, even if you knew it was going to occur.

Some of our water supply facilities now have tainter gates on them or bascule gates where you can do that, but, generally, that can't be done in New Jersey. You are talking about a very expensive process just in the construction aspects.

What you said about the modeling is true. It is possible, using various models. The Corps has a HUC-I model. There are a number of different models. The TR-20 model of the Soil Conservation Service, which, by the way, has been done for the Assunpink Creek. There is a TR-20 model. We spent four or five years developing it. It could, basically, develop-- Any record storm, we could reproduce by that model. That model, the SCS still has it. It hasn't been used in many years. Those types of hydrologic models could predict volumes of flow off of various watersheds and the timing.

The timing is what you're pointing at as far as storm water management. The timing of the various peaks and various tributaries is extremely critical if you are going to develop a regional plan.

SENATOR LaROSSA: What it brings to mind is -- talking about lowering the levels of the lakes -- I know I'll see the Delaware and Raritan Canal-- Does that go through the golf course in Princeton?

Do you know, Tom?

MR. BAXTER: Yes. The *D* and *R* Canal goes through the county golf course.

SENATOR LaROSSA: In Princeton?

MR. BAXTER: Yes.

SENATOR LaROSSA: Okay.

I've seen times and at places where that is maybe eight or ten feet deep going through that golf course. There are times when it seems that it is always at a given level, yet I've seen, and recently, where it is maybe down to two or three feet. So how does that level get lowered?

You're saying that there is some technology there that allows that to happen. There must be some technology that-- Is there some environmental problem that is caused if, in fact, we find a way to drop the level of these lakes and use them for, quite frankly, retention purposes? Is there an environmental downside to doing that?

MR. BRENNER: The DEP allows the DOT to drop the level of a lake two feet without a permit. We're allowed to do that to do maintenance. We're also allowed to do that for other reasons.

I would like to bring up a case in Tuckerton. I think this is where it is really relevant about normal pool elevation. This is where I disagree with Clark a little bit. Down there, it just seemed that the people thought that, just over time, this is as high as the lake should be. People would go there, throw

plywood in front of the spillway opening, and things of that nature to develop what they thought was the normal pool elevation.

In actuality, it should have been two feet lower than it really was, because just given geometries and configurations of downstream and upstream-- It was just the way people thought that that was the way that lake should look, and really it wasn't true.

We talked the town into lowering the level of the lake. We felt that that would help Tuckerton in handling more water. Also, on that lake -- a small lake, like some of the lakes we're dealing with today -- we could lower the lake level two to three feet in a matter of four hours.

So you can drop a lake level very quickly, especially if it is a lake of, let's say, 22 acres, or something of that nature. So we're not really dealing with tremendously large lakes. We're not talking about Pohatcong, or Hopatcong, or things like in North Jersey -- Musconetcong -- they're pretty large lakes. The lakes in this area that we're dealing with are fairly small.

SENATOR LaROSSA: Let me ask you something about two other areas in terms of detention, retention, and off channel in terms of topography.

One of the areas, going back to-- In thinking about the elevation up where I-95 crosses Route 31, I believe that is a fairly high area relative to its proximity to the interstate, yet it feeds down on a slope into that branch of the Shabakunk, which crosses the one road in the three areas.

However, one of the two ideas was to possibly create-- There is already a lake up there in the Flower Hill area. I don't know what bearing that has; if it is just a static lake or whether water goes into and out of it or not. But, whether or not, that 30-acre site -- which was going to be the mouth of an

interchange, where Route 31 was going to meet I-95, if it had ever been built, through Hopewell-- Whether or not that 30-acre site could be excavated to create a new lake, or, if that is not a practical site, there is another location, basically, following the same flow of the Shabakunk if you are familiar where the Sypek Center is on Bull Run Road.

I think a few of us have been around long enough to remember that when the Sypek Center was originally proposed there was also part of a plan to build a county maintenance garage as part of that particular facility. If you look at the main entrance, there is a huge retaining basin to the right of the school. But going back in behind the school, which is, I think, all government property -- which probably means that it most likely will never be developed for residential use -- whether or not either of those is a potential location for the creation of a lake, and whether or not if, in fact, there was a body created out there, what impact that would have downstream? Does that--

MR. GILMAN: Well, again, the areas you are talking about now are predominately on the Shabakunk Creek, not the west branch. The drainage area up there is getting rather small.

The detention basin at the Sypek Center was designed, I assume now, according to the county standards to maintain the flow that came off of that property when they developed it with all of the concrete and paved areas for the center itself. Again, the drainage area there is pretty small. That is on the Shabakunk, not the west branch.

SENATOR LaROSSA: Now, when you say drainage, are you talking about in terms of the size of the stream itself?

MR. GILMAN: This is all the area that would drain to that point, right. You're talking about a fairly small drainage area. I'm not sure exactly what it is at that point, but it is getting rather small when you get up toward-- I mean, you're almost up into Hopewell, which is the headwaters of the stream. That is the problem with those areas.

Now, again, that particular area on the Shabakunk, that probably was looked at by the Soil Conservation Service when they did their study. The Corps didn't examine that area, because they concentrated on the west branch. But, again, you're talking about the very up, headwaters of the stream so the drainage areas become rather small, and the effect on downstream flooding probably wouldn't be that great. But it is something that can be looked into. I suppose it could be looked into again.

SENATOR LaROSSA: Well, one of the things I heard this morning -- I'm trying to blue-sky some of the ideas we heard this morning. I want to get them all on the table so that when the body of people who, hopefully, will move some of these ideas forward can have them out there.

One of them was that the Shabakunk runs under the *D* and *R* Canal.

MR. GILMAN: It does. Yes, it does.

SENATOR LaROSSA: All right.

MR. GILMAN: That culvert was rebuilt not that many years ago. I worked on the design of that some years ago. I'm getting kind of fuzzy as time goes by so fast, but we're talking about 15 to 20 years ago. There is a brand new culvert where the Shabakunk goes under the canal. The fact is, that culvert collapsed.

SENATOR LaROSSA: All right. The level of that canal can be dropped, as evidenced by what I've seen, or is that a freak of nature that is doing that?

MR. BAXTER: Canal levels remain pretty much constant. The only times they really fluctuate are times when we elect to pass less than the 100 million gallons a day for the purpose of completing projects.

If you have been out along the canal and some of the reaches two weeks ago, you would have seen that the levels were down. The reason was because we were dredging sediments out of the canal at Prallsville Mill, it had reduced the flows, so, therefore, the levels were low.

We have certain contractual requirements to meet. We have to deliver 100 million gallons of water past Port Mercer as per our permit and to maintain our contract. So the levels stay pretty much where they are. The hydraulics are such that that is the way it has to be.

SENATOR LaROSSA: I hear what you are telling me, but the level can be dropped? I guess that is the first question.

MR. BAXTER: The question goes back to the question, Senator, that you asked this morning. There are structures, and we can lower it, but we can only lower it for short periods of time.

SENATOR LaROSSA: Okay. But let me go back to something that Al said before in terms of how long it takes to drain something. This is another one of those pie-in-the-sky ideas. Is there any practical idea of having pumps, or something of that nature, if the level in the canal can be dropped and that becomes a storage conduit, for lack of a better choice of words, or the levels can be lowered, or it can go more directly into the Delaware River -- that

water from the Shabakunk, where there is flow, can be diverted or pumped into the canal as another alternative means of diverting some of the water flow, or is that so far off the wall to not even think about it?

MR. BAXTER: I don't think the capacity is there. What you have to understand is that as many streams as go underneath the canal, there are those that go into the canal. As many storm drains as there are, most all of those, through the areas that we're talking about, go directly into the canal. The canal is already absorbing that. Those storm drains that go into the canal would go into these streams that we're talking about if they did not go into the canal. So the canal is already doing that.

I would have to say, relative to operations -- looking at the storm of June 12th -- it would have been very hard at 4:00 in the afternoon, it would have been very hard at 5:00 in the afternoon to anticipate that at 6:30 it was going to start raining, rain for four hours, and drop 10 inches.

So we were hard pressed, but we got people out there on an areawide basis to operate structures, even to have instrumentation. As we explained to you in our meeting, some of our instrumentation was lightning struck and failed. If we hadn't had the people going out there, we wouldn't have had the beneficial effect that we did have. Difficult problems, difficult solutions.

SENATOR LaROSSA: Go ahead, Lou.

MR. RAYMOND: Colonial Lake does have an adjustable spillway, where you can really open it -- I don't know how far it will open up, because I think it had just been redone not too many years ago -- to the point where

you can let water out of the lake. I don't know how fast or how much at one shot, but it can be done.

COUNCILMAN APAI: Dick, just a question.

For those areas that are going under the canal, they're going directly into the river, right?

MR. RAYMOND: The Assunpink.

COUNCILMAN APAI: They go in the Assunpink and, then, into the river?

MR. LULEWICZ: Then, into the Delaware.

COUNCILMAN APAI: Okay. The Assunpink is also under the canal?

MR. LULEWICZ: No, it is on the east side of the canal.

COUNCILMAN APAI: On the east side of the canal.

I was just wondering whether it was-- It is not really backing up from the river where the final outlet is, it's just backing up along the way because it just can't handle the volume. When it gets down to that point, it is flowing very freely into the river. It is not backing up at that point. Is that correct or not?

MR. BAXTER: As free as it can as it flows through the City of Trenton where it is channelized, but that is one of the places where there is a problem. Downstream of the dam of Whitehead Road, there are flooding problems, as well, as there are upstream of the dam at Whitehead Road.

In fact, some of the backwater that was experienced in Little Shab and the Shipetaukin, June 12th, was as the result of the fact that the Assunpink went above flood stage so quickly that water backed up. At one

point, we believe the water was actually running backwards underneath Route 1, up into the areas where the Shipetaukin, which is the Assunpink watershed, meets the Stony Brook watershed at Port Mercer.

MR. HOGAN: Mr. Baxter, getting back to what the Senator asked earlier, if these things run under the canal, and the canal has a way to feed or to spill off into the Delaware, regardless of whether instrumentation was broken or not, there is a way for that overflow to go into the Delaware and we can control that. Is that right?

MR. BAXTER: Where it happens best are at those structures where they are passive structures. In other words, the level in the canal has to rise to a point where it goes over a structure. The structures are, in the case of Cherry Tree Lane, at Scudders Falls, at the Workhouse spillway, those are concrete structures. The two others that are roughly in the area of the 195 bridge, those are grassed depressions. Water flows over the *D* and *R* Canal towpath.

Other than that, there are two structures which we can operate remotely or at the site with an operator. Those are at Perdicaris Place and at Scudders Falls.

MR. HOGAN: With that capacity, could we put more into the canal during these particular events?

MR. BAXTER: We took everything that came on June 12th. Everything was open that could be open, and at an unregulated spot that I spoke about this morning -- at Abernathy -- the canal went over the top of the bank. Everything that is there was there.

We have done extensive studies of the canal and its capacity to assume storm water flows. These studies were done by Ebasco, now, Raytheon, and Malcolm Pirnie, some of the more well-known consulting firms in our nation. We have identified, I think, every place where we could put water out of the canal and put it into the Delaware River or into the Assunpink. The problem with the Assunpink, of course, is that that is so flashy, it comes up so high, that the water actually flowing down these streams comes to a higher water level in the Assunpink.

As I explained earlier, we have seen incidences where Route 1 by Bakers Basin -- the Shipetaukin is actually flowing from the Assunpink back toward the Stony Brook watershed.

We are looking at those studies, as a commitment we made to the folks at Gold Run, to see if there is anyplace else that might have been overlooked where we could take more water out of the canal. But having read those -- Ed Buss was here this morning -- there are no other places where we can do that.

SENATOR LaROSSA: I still want to go-- Forgive me for pursuing this, but it is taking a little bit of time to sink in.

You mentioned, again, the level is low in the canal now because of some dredging or something taking place, and so on. You're saying that every tributary that was feeding into the canal -- you had the same volume, and so on, but where it overflowed near Abernathy, I'm assuming that the Gold Run probably had something to do with that. Is that what caused the overflow?

MR. BAXTER: No. Gold Run goes underneath the canal. No water from the Gold Run drainage basin went into the canal. What was

happening in West Trenton was that there was severe runoff coming off of the golf course and where the railroad tracks, on the West Trenton spurred wall, the flows were so great that the railroad almost lost their railroad embankment. Their embankment is now in the canal and needs to be taken out.

In the case of the golf course, the water came off of the golf course and really flowed right straight through the canal and over the towpath on the Delaware River side, over the towpath, down the embankment, and into the people's backyards taking the soil with it. We were probably hours, if not minutes away, from having a major breach in the canal. The canal would have drained from Kingston to Lambertville.

SENATOR LaROSSA: Wow.

Lou.

MR. RAYMOND: I think what he is really trying to find out is whether the canal still has any room for capacity to accept some water from some of these smaller streams at flood times, when it could be pumped into the canal and the canal can handle it, to whisk it away to the river. Is this a possibility?

MR. BAXTER: If you were to look at options of putting more water into the canal, more water would come out at Gold Run which is another problem we're dealing with.

SENATOR LaROSSA: Like I said, we're not going to do a solution which is going to cause a bigger problem some place else.

Yes.

MR. REILLY: The water flowing over the towpath, that was from the canal itself? That wasn't from Gold Run, because that was going underneath? Is that correct?

MR. BAXTER: That is correct. The culvert at Gold Run was able to handle that flow. When the water flowed under the canal through Gold Run, then, it came to the bridge at Lower Ferry. That culvert is too small. It jumped Lower Ferry Road and went across whatever green it is at the Trenton County Club, then, came to the DOT bridge, and then, backed up at the DOT bridge. It appeared, but we don't have documentation, that the capacity of the culvert underneath the culvert was, at that time, greater than the capacity of the culvert under River Road and Route 29.

SENATOR LaROSSA: Yes.

MR. GIBBONS: This is a very unpopular suggestion, but--

SENATOR LaROSSA: Make sure the red light is on in front of you. (referring to microphone)

MR. GIBBONS: This is a very unpopular suggestion, but it sounded to me as though there were some recreational enterprises, like golf courses and others, that were creating some of our problem. What is their responsibility for preventing this kind of runoff? Have we looked at those kinds of situations and made sure that those who enjoy these amenities are assuming their responsibility for the consequences?

SENATOR LaROSSA: The one I am most familiar with is Princeton, because when it rains, the entire back nine is under water. So I think it is doing more than taking its responsibility. You can stock the back nine on that course. It really gets pretty pervasive.

I think the situation at Trenton was, obviously, extraordinary, that even with all the other flooding incidents that we have had, I don't think the-- Has the canal ever overflowed with the other ones? There has been flooding on Gold Run, but the canal itself has never overflowed prior to this, right?

MR. BAXTER: No.

SENATOR LaROSSA: That is correct?

MR. BAXTER: Yes.

SENATOR LaROSSA: Okay.

MR. GIBBONS: It seems to me that the problem is likely to get worse the more development we have. On the one hand, you can look on this as a freak experience that happened once. But, on the other hand, you can look at it as a warning of what more of which we're likely to see as we continue to increase our development upstream. So we can't just shrug and walk away. We have got to think about how we prevent this kind of thing from continuing to occur.

SENATOR LaROSSA: Yes, Dave, that is part of the conversation we had before. One of the difficulties we have is that, apparently, local development being what it is, is a little bit of home rule. But I think that is part of what we're talking about in terms of the coordination of the different municipalities. So that as development takes place, the detention/retention basins, what have you, all of those things become coordinated. That is part of what we were talking about.

If I may, some of the ideas that are, forgive me, not necessarily a solution-- But some of the things that we have discussed were off-channel versus on-channel storage; some of those soil conservation ideas about cleaning

and desnagging; some demolition of property; retaining basins; comprehensive stream maintenance to take care of bridges which are creating problems; pumping into the canal; widening and deepening lakes; creating bodies that never existed before, let alone the coordination of these bodies of water, or retention/detention basins, so that you can have an alternating flow. These are very superficial, but a quick and dirty laundry list of some of the ideas that, I think, we heard here today.

I don't want to belabor the point, and it is not a matter of really who has the responsibility -- I think we all have a responsibility to solve this, otherwise we're going to be-- This is the first time this has ever happened. I don't want to be back here five years from now, ten years, or twenty years from now going through the same exercise, because it has always been somebody wasn't at the table to participate in the conversation to be able to come up with a plan and, then, move the plan forward so that it became real. So I think that is part of what the ultimate outcome has to be. It has to do that.

What I would like to do instead of belaboring the point is, if there are other specific things that we have not explored, burning issues that we have not gotten into, I would like to just real quickly go through them. Then, what I would like to do, maybe, is sum up before too long, then go back through the laundry list and see who we can volunteer.

I know Tony Mangeri has already indicated that they'll go back -- his people -- and we want to participate, but also to move some of these ideas and help develop a plan.

As I said, my charge would be -- through my office -- is that we'll find the money somehow, but you can't find a way to fund anything if you

don't have a plan to fund in the first place. I mean, that may seem a little bit putting the cart behind the horse where it belongs, but, nonetheless, we should do that.

But with the host of things that we have gone through this morning, the locations, the ideas, just take 30 seconds: Is there any location, any idea, that has not been put on the table today that you had? I'm saying think outside the box.

I'll give you one outside-the-box solution that was in a totally different problem. You know that there has been a traffic problem with Route 129 down near Lalor Street, near the shopping center. They kept talking about putting up a pedestrian overpass at the intersection. One of the ideas that DOT came up with was to not put the overpass for pedestrians at the intersection, but to put it behind the senior citizen building, because they will use it at the rear of the building. It won't interfere with traffic. They don't have to walk in front of cars pulling in and out of the parking lot. It was an idea that was outside the box that nobody thought of.

So I would like to have some creativity in terms of moving these ideas forward, and something which hasn't been there.

Let me try Al first, and then, we'll come to Tom.

MR. BRENNER: I'm familiar with Gold Run more than any site, so I would just like to talk about that for a second. Where Gold Run goes under the canal, if a structure was built -- some type of retainage structure there, a spillway--

If you could hold water on New Jersey Manufacturers' property -- now, of course, they would have to agree to that -- there would be nothing

damaged as far as property on New Jersey Manufacturers. There aren't any buildings, or any storage sheds, or anything like that in that area. The topography lends itself to storage of water along -- from the canal, all the way back to another structure they have located on Gold Run near Sullivan Way.

So between Sullivan Way and the canal there is an existing structure. That really doesn't hold back much. It just kind of detains or slows down the flow, but if there was another structure down near the canal-- Obviously, you would figure out exactly what you are trying to detain, and you would actually allow some of the land on New Jersey Manufacturers' property to hold water.

That is outside the box, but if we get New Jersey Manufacturers involved, maybe there is something we can do there.

SENATOR LaROSSA: Okay.

Tom.

MR. BAXTER: There is only one other thing that as I have sat here and listened that hasn't been talked about. It is an expensive alternative, but it is probably one that should be examined, and that is, to have underground storage retention. It is something that I have seen done in the Midwest. Where the ground is very flat and water has no place to go they construct underground detention. Then, at a later time, after the storm event, pump it back into the receiving body.

That is about the only thing that I have not heard here today that could be something that could be examined. I don't know if it would compete, ultimately, but that is what you're asking for, ideas and don't put a price tag

on them. People who have the problem will determine whether they want to fund them or not.

SENATOR LaROSSA: Agreed. Maybe you can get us the giant water tower, too.

MR. BAXTER: If I could, Senator. (laughter) The project that I particularly worked on was a dual use. It was a two-level parking garage, and underneath the parking garage was a large, 7-million-gallon storage tank which helped with a particular flooding problem.

SENATOR LaROSSA: Now, see, that is creative.

I'm sorry. Lou, go ahead.

MR. RAYMOND: Behind Notre Dame High School, between there and Tiffany Woods' development, there is a great big piece of property that belongs to the township, possibly, or Green Acres. It could be a place for a giant retention basin, an empty lake, if you will, that would store water when it came.

SENATOR LaROSSA: Clark is checking the maps as we speak. (laughter)

Again, those are the kinds-- Not only what, where, how it gets coordinated-- What I would like to do is request -- and I think if Don or Michael will bring it back to the Mayor, and I mentioned this to Barry before, and I mentioned it, I think, to the Lawrence Township officials, as well -- what I would like to do as a follow up to this--

We've asked that any public comment be submitted in writing so that the public comment will be part of the permanent record of this. Granted, there are a lot of people around this table today, but I really wanted to have

everybody hear the exchange of the dialogue that was taking place here. Not that I didn't want to hear from the public, but, again, it will be part of the record. It is important to have everybody who has a say, if you will, in actually moving the solution forward be at the table at one time.

What I would appreciate is, if the respective governing bodies -- Ewing, Trenton, Lawrence, as well as the county representatives, because you are the ones who are-- Again, the local bodies are the most immediately impacted at that level of government. If you would articulate or identify some member -- either a council member, the community engineer, whatever they are -- and have them participate.

Because what I'm going to try to do as a follow up to this is to create an ad hoc committee of about eight to ten people, come up with the ideas we have here, put every single idea that we have identified on a laundry list, and let's prioritize them and see which ones can be done. Which ones, from a practical standpoint can be achieved. After that point, let's set the priorities and see how we can move about funding them.

There is Green Acres money. There is storm water management money. There are flood mitigation funds. There are FEMA funds. Now, it's as though we've gone from there is no money to there is unlimited supply of money. That is not what I am talking about.

Again, if we can come up with some kind of practical plan that, again, 50 percent of something, I still think is better than 100 percent of nothing. So if we can cut the problem in half or by a quarter, we have achieved something very significant. Whether it be a garage where we can go down lower and put storage there, or some other structure -- subterranean --

whatever it might be, pumping water into a canal if the levels can get lowered. There is the matter of creating a basin up at Notre Dame or, maybe, along the State property up at the Shabakunk. There is a whole host of things.

The coordination of all of these detention basins-- If Trenton is furthest downstream, then Lawrence is next, and Ewing is next, find some way to hold in all three areas so that when Trenton gets rid of its level, Lawrence is able to start releasing some of its, and then, Ewing is able to release some of its, so it becomes a cascade effect rather than, as you said -- an interesting observation -- if you raise them all at the same time and release them all at the same time, you're just going to delay everybody being flooded, how late it is going to happen. But if it is done in stages, there is a practical standpoint.

Also, I would appreciate greatly if representatives from the DEP or someone, when this is put together-- I think the permit process is extremely important to make sure that we don't trample over the intention of what the regulations are. But, by the same token, make sure it is done in, if you will, a user-friendly manner.

Again, the difference between that tree that just fell down versus one that has been there for five years. One is debris and the other is habitat. I'm sorry, that is-- I love how things change.

Barry is laughing.

So if those things make sense, and if that is all right with the people around the table-- As I said, I don't want to bring this to a screeching halt, but you can only massage an issue so far. The massage is over. Now, we want the next thing. Let's come up with some practical ways of doing it.

We've put an awful lot of time and, I think, some very creative ideas-- Personally, I learned a great deal more than I thought I was -- than I really wanted to know. (laughter) But, nonetheless, I think we have an opportunity to solve a problem. One of the biggest things is -- and I'll go back to what I said before -- there is no plan. First and foremost, there is no plan. You can't solve it until you have a plan.

I really very, very much want to thank our representatives from Lawrence; certainly, the county, who had a number of people here throughout the day -- tell Bob I said, "Thank you very much for letting you guys come out here" -- from Chris Smith's office; Tom Baxter; our Ewing Township representatives; members from the City; and, certainly the DOT, DEP, and so on. Who did I miss at the State? Did I miss anybody?

All right. I thank you very much. What I will try to do is I will try to cover this in a laundry list to all of the people who participated here today. If you would, identify someone in your agency, in your office, in your municipality who can, if you will, be the focal point, whether it be for, again, the basins, whether it is--

Clark, you said before about the-- What were the two words that were added to that bill that should never have been added?

MR. JACOBUS: Sediments.

SENATOR LaROSSA: Sediments.

MR. GILMAN: Sediment, right. Sediments.

SENATOR LaROSSA: Those are the kinds of things-- I can probably do something about solving it, if I ever knew that it existed.

MR. GILMAN: I can give you a copy of that law.

SENATOR LaROSSA: Okay. Just tell me what I need to change, and we'll get that taken care of, too.

MR. GILMAN: I have a copy of the amended version that they proposed last year.

SENATOR LaROSSA: But it should be done in a way, as I said before, that doesn't trample on the intent of protecting the habitat, as well.

With that having been said, is there anyone else with any closing comments for the good of the order? I never want to have, necessarily, the last word. I'll give it to someone else.

Greg? Rick? Al? Rich? (no response) Now, think about it, this many people in government who have nothing more to say. (laughter)

I thank you very, very much. We will follow this up, as I said, hopefully, in less than two weeks.

Thank you very much.

(MEETING CONCLUDED)