



US Army Corps
of Engineers
New Orleans District

Public Meeting Summary

Algiers Canal and Belle Chasse Tunnel Risk Reduction July 27, 2010

Location	Bayou Barriere Golf Course
Time	Open House 6:00 p.m. Presentation 6:30 p.m., followed by a discussion
Attendees	Approx. 36
Format	Open House Presentation
Handouts	<ul style="list-style-type: none"> • Presentation • Approval Process Brochure • 2009 Status map
Facilitator	Rene Poche

Greater New Orleans Hurricane & Storm Damage Risk Reduction System

Algiers Canal and Belle Chasse Tunnel Risk Reduction

Public Meeting
July 27, 2010
Bayou Barriere Golf Course



US Army Corps of Engineers
BUILDING STRONG



Rene Poche: Thanks for coming out this evening for this meeting. We are going to talk about the Algiers Canal and the Belle Chasse Tunnel Risk Reduction Project that are going on. Before we get started there are a few introductions I need to make. From Plaquemines Parish we have Councilman Keith Hinkley, Councilmember Lynda Banta and from Arnie Fielkow's office, we have T.K. Tieu. I'm going to turn it over to Mr. Hinkley for just a minute to make a couple of remarks.

Keith Hinkley: I would like to recognize Ken Dugas, the engineer for the parish and Kirk Lepine, the council-elect for district three. We will be working with him in the future. I want to thank you for the participation this evening. Sometimes we attend these meetings and it's like we are talking to each other and then sometimes there's standing room only. We are in a situation here that's not too controversial with what they are trying to do here. It's just for protection of the area. Just to let you know, they have really worked with us, with Blair Rittner, Mr. Dugas and myself, in trying to make this project really palatable; make it not so intrusive on us as far as the traffic that's going through the tunnel and just really working with the community here and really trying to do something good for us.

Meeting Purpose

- Provide an overview of the benefits and impacts construction of risk reduction features along the Algiers Canal may generate
 - Fronting Protection
 - Levee Lifts and Stability Berms
 - Floodgate Construction
- Discuss benefits and impacts construction of overhead roller gates at the entrance and exit of the Belle Chasse Tunnel may generate
- Describe the Corps' efforts to minimize construction impacts



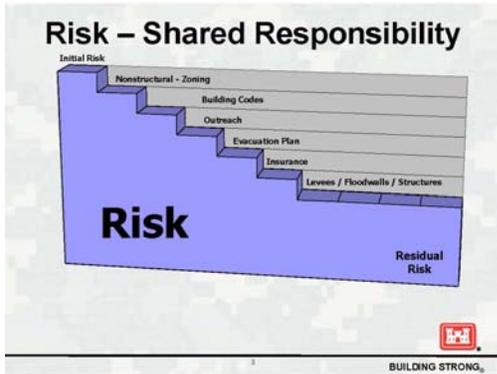
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Rene Poche: So, why are we here tonight? We are going to look at some of the benefits and the impacts of construction of the risk reduction features along the Algiers Canal. We will talk about fronting protection, levee lifts, stability berms and floodgate construction. We are also going to look at some of the impacts construction of the roller gates at the entrance to the Belle Chasse Tunnel and we are going to look at the efforts to minimize those construction impacts.

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If you have been to a Corps public meeting the last year, you've seen this slide every time you've been to a meeting. We talk about risk being a shared responsibility and that's from the federal level all the way down to the individual level. It kind of starts there at the top with the initial risks and then we have to mitigate some of that through zoning and some building codes, outreach, evacuation plans, insurance and then finally the actual physical structures that would be out there. The biggest thing to take away from all of this is whatever your elected officials ask

you to do as far as an evacuation goes, please follow those directions. That's the safest thing for everyone. The other important thing is that the risk is a shared responsibility. We all accept some risks in determining where we want to live, whether it's here, New Orleans, Metairie or across the lake. There will always be risks. We can't eliminate risks one-hundred percent, but we sure can reduce it.



This gives you an overview. Many of you have this map. By the way, we have maps and project brochures in the back if you haven't gotten those yet. Please take that before you go out tonight as it has a lot of good information. Also, if you haven't signed in yet, please sign in as well so you can get on our mailing list and stay updated. This gives you a good idea of what's going on around the system from St. Charles Parish to the west, all the way over to Jefferson and Orleans, Plaquemines; everything that is happening within the system. There is a lot of work happening here on the Westbank.

I'm going to turn it over now to the project manager, Ted Carr, who will tell you what's going on here along the Algiers Canal and the Belle Chasse Tunnel.



Ted Carr: It's great having you all out here tonight. To see so many people here concerned about what's going on in your community, it gives me great pride to be able to talk about the projects we have planned because this system is called the Hurricane Storm Damage Risk Reduction System. There is a system that now goes around the communities here as well as through New Orleans. What we are doing is working on some of the projects that are closing in that system. You may be aware of the West Closure Complex, that's a project that is going on right now in the Gulf

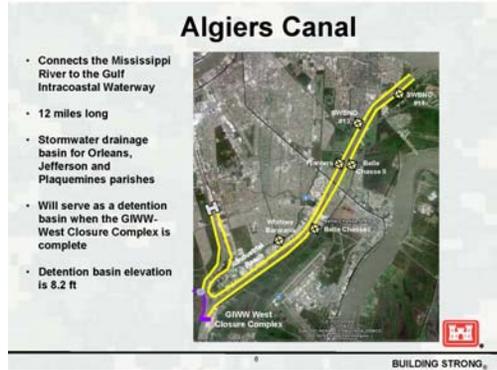
Intracoastal Waterway at the confluence of the Harvey and Algiers Canal. Once that project is

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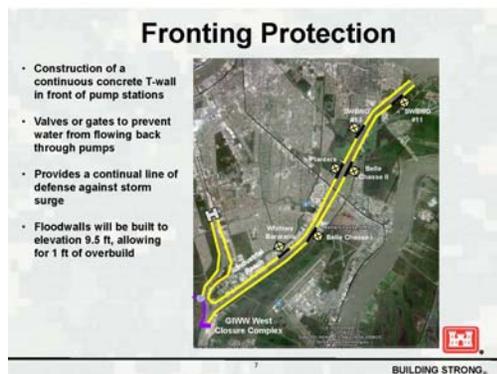
completed, it becomes a secondary line of defense. The primary line of defense is the system that goes around the perimeter of our communities, so the Algiers Canal will be the secondary line of defense. So that's why you are going to see some elevations tonight that are going to be less than what you would expect. The height of our floodwalls, the height of our levees is a



secondary system. Currently because the West Closure Complex is not complete, it is a major line of defense for the moment, but in 2011 the plan is to have a system in place for hurricane season, and that will change the function of the Algiers Canal and the Harvey Canals.

I think everyone knows where the Algiers Canal is, but let's look at the slide. We know that it connects the Mississippi River with the Intracoastal Waterway. It's at the confluence there on the southern part, it's on the confluence where the Harvey and Algiers to the Gulf Intracoastal Waterway and then at the northern part, that where you lock into the Mississippi River. It's about 12 miles long. Currently, it is a system that intercepts storm water drainage for the basins of New Orleans, Jefferson and Plaquemines parishes through a series of pump stations that actually pump into the Algiers Canal. I was talking about how it serves as a retention basin when the Gulf Intracoastal Waterway West Closure Complex is complete. That will be the primary purpose of the Algiers Canal system. If we didn't do that, we would be looking at a very different landscape around Algiers. It would have to be as a primary system and you would see elevations in the 14 to 16 foot range. We will be discussing elevations in the 8.2 elevation, that's the design elevation of the Algiers Canal. That's kind of a background for the kind of projects I'm going to be talking about along the Algiers Canal.

completed, it becomes a secondary line of defense. The primary line of defense is the system that goes around the perimeter of our communities, so the Algiers Canal will be the secondary line of defense. So that's why you are going to see some elevations tonight that are going to be less than what you would expect. The height of our floodwalls, the height of our levees is a secondary system. Currently because the West Closure Complex is not complete, it is a major line of defense for the moment, but in 2011 the plan is to have a system in place for hurricane season, and that will change the function of the Algiers Canal and the Harvey Canals.



Awhile back I was in this room and we were talking about fronting protection at our pump stations. Fronting protection is construction of continuous concrete T-walls in front of the pump stations. Some of you may be aware of our pump stations, they have been around awhile. Some of them were built in the early 60s, and they've had additions done to them. We have some issues with seepage underneath them, which we try and control with sheet pile, but there are some upgrades that we are doing now to bring them into the system so that we can get everything certified.

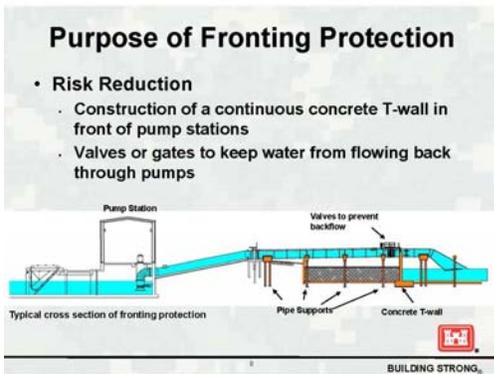
Valves and gates will be installed to prevent backflow through the pumps. If everyone is gone and the Algiers Canal comes up, currently you can backflow water through that system the wrong way and that's what we want to eliminate. It provides a continuous line of defense against storm surge so what we are doing is building concrete T-walls in front of these pump stations so that back walls of the pump station will no longer be the primary defense holding back the water from the discharge basin from the suction basin. Floodwalls will be built to an elevation of 9.5 feet. I just said 8.2 and I'm now talking about 9.5, the reason being that some of these systems have a foot of overbuild in. It's a sea level rise so some of our structures have an extra foot of risk reduction in them. That's why we are building the T-walls to elevation 9.5

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ft. What we have are five pump stations that we are going to be working on. This is up there by English Turn - Sewage and Water Board Pump Station #1. Then we have Sewage and Water Board Pump Station #13. I know some of you are very familiar with these pump stations, but others may not be as familiar. We then have Planters that actually remove water from Jefferson Parish and then discharge into Algiers. We also have Belle Chasse #1 and Belle Chasse #2. There is also a more recent pump station that is Whitney- Barataria and that currently does not need additional design for fronting protection. So there are five stations and we are going to talk about those five stations.



Why fronting protection? Here we have the pump station itself, there is discharge and what you see here is a back flow valve that we are going to install for a steel pipe discharge. Then you can see a concrete T-wall that acts as a barrier, and keeps the discharge area from the suction area. Primarily right now the main line of defense is the back wall of the pump station. So this is a diagram of what a steel discharge would look like.

Male Speaker:

Which pump station is that?

Ted Carr:

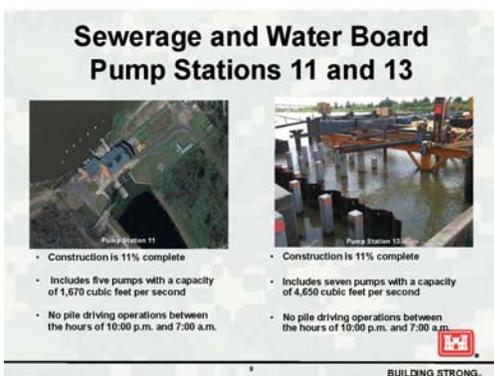
This is just a drawing of a general pump station. I will show you pictures of some of the actual pump stations.

Female Speaker:

Someone had made a comment that our pumps are not working at [Inaudible] and do we have pumps in both of those places and are they working properly?

Ted Carr:

I'm going to go into that when I go through these next few slides. The answer is yes and they are working as designed.



So here is Pump Station #11, Sewerage and Water Board 13. This station is under construction. It includes five pumps with the capacity of 1670 cubic feet per second. When we are out there constructing, we are allowed to have one pump down at any one time. Putting in a Temporary Retaining Structure isolates a section of the pump station. When the isolation of a section occurs, one pump at a time will be down. That is the design and that is how it works.

At this pump station there are five pumps. So Pump Station #13, we are 11% completed in the construction process as we are driving concrete piles. We have seven pumps with the capacity of 4650 cubic feet per second and at any one time, one pump can be down. What we are maintaining is about

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75-85% of the capacity. It's the nature of doing the construction that we have to isolate and work in a dry answer and in many cases it requires taking down a pump.

Plaquemines Parish Pump Stations

- Belle Chasse #1**
 - Construction is 13% complete
 - Includes 5 pumps with a maximum capacity of 3,350 cubic feet per second
 - No pile driving limitations
- Contract is being re-advertised for award**
 - Includes 3 pumps with a maximum capacity of 1,200 cubic feet per second
 - No pile driving operations between 9:00 p.m. and 6:00 a.m.
- Planters**
 - Construction is 17% complete
 - Includes 9 pumps with a maximum capacity of 2,440 cubic feet per second
 - No pile driving operations between 9:00 p.m. and 6:00 a.m.

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Let me go through the steel discharge. If we have steel discharge pipe we are only down for a couple of days. At Belle Chasse #1, construction is about 13% complete and it includes five pumps with the capacity of 3550 cubic feet per second. There are no pile drive limitations so we can move that project along as quickly as possible. We put in a bid for Belle Chasse #2, but we had to retract the bid and we are now in the process of rebidding. That pump station has three pumps for capacity of 1200 feet per second and what we will do is extend that pipe out through the TRS so that will take about one to three days. Once we do that

we will put the section back together and that pump will become fully operational again. So that will only be down for a couple of days. There will be no pile driving during the hours of 9 pm and 6 am. The last one is Planters. Construction is about 17% complete. There are nine pumps with a capacity of 2440 cubic feet per second and you can see that we are out there removing some mud on the floor of the basin to put the slabs in as part of that project.

Male Speaker:

Isn't Planters a functional station? When you say 17% completion, is that the upgrade rather than the station?

Ted Carr:

We are talking about fronting protection so the process of putting in that protection is 17% complete. That's what we've been doing with construction on most of these since September.

Levee Lifts and Stability Berms

- Four reaches of levee lifts and stability berms are in design
- Protected-side berms enhance levee stability during high water levels
- Levees will be elevated to 8.2 ft within the existing Right-of-Way
- Construction slated for Fall 2010
- Lifts will be completed by hurricane season 2011

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We are going to move from pump stations to work that is going to be done on the Algiers Canal itself. For the most part the Algiers Canal is a system of earthen levees and we will talk about the levee lifts and stability berms. Stability berms are something that is post-Katrina to increase the factors of safety for high water level. The Algiers Canal is divided into four reaches. One that we have just done a lot of work on is the Industrial Reach, which goes from the confluence of the Harvey and the Algiers at the southern part and goes up to the Belle Chasse Tunnel

and that reach on the west side is called the Industrial Reach. We have just raised those levees to around elevation 10 so those levees are high enough and significantly above 8.2. Because of the timing of the design, Hurricane Katrina and the new detention basin with the West Closure Complex coming in, now the elevation would be 8.2 so we have extra there. Protected side berms help with stability during high water levels. The levee will be elevated to 8.2 feet with existing right-of-way so there's no addition a new right-of-way that we have to obtain so those projects are moving forward. Constructed is stated for fall of 2010 to get these thing going.

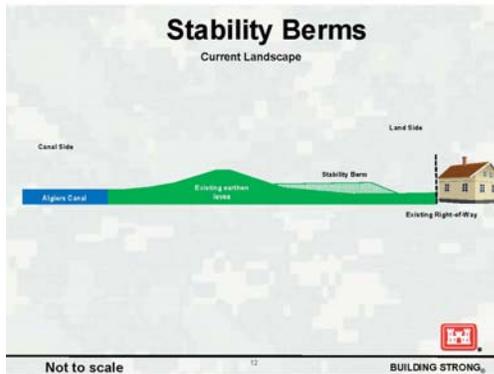
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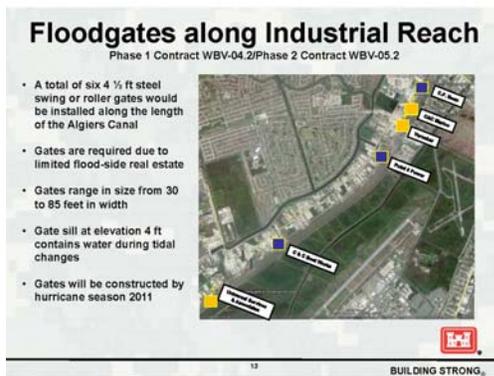
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They are much smaller projects with much smaller durations and they will be done within hurricane season 2011.



Here is some animation that shows a stability berm. Here is the canal and here is the existing levee and this line shows the right-of-way, so let's go ahead and roll that. So this is a stability berm. Basically a stability berm adds weight to the levee for basically a failure mechanism for a plain that goes by control of different soils. This adds weight to a failure plain so that weight then stabilizes that levee during high water levels.



We are going to move on to some floodgates along the Industrial Reach near the Alciers Canal. There are a total of six gates that we are going to put in that Industrial Reach; a total of six 4.5 foot steel gates, swing and roller. We use swing gates for the 30 feet and for the 60 foot gates and up we use roller gates because of the weight. Gates are required due to limited flood-side real estate, so if you look at those businesses and if you look at the slopes they need to service what they are doing on the flood side, when we raise the levee up, we could no longer fit a

conventional ramp in there because that ramp, at the slope that it was, would not extend into the Alciers Canal. What we do now in those cases, we whittled them down to six locations, and you can see where those locations are on the map. There are two projects that will make up the gate installations. Each one of those projects has three of the gates in them, so that totals six. Gates range in size from 30 to 85 feet in width. We have a levee sill and we want to have a sill elevation of around four. If we didn't do that, every time the water came up in the Alciers Canal, we would have water flowing into the area. So we will be ramped up to a sill elevation of four and then that gate will be on top of that to bring it up to elevation of 8.5. It's a pile-founded concrete sill so under that, there will be piles driven and underneath that a concrete surface on that and earthen material to ramp up to it.

Female Speaker: Are the gate jobs going on at the same time and is the protected side stability [Inaudible]?

Ted Carr: No. They may be going on at the same time but they are not in the same locations. You don't need the stability berms along the full length of the Alciers Canal. It's particular to the soil conditions so what happens is that we do soil samples and strength tests and based up on that, we determine if we need a stability berm in the area. They are selectively placed where they are required.



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Belle Chasse Tunnel Risk Reduction

- Risk reduction structures around the tunnel will close the system
- A series of gates connect to floodwalls, floodwalls connect to earthen levees
- Pile load tests and gate construction scheduled to begin in Nov. 2010
- Heavy tunnel construction scheduled to begin in Feb. 2011

Not to Scale

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This is the Belle Chasse Tunnel Risk Reduction. We all go through that tunnel so I know this is going to be of significant interest. The risk reduction structures around the tunnel will close the system. You may be asking why we are putting this whole system around the tunnel and not on top of the tunnel. It's because we don't want to put that kind of load on top of the tunnel so we've chosen to go around the tunnel. Pile load test and gate construction is scheduled to begin in November of 2010 and we are aggressively finishing up our plans and specifications for that project. We

have a team trying to shore up all our right-of-entry. A lot of things have to come together but we have some good people working on it to make it happen. Tunnel construction is scheduled to being in February of 2011 so even though we will be starting in November, the actual work on the tunnel won't be until later.

Belle Chasse Tunnel Risk Reduction
Contract WBV 6.2

A floodwall, earthen ramp and 7 floodgates will be constructed around the Belle Chasse Tunnel.

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Here is the system that we are going to have. Here is the Algiers Canal Levee system that currently exists. You can see it's on either side and follows this basic footprint and comes on top of the canal. This is the railroad track right here and there is the highway bridge and here is the tunnel. We have some animation to show the swing gates across the railroad tracks and then at the tunnel entrance and exist, we have what's called an overhead roller gate. As you know there are also some turnouts that were originally put in place for trucks that came up to the tunnel and

realized they might be too large, so these turnout were put in place. This turnout road will have a gate here and as we come here, we are putting an earthen ramp. Over here, this is the road that comes to golf course here, there is going to be a gate here as well as a gate here. What is going to happen is that the road to the golf course is going to be reconfigured to allow construction.

Belle Chasse Tunnel Risk Reduction
Overhead Roller Gates

The overhead roller gate at the Belle Chasse Tunnel would be contained within approach walls just before the tunnel entrance and just after the tunnel exit.

The overhead roller gate at the Belle Chasse Tunnel would be closed during storm events and during routine maintenance.

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This is a picture of an overhead roller gate in the city of Berwick, just across from Morgan City. This rolls on a steel beam and does what you think it would do. It rolls on a track and then it seals with some plates on the side of the tunnel. It is closed via a winch system. That's how we close a majority of our gates. Down in Oakville, we have a motorized gate but that is because during an evacuation it could be closed late when there are higher winds, but most of our roller gates are close with a winch system.

Male Speaker:

Is there any way to have them roll down?



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Ted Carr:

We've had to try and explain this because some people thought it was like a guillotine gate coming down, but no, that's not what it's like.

Belle Chasse Tunnel Risk Reduction
Current Traffic Patterns

- Coordinated closely with:
 - Louisiana Department of Transportation and Development
 - Plaquemines Parish
- Current north-south access
- Southbound Tunnel
- Northbound Belle Chasse Bridge

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You've heard from Councilman Hinkley that we've been coordinating this plan closely with LA DOTD and Plaquemines Parish, they are partners in this. It's very important to have that input. We actually had an earlier design that was agreed that it wasn't the right fit for the community so we went back to the drawing board and came up with this design.

Belle Chasse Tunnel Risk Reduction
Traffic Patterns During Construction
Weekends 1 - 9, 12 - 15

- Approx 15 weekends from Feb. 2011 through Jun. 2011
- Tunnel closed during construction
- 24-hour operations
- No pile driving between 9 p.m. and 7 a.m.

Traffic impacts generated by construction of overhead roller gates at the Belle Chasse Tunnel will generate some traffic delays and detours similar to the monthly maintenance done by the Department of Transportation and Development.

* Schedules are approximate and are subject to change

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This basically shows you, that we have two lanes on the bridge and two lanes in the tunnel, normal everyday traffic. What's going to happen when we go into construction? We said the construction would start in November but we would see the gate construction in February of 2011. We think it's going to be 15 plus weeks of work, primarily on the weekends that we would have to completely shut down the tunnel traffic and we would be working 24 hours to get the structures in place, driving piles and putting in the foundations, steel plates, doing what we

have to do to get the system in place. What we are talking about is approximately 15 weekends from February through June 2011; the tunnel would be closed during this construction. The key things here is that these are weekends so we are trying to minimize the impact to a majority for commuters. It would be 24-hours of operations; however, there would be no pile driving between 9 pm and 7 am.

Belle Chasse Tunnel Risk Reduction
Traffic Patterns During Construction
Weeks 10-11

- Single-lane of traffic through the tunnel
- Bridge in normal operation, two northbound lanes
- Single-lane access for approximately 11 days, from approximately third weekend of April through the fourth weekend of April

For 11 days, at approximately the end of April, access to the Belle Chasse Tunnel will be limited to a single-lane of traffic.

* Schedules are approximate and are subject to change

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There will be a time for about 11 days, from approximately weeks 10 to 11, there may be delays, but in weeks 10-11, there is an 11-day period when we would have one-lane of traffic through the tunnel and then normal traffic across the bridge. Let me just back up. When we are working and have the tunnel completely closed, we are going to have temporary bridging that will cover up what we are doing. We are working with LA DOTD to have that issue solved so it should be minimal impact when we open it up Monday morning. You can watch the progress, but traveling through the tunnel should be minimal impact.

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Male Speaker: How are you going to monitor the impact of the construction itself; the proximity of the construction in the tunnel itself?

Ted Carr: You are talking about the impact of construction on the tunnel itself?

Male Speaker: What is the monitoring system? You are talking about running traffic through the tunnel at the same time you are doing construction...

Ted Carr: It's the type of construction. Chris you may want to address that.

Chris Dunn: On a lot of our projects where we are building next to residential structures or sensitive structures and so we have a vibration monitoring program. Within our specifications, our contractor would have to stop operations and correct operations if the vibrations get to a point that is above .25 inches per second. To put that in perspective, that is what the California Department of Transportation uses when doing construction adjacent to historic structures.

Male Speaker: Are you going to have multiple sites for that monitor?

Chris Dunn: Yes. We are going to work with DOTD to find the prime locations, but as a minimum, it will be at the mouth of the tunnel and a couple of head walls and maybe actually down in the tunnel while we are doing pile driving activities. We have designed the foundations such that we are going to have a minimum of 50 foot clear in any direction from the tip of the foundation piling under the new floodwalls and gates to any point on the tunnel. We are also going to use the press-in method for all the sheet pile driving. On our urban construction projects, there is a lot of sheet pile being vibrated into the ground and that is what really shakes things. Within the past five or ten years, a couple of companies have come up with a method in which they thread the sheet pile and drive them in using a series of counter weights without all the vibration. We are putting that requirement in the spec for all sheet pile driving. In working with our geotechnical engineers, the impacts from driving the H-piles that will be going in will pale in comparison from typical vibrations from a sheet pile driven operation. In addition, we will be taking extensive video and photographic surveys of the tunnel as well as taking routine surveys to document any movements and as we de-water the hole, as you can see in the plan, the gates will be down in the approaches to the tunnel proper, we will have a piezometer out there so we can monitor the water levels so we should have a good hand on anything having in the tunnel.

Male Speaker: Are you going to have a piezometer on top of it where the canal is itself?

Chris Dunn: The piezometer will be put in the cofferdam around the outside and excavating out prior to doing a lot of the work. We typically put them along sheet piling.

Male Speaker: What is a piezometer?

Chris Dunn: It's a PCV pipe down in the ground. You have different kind of soils out here, sometimes you have sand sometimes clay, but if you have sand, that will hold



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water and let water flow one way or another. What the piezometer does is let you know what kind of pressure you have in the water; it will measure what the water level is.

Male Speaker: Besides seismic sensors, will you be using GPS?

Chris Dunn: Yes, we will also be taking routine surveys of the tunnels as well.

Male Speaker: Prior to construction, does the Corps inspect the tunnel overall?

Chris Dunn: We have been working with DOTD and the local DOTD district office as well as the Baton Rouge headquarters and we've looked at the tunnel inspections reports. DOTD is very strict with public safety and they have insisted on nothing but the very best in terms of monitoring and we have been cooperating with all such requests.

Male Speaker: Has an inspection been completed?

Geneva Grille: They are just finishing up a two million dollar tunnel rehab job so it was inspected before that and it's being inspected as the job goes on.

Male Speaker: [Inaudible]

Chris Dunn: We are actively working on those right now. What we are doing right now is we are half way between 95 and 100 percent plan and specs and we are ironing out a lot of the details so even if I could talk about costs, those numbers would likely change.

Male Speaker: Your original estimate was [Inaudible]

Ted Carr: That's about right and we give that range. The reason why we don't talk about cost is that those jobs are going out for bid and so we don't want to tarnish that bid process. We prefer not to talk about cost at this time.

Male Speaker: Do you anticipate it being less?

Chris Dunn: We always hope it's less. So far we have been the beneficiaries of a rough economy on most of our hurricane protection projects.

Male Speaker: After it's built, who maintains it?

Ted Carr: The system right now, per the current WRDA bill in congress, the system right now is a federal responsibility. In the current bill, it's quoted that until the West Closure Complex is complete, it will remain a federal responsibility. They are talking about completing the West Closure in a 2012 timeframe, so until that time it will be a federal responsibility. After that if there are no changes in the current WRDA bill then it would resort to CPRA and then their delegate.

Male Speaker: My concern is that [Inaudible] \$26 million budget and you are one of the highest tax payers in the country. So in the process of building this, if the state has to pay to cover this at any time, what you are doing is making people who make the least amount



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of money in this country, pay for the entire United States to get cheap oil and gas. My concern is that as long as the U.S. government destroyed 90 miles of forest between New Orleans and the Gulf of Mexico, my property was not in danger 40 years ago. It is flood prone now tanks to the U.S. government starting with Kennedy. My concern is that the federal government is going to dump it on Louisiana and we can't afford to pay for the upkeep so it will deteriorate and it won't provide protection.

Rene Poche: Your comments are in the record. I would suggest to you to contact your local congressional delegation. We are not really in the position to discuss the maintenance issues; we can only do what Congress tells us to do. The best way to do it is to work through your congressional delegation.

Male Speaker: That's why I mentioned it's not the Corps that's got to chat with the citizens, it is Congress. My concern is they destroyed the coastline; the president shut down oil drilling and did away with income. He's destroyed our way of life. We can't fish, you build all the levees and now we have [Inaudible] levee police won't let us near the water.

Rene Poche: That is on the record and now we need to steer back to why we are here.

Male Speaker: I hope the state DOTD doesn't come back in a few years and say, let's build a bridge and close the tunnel. It's happened.

Ted Carr: I don't know what is going to happen with the bridge but that is in the dialogue and that was considered in the process of determining that we needed to build for the system, the floodwalls, gates and levees. That dialogue does continue but as we understand it's down the road issue and I don't know how far down the road it is.

Male Speaker: Typical New Orleans. They will pave a street and then the Sewerage and Water Board will decide to lay a new line.

Ted Carr: In order for us to get certified, this work needs to be done and I can't really address the timing of a future bridge.

Male Speaker: In general, without anything changes, my flood insurance went up \$130. Will we see a deduction in flood insurance premiums when this thing is completed?

Ted Carr: I know once the system is certified that issue will be addressed. The whole idea behind putting the whole system in is that it would change flood insurance, but I am not prepared to talk about flood insurance. On occasion we have had people who can talk about it, but that is not where I need to be.

Rene Poche: Again, we talk about everyone down from the feds to the local level. That question can best be addressed by FEMA as to what might happen as far as flood insurance premiums go. We are not in a position really to discuss that. We really need to get back to this presentation today.



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Male Speaker:

I watched this construction and I agree with the way you are getting ready to do things with one exception; utilizing the bridge for two-way traffic. For years we monitored the amount of accidents that were on that bridge going one-way and now you are allowing traffic to come head-on to each other and the grading was the cause. For the record, I want to state that the bridge has a danger that you are looking at and you are getting ready to propose more danger on it. That's for the record. DOTD knows it and I'm making you aware of it.

Belle Chasse Tunnel Risk Reduction
Staging Area

- Belle Chasse Walking Park will be closed throughout construction to ensure public safety
- A walking trail is available at Medal of Honor Park located on Barriere Rd



The Belle Chasse Walking Park will be closed through the duration of construction which is slated for approximately Nov. 2010 through July 2011.

* Schedules are approximate and are subject to change

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Ted Carr:

One of the things that is about to change is the current access to the park. That park area is going to be a construction zone and there will be heavy equipment out there, there are going to be large cranes driving piles and so during the construction of this project the park will be closed. Just a reminder that there is an alternative, a walking trail at Medal of Honor Park is being made available to you.

What To Expect During Construction

- **Construction impacts**
 - Elevated noise levels from motors, pumps, generators, pile driving, etc.
 - Increased truck traffic
 - Traffic delays during partial closure of Belle Chasse Tunnel
 - Detours during full closure of Belle Chasse Tunnel
- **Corps' efforts to minimize impacts**
 - Contractor has ability to both use canal and road access
 - Wet unpaved roads (to minimize dust)



Construction of T-walls in front of Pump Stations will require pile driving.

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What can you expect during construction? We have hinted about a lot of things, but when we are driving piles and associated work, there is going to be elevated noise levels from motors, pumps, pile driving. We just want to be clear about that. There is going to be an impact, but you have to remember, the system that you will end up with, the risk reduction for the area, will be the benefit. Increased truck traffic and the contractor, depending on how they set up their work, they could use the Algiers Canal as well for deliveries, but most of the time the materials will be

by truck. There will be traffic delays during partial closure of the Belle Chasse Tunnel and full closure of the Belle Chasse Tunnel. There are some alternatives that you may want to think about. The Woodland Bridge is an alternative and I'm sure when DOTD closes the bridge to do their work that you all make a consideration on how to get around. So there will be detours during the full closure of the Belle Chasse Tunnel so that will be going on as well. What we are trying to do is minimize the impacts. We've worked closely with the community and we've been talking to the Plaquemines Parish government and we think that we have the best plan at this point. Also, the contractor has the ability to use both the canal and the roads. We will also have water trucks to wet unpaved roads to minimize the impacts of dust in the area. That's always to a challenge to keep those water trucks running to minimize dust.



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Onsite inspections, the Corps will have onsite employees for oversight during the contractor period. The Corps will monitor the contractors to make sure they are following design and specifications. This also ensures that the site is safe and the signage is clear so when there are detours we will take the appropriate action to make sure people are aware of what's going on. They will also confirm that traffic control measures are maintained and meet safety standards. The onsite inspector has vast knowledge of the site activities and can plan forward. Chris is the

engineering technical manager and I am the project manager and there is a whole team of people behind me to help us at the Corps to get to this point so there is a whole team of people who have worked on these projects to get them to this point.

Male Speaker: Will they be working on both projects at the same time on each side of the tunnel or one at a time?

Ted Carr: Simultaneously. When we close the tunnel down, we want to do both ends so that we minimize the impact.

Rene Poche: We just have a few more slides to go through and then we will open up the floor for questions. We would like to let you know that for FEMA flood insurance questions, we have Brian Bartley over here and he can speak with anyone regarding flood insurance issues.



Some upcoming meetings, we have one next week on the St. Bernard construction. On the 10th we will be in Metairie talking about the fronting protection issues for the lake front levees out there.



Some resources that are available to you. We have nolaenvironmental.gov and you can find out a lot of good information there. We also have a public website with great resources such as animation and videos of the projects that you can see how they are sequenced and how they are moving along.

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Opportunities for Public Input

- Regular public meetings throughout the Hurricane and Storm Damage Risk Reduction System (HSDRRS) Area
- Make sure to sign in tonight to get on our meeting notification mailing list
- Construction Impact Hotline: 1- 877- 427- 0345
- Comments can be submitted at any time at www.nolaenvironmental.gov

Questions and comments may be submitted to
Telephone: 504-862-2201
E-mail: AskTheCorps@usace.army.mil



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We often talk about how important it is to have your input and we will continue to gather it. I mentioned about signing in and if you haven't done that, please do so. You can call the Construction Impact Hotline and it rings into the public affairs office. We will take the information, research it and get an answer back to you. The main public affairs number is 862-2201 and then we have the askthecorps email address and we will get your questions to the right person for that particular project, research it and then get back to you with an answer.

Social Web Networking Communities and what they mean to you

twitter is an online messaging and social networking system that allows people to share their daily life experiences minute-by-minute, hour-by-hour, and/or day-by-day via their computer or mobile phone. Team New Orleans is joining in and taking on the opportunity to tweet with the public and offer reports on developments, additions, changes, and upcoming public meetings and events that will affect local communities. Check it out by going to twitter.com/teamneworleans.

flickr is an online community platform for global photo management and sharing applications via the web. Team New Orleans has become a part of the movement and is using Flickr to visually explain our projects. Check out our photos at www.flickr.com/photos/37671998@N05. Explore...

facebook is a global social networking Web site that links people from across the world and is currently ranked as the most popular of its kind. Team New Orleans is following in the trend and is using Facebook to update the public about projects, events, activities and public meetings. Become friends with Team New Orleans by visiting [www.facebook.com/search/New Orleans District](http://www.facebook.com/search/New+Orleans+District).



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If you are inclined to the social media aspect on all of this, you can follow us on Twitter, Flickr and Facebook. If you want to become a friend, please do because we are always posting news releases on various projects and other information that is important.

Visit the following links to follow us on Facebook, Twitter and Flickr:

<http://www.facebook.com/people/New-Orleans-District/100000017439096>

<http://twitter.com/teamneworleans>

<http://www.flickr.com/photos/37671998@N05>



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Here is the different address for all the social media I talked about.

Thank you



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Steve Borne: At what point after draining Jefferson Parish, parts of Belle Chasse and Algiers, is all that water going into the Intracoastal Waterway? When Katrina came along the water was three feet from the top of the top of the levees. If the Mississippi River is lower than the water in the Intracoastal Waterway, will you be able to take and allow some of the water to go into the Mississippi so we don't flood over here?

Rene Poche: We don't have the right people here to answer that question. We will have to take that and get back with you. We will get your information and get back to you.

Don Costello: I live in the Aurora section of Algiers. You have calculations for the pumping stations at cubic feet per second, that as inflow during the rain of a hurricane versus the output of the West Closure Complex and I believe it's down from 13 to 11 pumps on that? The second question and I just want to go on the record in that you stated that it's a federal project up until it's certified, am I correct on that?

Ted Carr: It's a federal project until it's turned over per the WRDA bill complete for the West Closure Complex.

Don Costello: I don't care who the Corps has to sign the contract with be it, as I call it Super Levee Board West or the DOTD or the state government, I don't want any government entity operating the West Closure Complex when so many people, I think it's a quarter of a million people and thousands of homes, I don't want some joker from the Sewerage & Water Board pulling the switch on things. It's simple, I don't trust them.

Rene Poche: Let's go back to your first question, cubic feet per second.

Don Costello: Cubic feet per second outflow from the pumping stations versus the output of the West Closure Complex.

Rene Poche: The difference in the discharge is minimal. Those pumps at the West Closure Complex will be able to keep up with what is being pumped from up this way. The West Closure Complex will be pumping a little bit over 19,000 cubic feet per second so it will be able to keep up with what is being pumped from the pump stations up the canals.

Ted Carr: Actually, the cumulative amount of water the pumps are pumping into the Algiers is 29,000 cubic feet per second. The discharge at the West Closure Complex is a little over 19,000, hence you can see there is water being detained and that is why we call the Algiers a detention basin. That is what this system is designed to do. The outflow from the pump station is less than the inflow from those other pumps. Prior to a storm the Algiers Canal, by designed requirements, would be pumped to a certain level then it would be allowed during the storm to fill as the pumps on the West Closure Complex pump out at 19 and then we are inflowing over 29,000.

Don Costello: No marine traffic will be in it? Once you close it that's it?

Ted Carr: I'm not able to speak to that. I know in the past we have had the Coast Guard address that and I think there have been some changes as to what exactly is being allowed, but I can't go into the details of that.

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Francis Sewell: I'm in Algiers. When Katrina happened we had waves that actually came over the levee down by us in the English Turn area and we had water and debris that came over the levee. Are we in a position now that we have to worry about some of this water being diverted giving us even more water or are we taken care of as well?

Ted Carr: The water you are talking about - is that coming over the MRL or is that coming over the Algiers Canal?

Francis Sewell: It was coming over the Mississippi River, but when you come around the bend on River Road, you then come by the Industrial Canal and we had water in both places that were threatening. I also know you had barges sitting on top of that levee.

Ted Carr: Specifically, you are talking about the Mississippi River levee?

Francis Sewell: That was where we had the greatest fear of that happening, but you also had water in the low lying area that comes around Plaquemines as well. I know you have worked on that levee already and I believe you now have it safe, but will any of the things you are doing collect more so on the mouth of the river and then therefore give us all water coming over the levee? Plaquemines would be in that area too. I'm concerned about the levee there and then as you come on around the side of it comes around and becomes a threat as well.

Ted Carr: With the West Closure Complex in place, what that is going to do is keep the surge from coming up into the Algiers Canal. Once that gate there is closed then the Algiers Canal will be behind the West Closure Complex and the lock on the other end so the surge will no longer be running up through the Algiers Canal. Without directly answering your question, but I'm saying it should be less because the amount of surge that would be coming up the Algiers because of the West Closure in place.

Francis Sewell: I'm just concerned about that because I know that levee had a problem by the river. We are concerned about both areas because it does start out at the Mississippi River and when you come around you have the locks so we have concern in both areas and want to know that our area is protected.

Ted Carr: We can have someone call you and talk to you, someone who has direct knowledge of those projects.

Male Speaker: In the West Closure, when you are pumping at 19 or 20,000, what effect will there be on the discharge side, because you are coming out of Harvey Canal and Algiers, what effect will it have on tidal elevations if you are facing tides on that side as well as winds on that side? I know there were some studies done and they told me that it will effect about an inch or two, but that doesn't give the surge from the West Closure going into the immediate area of Crown Point and Lafitte. You are going to have a serious surge coming from the West Closure if you are assisted by tides and winds in that area. My question to you is how is that going to affect the discharge channel for the West Closure project? Shut gates, 11 pumps running, 19 to 20,000 cubic feet per second.

Rene Poche: Well Ted is not the specialist on the West Closure project so we are going to have to take that and talk with the hydrology folks. The meeting is not about the



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West Closure project it's about the work along here. We are going to have to take your information. We can't answer the question, but we will have the project manager get back to you with the best answer.

Male Speaker: At what elevation then are you going to control the West Closure Project coming from the retention basin that you have in the Algiers Canal and in the Harvey Canal up to the Harvey Canal Locks? In other words, you are using it as a retention basin and at some point you are going to have to turn those pumps on. What elevation are you going to have going through the intake side of the West Closure? I understand you may not have that, but at some point you have some elevation that you will allow the canal to go to.

Ted Carr: We don't have that information, but what we can do is get back with you. What I am aware of is that in the next couple of months there is going to be another public meeting where we will talk about the Eastern Tie-In, the West Closure Complex and some of the other activities in that area. We will get back with you and talk about that.

Male Speaker: I understand. This is the seventh meeting I've attended concerning the West Closure project and three meetings ago, someone was supposed to get back to me and they never did. I asked the question at the public meeting.

Ted Carr: We will get back with you. Rachel will make sure we get back with you.

Female Speaker: You had said during construction people could use the Woodland bridge. They are doing construction now on 406 and matter of fact they stop it during the day while they are working. Will they finish by the time this is beginning? It's not on the bridge, but in the area. They had it stopped quite a bit in the last weeks a few times.

Ted Carr: There is some consensus building over here that that should be finished.

Female Speaker: Well they also have the large housing coming in so it's already disruptive on that road. Construction in the area will be going on at least a year or so.

Ted Carr: Councilman Hinkley says most of that should be finished so he probably has some information about that.

Steve Borne: How many of these pumping stations will be manned during a hurricane? Do you have generator back-up and about the piling that you are sinking, are those steel interlocking pilings?

Chris Dunn: Yes, there will be steel interlocking sheet piling that will be going beneath all the walls to cut-off any kind of undermining. The primary foundation piles will be steel H-sections going into the ground about 100-feet.

Steve Borne: Instead of having the support berms, why don't you just take those sheet pilings and run them along the levee and have them raised about five-feet higher than the top of the levee?



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Ted Carr: We actually looked into that and what you need is the length and you are looking for that weight; that distributed weight. We tried to bring those stability berms in because of its proximity to our lease line. So we've looked at that and because of the weight and the distribution of the weight that they need for the failure plain, they need that distributed weight.

Steve Borne: Jefferson Parish has it along with Orleans-Jefferson Parish line.

Ted Carr: We are going by the design guides and those standards are what we have to adhere to.

Female Speaker: He mentioned generators and I didn't hear you respond to that. Will we have generators in the stations that we have in the event of a power failure?

Ted Carr: The project that I'm working on is not directly associated with that. There are a number of projects called the Storm Proofing Projects that that is part of what they are doing. They are hardening the buildings themselves to stand up to additional wind loads and in some cases, they are upgrading the generators that are there and the fuel storage tanks. But specifically for each one, I can't answer that questions, but we can get back with you because there is working going on to address those issues at different pump stations, but I don't have specifics for each one.

Male Speaker: This concrete tunnel we have is approximately 50-years-old and has leaked since the day it was built. The patches have never stopped leaking. How much consideration have you given about the pilings? Are they going to be driven or vibrated down there because you are going to bust that tunnel worse than it already is?

Chris Dunn: The steel H-piles will be driven by an impact hammer. The folks that do that for a living have indicated, what really causes more concern is when you are doing the vibration of the sheet piling down. We are using a newer technology to press them in; there won't be any constant vibration. I don't know how many of you live close to the pump stations, but when they are installing those sheet pilings it's a noticeable difference. I would compare the driving the H-pile like a large truck going through the tunnel. As some of the construction traffic goes through my neighborhood, the heavier trucks make more of a difference than some of the actual construction activities.

Jay Champagne: There are a couple of us who live along the Intracoastal Waterway and you had mentioned some sand berms added to the levee for extra protection?

Ted Carr: Not sand berms, we call the stability berms. These are basically the same materials you build levees out of.

Jay Champagne: So those of us who live on the levee side, the water side, we can anticipate the levee coming into our backyards.

Ted Carr: If you live on the flood side, these go on the protected side.



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Jay Champagne: I mean will the levee come even further in our backyards? I live on the protected side. You are already in our backyard now and we are worried about losing more of our yard.

Ted Carr: There is a federal easement that goes through there and up to the federal easement, we have the right to build in there and that's what we are going to be using. We won't be going beyond the federal easement.

Jay Champagne: Will you test the areas in the neighborhood where we live and maybe extend the levees even further?

Ted Carr: That is a possibility. It's not everywhere. It's where the soils require it; where we have to put in the stability berms. It could happen, but if you see me afterwards I can show you on the plans on what we have.

Jay Champagne: It was quite a mess the last time you raised the levee.

Don Costello: I just want to say this lady here mentioned something that even concerns me. After Katrina, I came back and noticed drift wood on top of the Mississippi River levees by JoEllen Smith Hospital. Where there were no willow trees, the energy of the storm surge coming up the Mississippi River was not absorbed so the driftwood was where there were no willow trees on the river batcher to absorb the energy. Second point, many barges were overturned near the Intracoastal Canal and all the way up to at least the Navy base and impacted the armored side of the Mississippi Levee. They put a patch in, some rip-wrap. Are these going to be repaired any time soon and is the I-wall a thing of the past?

Ted Carr: Your question is noted for the MRL and we are going to have to get back with you on that because I do not work that area, but I do know who does and we will get back with you on that. I-walls, we don't like them now.

Chris Dunn: I wouldn't say the I-walls are a thing of the past; however, the height restriction is such that they can't be built any higher than four-feet with four-feet of differential and certainly not on a mainline navigation route where there is barge traffic and chances for impact unless there is some type of impact barrier build out front.

Rene Poche: If we can keep the comments pertinent to what we are talking about here tonight. These guys are experts on this project and to ask questions about other things and to speculate about other things going on, it's not fair to them. If we can keep the questions limited to why we are here tonight, that would be best because they can give us the information that we need.

Tom Wells: I'm a civil engineer and worked with the Corps on projects. I have a technical question, but it is relevant. The gates, do they close fast enough to protect the pumps. The obvious answer is yes, but can you address that as I know there is some concern to keep damage from a backflow into the pumps.

Ted Carr: I don't have the answer to that, but I will get it to the right place to get the answer back to you on that question. I do know that they are very large valves.

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Benny Rousselle: Can we see the map after the meeting to see if we are getting a berm or not?

Ted Carr: I do have the plans for the four areas so we can look at that.

Male Speaker: The gentleman mentioned something about tidal surge coming up against the structure that they are building that will be pumping the water out of the Algiers Canal. With that enforced and with the gates closed, pumps activated, retention being held in the Algiers Canal and we get a scenario like the Harvey Canal Locks broke and flood waters come in, how fast can the people who are operating that open it up? We will be at the mercy of that fate over there being closed and those pumps, no matter what capacity you think you have, if the river is higher than the canal and the gates fail at the Harvey Locks, which can happen in a storm with a barge, what scenario do you expect to happen?

Rene Poche: That is really speculative and no one here is prepared to answer that.

Male Speaker: I would ask that you get an answer because I would think speculative would happen in Harvey and they didn't expect it to happen either, but it happened. It happened in the middle of the night and it flooded most of the Marerro and Harvey Canal area on the upper end close to the river that didn't have levees. If we are talking about retaining water and we are talking about pumping water to a certain volume, then all of a sudden the scenario takes place at the river locks and water is rushing in, we are going to be like a big cesspool here.

Rene Poche: Your question is noted and we will get back to you.

Jose Rodriguez: What percentage of the levee has the berms? And the berms are determined by the type of soil in the area? My understanding is that soil is uniformed in this area. Are you creating a weak link by not having a berm and if you put a berm would you be able to [Inaudible] in that area too?

Ted Carr: For one thing the soil is not uniformed so we take soil borings and we have spacings depending on the type of project we get information from those soil borings and those strength lines are incorporated into the calculations that result in how far or how close we are to the design guides. We can look at the plans and I believe it has the boring information on it. And what percentage of berms? I've never actually looked at that, but I know where they are and I haven't calculated a percentage of the 12 miles of levee that have stability berms.

Rene Poche: We will be here afterwards to answer other questions you may have. Thank you for coming out this evening.