Michael Kline: Okay. Jacking somebody's house up in the air and building a foundation under it to get it up out of the high water, is that a structural or a non-structural strategy?

Barr Gene: We consider it as a non-structural alternative versus a flood wall or a channel work or a dam or something like that. It involves structural work, but it's considered, from our point of view, as non-structural.

MK: What is considered non-structural?

BG: The raising of a house is considered non-structural. We look at the acquisition of structures, removing various structures from the floodplain, and also raising structures as part of our flood proofing, which is considered a non-structural alternative versus building a dam or a flood wall or a levee or any type of channel scheme.

MK: So, this has been practiced both in West Virginia and Kentucky, or just along the [inaudible]?

BG: I guess the non-structural thing is relatively new to the Corps of Engineers in the country, and we're kind of on the cutting edge of that here in the Huntington District. Normally, the Corps of Engineers is known for building dams and flood walls and doing navigation work. Whereas when we got into the Tug Fork Valley, due to the type of development, the long linear development over large stretches of river, it wasn't practical to build a flood wall to try to protect all those people. It was not cost-effective. So, we had several areas being South Williamson, Matewan, that were pocket communities and had centralized development, commercial development in it that we looked at flood wall schemes for those. But then on the outskirts of those upstream and downstream and along the tributaries, those people were flooded too, and we had to look at a different way of protecting them. One way of doing that, through all the analysis and evaluations that we did, determined that the most cost-effective way was dealing with each one individually. That involves what we call flood proofing or acquisition or relocation from the floodplain. Flood proofing in itself is not just simply raising a structure in place. We look at a number of alternatives. We may look at taking the house, moving it back on higher ground on the same site. We may put a veneer wall around that structure, which is a wall that is actually attached to the structure itself. We may look at a veneer wall or a ring wall, which is simply…

MK: Say it again?

BG: A ring wall.

MK: Start the sentence again.

BG: Okay. We may also look at ring walls and veneer walls. A veneer wall would be a wall that's actually physically attached to the structure, with gated openings for the doors and windows where it's applicable. A ring wall is a wall that's separate from the structure itself, more like a flood wall, but it's not to the same height and magnitude of a flood wall. That's simply a small wall going around the structure itself to provide relief from flooding.

MK: An individual residence?

BG: An individual residence or you could have a pocket of individual residence with a ring wall around it. To this point, we have built veneer walls. We've had a ring wall around the school in Matewan, West Virginia. That's been about the extent of our ring walls and veneer walls. When the situation arises, we look at those different options. We also look at replacement on-site.

MK: Which means?

BG: Well, when we look at replacement on-site, we have a situation where a house cannot be physically raised. It's in such a structural condition that we can't raise it safely. So, then we would look at replacing that structure on-site at a flood-proofed height. What that would mean is tearing the old structure down and building a new one back in its place, comparable to what they had, then that structure would also be flood proofed. In other words, it'd be elevated above the design flood. We also offer an option where, if we can raise a house in place or flood proofing in place, we would provide an option to the homeowner to take the money that we would pay for raising their structure in place, providing their own funds with that, having their older house torn down, and build a new house in its place, meeting our flood proofing criteria. Many of the residents in the Tug Fork Valley are taking that opportunity to get some help from us in flood proofing and then end up with a new house out of it. So, it works well for both the homeowner and the government in that we're doing the most cost-effective approach. We've improved the housing stock in the area by allowing the homeowners to use these funds to help them. So, I think the homeowners in the Tug Fork Valley are pretty well satisfied and really like that option, when they can, of building them a new house and not having to put up the whole bill for it.

MK: But they put up something.

BG: They do. Yes, they have to pay the difference over and above what it would cost to raise their house. They would have to pay any difference over and above that.

MK: For the average homeowner in the Tug Valley, what are they shelling out of their own pockets?

BG: It depends on where you're at in the Tug Fork Valley. If you're talking about cost sharing of which in Mingo County, the 5 percent cost share amount required is passed on to the individual homeowner. In the Pike County and Martin County areas of Kentucky, the state and the local governments have assumed that 5 percent, so that none of that is passed on to the individual homeowners. Generally speaking, I would say a rough average is anywhere from 2,500 to $5,000 out of pocket for those having to pay their cost-shared amount. It's all dependent upon the total cost for flood proofing their house. If the flood proofing of their house is more expensive, then naturally, their 5 percent share is going to be greater. However, it does not exceed 5 percent for anyone. It's still 5 percent. For those that are going with the homeowner replacement, they still only pay 5 percent of the government investment, not the additional amount that they have to pay. So, in those cases where a homeowner would choose to go with the homeowner replacement option, they would pay 5 percent of the government investment plus the additional cost for putting the new home in.

MK: Okay. Now, have you been following the developments in Grundy? Could you talk about that a little bit?

BG: To a certain degree. I haven't been working on Grundy specifically.

MK: But you know about the cost share.

BG: I know about the cost share. As I understand it, since the VDOT, or Virginia Department of Transportation, is involved with the highway relocation, their input on that will provide for the cost-shared amount that's required by the local sponsor. In the case of Grundy, the cost share requirement in that area is 25 percent versus the 5 percent that's required in Mingo County and Kentucky area. However, in Grundy, the homeowners will not have to foot that 5 percent because that is taken care of through VDOT and the relocation of the highway.

MK: Okay. So, what options are people going to have? Are you familiar with Cow Town there in Grundy?

BG: I'm not really familiar with the specifics of the project other than it's a totally voluntary program. Now, naturally, for where the highway will be constructed, that is not going to be voluntary. I mean, where the highway goes, you have to acquire certain properties in order to construct the highway. For those people that are part of the Corps of Engineers project, that is a voluntary program. We will do flood proofing upstream and downstream of the central business district and also up Slate Creek. We'll have flood proofing and acquisitions going on in both of those areas. That is voluntary. A homeowner can choose to participate or not to participate.

MK: So, if my house is in the floodplain and I decide I do not want to participate, then the government says…

BG: Fine, you don't have to. We're not forcing individuals to participate in the program. It is voluntary. Some idea of what makes a person eligible for a program is we have a design flood, which is that of the [19]77 flood, anyone whose structure would be flooded by a reoccurrence of that event, and that is their first living quarters, would be eligible for the program. We will not flood proof houses greater than twelve feet. So, anyone requiring a raise of greater than twelve feet from the low ground on their property to the finished flood-proof height would be considered an acquisition. Anyone located in the regulatory floodway that is eligible would have an acquisition as their only option. Those folks that are eligible for the program, not requiring a raise of greater than twelve feet or located in the floodway, would have an option of flood proofing. Now, we also look at cost-effectiveness. If it's more cost-effective to acquire the structure than it is to…

MK: Say that again?

BG: If it's more cost-effective to acquire the structure versus flood proofing it in some fashion, then acquisition would be the option available to them.

MK: Acquisition means?

BG: Actually acquiring their structure and providing them with the fair market value for their structure and their improvements, and any benefits that may be available to them, and moving them out of the floodplain. Then they are free to move wherever they want.

MK: Then their home is?

BG: Their home is acquired by us and then demolished, and the site cleared. Any house that we flood-proof or acquire, then the land either purchased or that we've flood-proofed a house on is then restricted against further development below the [19]77 floodplain.

MK: Now, what do you mean by fair market value?

BG: I really rather not discuss the fair market value because that's an acquisition discussion, and I don't work in that area. So, I'm not qualified to speak in that regard.

MK: Yes. Thanks for stepping back. What else can you tell me about Grundy? He is doing really good here. What else can you tell us about this issue in Grundy? You have not rolled up your sleeves and gotten started there yet, but what is it? What does it look like? Looking toward it with regard to this issue of 202 and non-structural, have you pretty well covered it?

BG: I think I've covered it from my perspective. But Jim would be able to answer the issues of whether or not we're going to get started on it and when and what the problems may be. But we're ready. As far as the implementation side, we're ready to get started as soon as the project is approved, and we can be in there in a matter of a couple of months and have some dirt flying as far as flood proofing goes. Once the project is approved and everything's in order.

MK: Great. That is a perfect way to put it.

Male Speaker: Let me ask. Gene, did you describe what flood proofing means? I mean, did you describe the process maybe?

BG: I described the type of measures we look at for flood proofing, what makes you eligible for the program, your first floor being above the [19]77 or below it. Then once you're determined eligible, whether you're in an acquisition or whether you're a flood proofer, what makes those differences, the different options that we have in the flood proofing program, as far as homeowner replacement, our replacement, moving back on-site, ring walls, veneer walls. I did not discuss the process as far as them signing up and then the people coming out and visiting with them and their responsibilities.

MS: Can you describe that a little bit, that process of where they're determined to be a green structure and the process where they contract with the contractor, and what we do and what they can do?

BG: Okay. Once the project is initiated, the first thing that a homeowner has to do is to sign up

for the program. As I mentioned a minute ago, it's a voluntary program. So, they have that option. When they decide that they want to participate, then they would make an application for participation in the program. That application is then reviewed to make sure of the owner. There's a verification of ownership to assure that the individual actually owns the property. Then what we would do is look at the house. We would have someone inspect the house and the property for asbestos and HTRW. We would also have…

MS: What was the second thing?

BG: Hazardous and toxic waste, usually petroleum-type products on residential. We very rarely ever see petroleum-type – what is it?

MK: Pollution.

BG: Pollution or contamination on a residential project. Usually, what we run into is some asbestos in the floor tile and some insulation. In those cases, that's part of our project. If we're going to impact it, to alleviate that. We then would send a team out, which consists of our design engineer and a member from planning, which would be the coordinator, which handles all the work and tries to answer all the homeowner's questions and let them know what's going on, to actually look at the structure to see what can actually be done with that structure. Information is gathered as far as the type of structure, what it would take to raise it. Can we use the existing footers and foundations, or will it require new ones? Is the structure sound enough to be raised? Can we do it safely? Once that is done, the designer will prepare a package which describes the scope of work of what we plan on doing to protect that homeowner. The package then is presented to the homeowner, which describes their responsibilities as well as their contractor's responsibilities in regard to the flood proofing. The homeowner's responsibilities basically are that they have to solicit proposals from a contractor of their choice to determine what it would cost to flood-proof their house in accordance with the package that we give them. Their contractor would have to give them a proposal based on that set of plans and specs or those plans. Then in the meantime, we would be preparing a government estimate of what we think it would cost to flood-proof that house. Once the proposals are in from the contractors, we will evaluate those proposals and compare them against the government estimate and make the homeowner an offer of what we'll pay to have their house raised. That's based on the government estimate. The contractor is not our contractor. The contractor works for the homeowner. Once we agree on a price and the homeowner is satisfied with what we propose to do for their house, they would request that we prepare a flood-proofing agreement. That is a legal document between the Corps of Engineers and the homeowner authorizing them to spend X number of dollars for having their house flood proofed. It also places a restriction on their property against future development below the [19]77 flood level. That is the only legal document that we have with the homeowner. Then the homeowner, once that is accepted, then they are free to sign a contract with their contractor to enter into having their house flood proofed in accordance with our plans. Now, we issue one check jointly to the homeowner and their contractor that is payable upon completion of the job. Most usually, it takes anywhere from thirty to ninety days to have a house flood-proofed. At the end of that construction period, when we're notified the house is completed in accordance with our plans, we will issue a check jointly at that time to the homeowner and the contractor. There is no delays. There's no red tape to go

through other than that.

MK: Do you inspect the work?

BG: We provide periodic inspections to assure the integrity of the government funds. There is certain key points in the construction activities that we like to look at. We like to see when the house is raised. We like to look at it when the footer is poured, and the foundation is started to be laid. We like to look at when the house is set back down. Then we just kind of have our construction inspector go by there on a fairly regular basis to make sure that it's been done in accordance with our plans. However, the burden of responsibility lies with the homeowner since it is their contractor. It's their responsibility to ensure that they're getting quality performance from their contractor they expect. They need to look at it as if that's their money and their contractor, and they want to get the job that they want. They can require anything from their contractor that they feel comfortable with. We would recommend that they're comfortable with the contractor, that he has adequate insurance, any bonding, in case there are damages to their property, he takes care of it, and also builder's warranties and release of liens.

MS: Gene, what about add-ons about the homeowner?

BG: The homeowner can request additional work to be done to their structure in addition to the replacement house option. If they have some other improvements they want to make on their house at the same time because it's convenient to have a contractor in there to go ahead and do it, we don't mind that as long as it doesn't interfere with the flood proofing of the house. We would like to see what those additions are. Again, as long as they don't interfere with the flood proofing of the house, then they're free to do that. They do have to pay all costs over and above that of the flood proofing.

MS: There's one more thing. You were talking, and I forgot. What was that?

BG: The normal construction period for having your house flood-proofed is about thirty to ninety days. During that period of time, you have to be out of your house, actually, vacate the house due to safety reasons. We provide for a reasonable cost over and above that which you would normally incur for being out of your home. If you have to stay with another family member, if you had to rent a house during that period, we provide for some replacement cost or replacement housing costs for while you're out there that normally is very reasonable. If it's some extreme circumstances, we may require some type of justification or documentation of why it requires what it does.

MK: Put you up in a motel?

BG: Generally not. That's a last-resort option. We haven't had that in the 150-plus houses that we've flood-proofed here recently. Mostly everybody finds a house nearby that they can rent, or they'll stay with a relative and pay some additional living expenses and utilities for the relatives. But we haven't had to put anybody up in a motel yet. We prefer not to. That's rather expensive, and that's not an option that we would normally consider.

MS: The whole thirty to ninety days, are they out or just a small segment of that?

BG: We recommend and suggest to the homeowner and the contractor that you're out for the entire time because of the construction activities. The contractor, for his liability, should keep you out of the house for the entire time. This is what we call temporary housing expenses. That's part of the one check that we issue jointly to the homeowner and the contractor. The contractor and the homeowner should work on this prior to entering their construction contract because, normally speaking, the contractor will have to give them that money up front so they can rent a place. That, of course, is reimbursed in form of the check at the end.

MS: But before we get started, do you have any specific where you want to go with this or specific questions?

MK: Yes. I will ask you questions about it. Can you start out by saying, "My name is?"

Carl Miller: My name is Carl Miller.

MK: One more time, please?

CM: My name is Carl Miller.

MK: Your present position?

CM: I am the chief of the Readiness Branch at the U.S. Army Corps of Engineers, Huntington District.

MK: Chief of (redis?)?

CM: Readiness branch.

MK: Oh, Readiness branch. Okay. This has to do with emergencies, storms, that sort of thing?

CM: The function is specifically reaction to emergency situations, chemical spills, storms, earthquakes, floods, tornadoes. It also just happens in the branch we have for environmental engineers as well that do the environmental compliance for operations division. But also, there are people assigned to chemical spills, spill plans, and emergency reactions for things pertaining to the river.

MK: How long have you worked in this capacity?

CM: I have been in the Readiness branch since 1985. So, approximately twelve years.

MK: Okay. I started out asking you about El Niño because there are people in Grundy, Virginia, who are saying that it is not going to flood there anymore.

CM: Well, predicting the weather is not an exact science. El Niño is a condition in the Pacific

which, with the warming of the water there, can drastically affect the weather not only in North America but South America. The countries in South America on the Pacific coast are watching that effect very closely because their weather is going to be catastrophically affected, especially along the coastline, where they're expecting dramatic flooding because of the storms that come off of that warm water because the way, obviously, hurricanes or tsunamis are formed is off the warm water. The warm water creates the energy to create those types of storms. Now, here in North America, what we're looking at is it affecting basically the jet stream and the flow and the effects of the weather in North America. Pacifically, right now, where most people are looking at in the northern area is the Great Lakes. The Great Lakes are already at a height of historical record. They are flooding the shorelines along New York, Ohio, Illinois, Michigan. They depend on the cold weather for the ice to form along the shoreline, to act as a buffer for the wind blowing across the lakes so that they dampen the wind effect so they get low level. Flooding is dissipated by the ice. Everybody is predicting a warm winter. A lot of people think that's a good thing. The problem in this area is they won't get the ice to form. The warm weather, now, instead of snow, they'll get a lot of rain. They do not need the rain at this time because they can stand the snow melting a little later. But during the winter, they do not need the excess precipitation. So, in the northern part of the country, you're looking at some possible tremendous amount of flooding because of the lake effects and the weather, the snow storms getting a lot of rainfall.

MK: What are the implications of that spin-off, so to speak, for our own region, for the district here?

CM: Well, for this area, we're looking at – I'll give an example. When warm weather hits here, we can get some tremendous rainfalls in the past here. In the last two years, we're not getting one and two-inch storms anymore. With this type of El Niño effect, there is a possibility that you still get now eight, nine, ten inches of rain over a day's twenty-four-hour period. What you get in this particular type of terrain is tremendous flash flooding. We had that happen with a lot of warm weather in the May, March timeframe of last winter, so we're looking at the same possible effect with El Niño amplifying that this year. The effect will flood any one particular area is hard to say, but El Niño is something that's got everybody in either the weather or emergency planning, at least on the alert to go back and review all your procedures because it's something that when the storms start forming, and the patterns start changing, you will see them long term. It's something that's not going to happen. It won't pop up and happen tomorrow, okay? It'll be stuff that they'll see the weather patterns changing, and you'll see the fronts coming, and hopefully, we won't get a stagnant front. That's the other big concern is we'll get a stagnant front like we got in the Midwest in [19]93, and instead of getting a weather flat coming across the country and it passes and moves on out, that that warm weather has a tendency to sit. If it sits and rains for an extended period of time, then it amplifies the problem. Now, you don't get small storms in small areas. You get a lot of flooding over a large area, and that again creates a catastrophic event like in the Midwest floods in [19]93. We had the state of the Mississippi River. We had Lake Mississippi. In one area where I was at, the Mississippi River was seventeen miles wide because it had rained continually out there for almost sixty days. This is the type of El Niño effect that we're taking a look at, where it rains for not a day or two but continually throughout the whole period of a month or two.

MK: So, to say that the water table in Grundy, Virginia, let us say, has fallen sixty feet and that there is not the flooding potential there used to be, could you speak to that?

CM: Well, now, when you talk about the water table, you're looking at two different things now. You've got surface water. You've got groundwater. So, we need to make sure we're talking about the same thing. Water table and such can drop. One winter will not change the course of a water table, so to speak, groundwater. You're looking to replenish the groundwater effect. It takes many years of rainfall rather than just one wet season. Other reasons for falling can be development. You can have people come in, like in Arizona, where they have groundwater now falling, but it's not because of lack of rain. It's because of the fact that people are actually consuming the water faster than the rainfall happens to hit. Now, you've got a surface water. Now, Grundy there, Grundy is going to be flash flooding. Whether the groundwater has fallen ten, fifteen, twenty, fifty feet is not going to affect the flooding in Grundy, Virginia. What it amounts to is we have instantaneous runoff in Grundy, Virginia. In that area, the slopes are steep, the valleys and the streams are small. The smaller the stream, the more immediate you have the flooding effect. When I was down there in [19]89 in the last Grundy flooding that we had, the flooding there was all in the small strips, all in the small streams. There was no flooding on the main stream at that point at all. Basically, it wasn't on the Levisa Fork, the main stream. It was all small-stream flooding.

MK: So, let us see if we can say it again about El Niño. It is a system.

CM: It's a system, and it's a large system.

MK: Start with El Niño.

CM: El Niño is a large effect of warm water heating in the Pacific Ocean. It's something that occurs on a cyclic basis. So, it's come around. The last major effect we had was in 1993. That's already as warm as it was then, and they're saying it's going to heat up even past that now. It's a regional effect. That's what makes it so threatening. To pinpoint it to one particular city is pretty tough. But what we're looking at is having the effect over a whole region. We're looking at the Midwest and Pacific. We're looking at now having the potential in the Great Lakes because of the high water level. We're looking at rainfalls happening instead of over days, over months. We're looking at large basin flooding, not instantaneous small streams. We're looking at the high river potential as a large system flooding, or we're looking at the Mississippi River or Missouri River. We're looking for potentially large system flooding, not just the Pacific small flash flood at a particular town. That's where we're looking at the ramifications of that type of effect. Instead of having millions of dollars of damage, potentially, we're talking about billions of dollars of damages.

MK: Could this be equated to a monsoon? I have heard it described as almost like another fifth season.

CM: It is a wet weather season that's going to basically, instead of having a cold winter with snowpack, what you have is you will probably have a winter effect. But when it moves in and the warming trend moves in, you're looking at more like instead of having a spring wet season

we have around here, it's looking expanding that to where it's going to be looking like from November to April. You have a six-month wet season instead of normally around here in this area, we're looking at normally March, April, May, possibly June being what we call the rainy months. We normally don't have November, December, and January being the rainy months. But when you heat up and have that warm weather effect, you're looking at expanding the wet season, so to speak. Then once you do saturate the soil, that's the other side effect. Obviously, the soil has the capacity to absorb the water. But in the wintertime, normally, the vegetation is not growing. Obviously, the temperature is less. It takes less to saturate the soil. Once it becomes saturated, then your potential for flooding is increased dramatically because the percolation in the soil has been already satisfied. So, now when it rains, and you get rainfall, you probably get eight-tenth or a half an inch to eight-tenth of runoff, meaning water that goes into the streams rather than into the soil. So, that's the other effect you have of expanding the rainy season again for the potential flooding.

MK: Could you compare the ground to a sponge?

CM: It's basically the same effect. Yes. Once you have a dry sponge, obviously, once you wet it, it has a certain absorptive capacity for the water. Once you have expanded the sponge where it's saturated, then you pour water on the sponge, it runs off. As long as the sponge was relatively dry, if you pour water on the sponge slowly enough, it absorbs. But if you put it on fast, it runs off, okay? So, that's the thing we're talking about with El Niño. If you get a one-inch slow rain, it has time to absorb into the soil. But if Mother Nature dumps eight, ten inches of rain in twenty-four hours, you've poured water on the sponge so fast that, even though it could go into the ground, it doesn't have time to go into the ground. It runs on off into the streams. So, not only do you have to have the sponge effect, but you have to have time for the sponge to absorb the water. If you hit it too fast with the rate of rainfall, then that causes flooding as well.

MK: Where could we go for an explanation about this? What you have given me is brilliant. I am going to be able to make very good use of it. I am wondering if we would get another voice outside the core that could be seen as more independent.

CM: Well, locally, right here in Huntington, Tony Cavalier, WSAZ channel three, right a block away, is one of the area experts in meteorology. So, he would be excellent of giving you that type of information and giving you a perspective from a meteorology point of view. We look at it in emergency management more or less a results-minded, okay? We're looking at the effects that this is going to have. What potential damages? He can look at it from the formative point of view of how it's affecting the different mechanisms in the atmosphere to basically give you the reasons why the mechanisms are affecting and what potential the beginning of this is. So, from the meteorological point of view, Tony Cavalier, down at WSAZ channel three, is probably, I think, probably the most recognized man in the area for that type of information.

MK: You know his phone number off the top of your head?

CM: Steve's got it.

MK: Okay. Could you start out by saying, "My name is?"

David Hefley: My name is David Hefley. I'm…

MK: Sorry.

DH: That's okay.

MK: One more time, please.

DH: Sure. David Hefley, chief of planning with Booker Associates here in Lexington, Kentucky. We've been retained to…

MK: My name is…

DH: My name is David Hefley, chief of planning with Booker Associates in Lexington, Kentucky.

MK: How long have you been in that capacity?

DH: Just a little bit over two years. I've been working in planning and community development on the municipal level for approximately twenty years.

MK: Okay. Can you give us a little background of Grundy and this project dating back to [19]77?

DH: Well, Booker's involvement in the project has been quite extensive, and we've been working in assisting the corps for approximately the last six years. The original site that was recommended for the commercial redevelopment was called 3A, and it was over at the location of the now-operating Appalachian School of Law. Booker did several things in association with that. We assisted the corps in terms of a market assessment to document the number of square footage that needs to be replaced with the relocation of much of the downtown. That was approximately 100,000 square feet of combined commercial and office space. We also did a preliminary design back in 1991 of what that commercial redevelopment could look like on the site 3A. Since that time, of course, with the good news about the development of the Appalachian School of Law in downtown Grundy, it became clear that that site was no longer available for the commercial redevelopment of the downtown, and the corps came back to Booker and asked us to assist them in doing a planning study to look at other alternatives for the redevelopment of downtown Grundy. Unlike the original 1991 study, the corps wanted to take a much broader look at the entire urban area of Grundy, to look at not only how the downtown could be redeveloped for the benefit of the businesses and the citizens but how they balance. The other parts of Grundy could also be developed to support a broader community development initiative. We took on that assignment. So, one of the things that we did, of course, was to look in detail at siting and location opportunities for the new relocated downtown. But we also looked at areas along 460, both south of town on 83, going up Slate Creek, and other parts of Grundy, to really see how the whole development of the community needed to occur for the benefit of the citizens. Based upon that analysis, we came back with three different alternatives

for the redevelopment of Grundy. Each of those alternatives had a different approach in terms of design intent, the location for the redevelopment, how the land uses would be redistributed throughout the urban area of Grundy, and other criteria. We developed these three alternatives, each of which were intended to give the community leaders, as well as citizens, an opportunity to make informed decisions about how they want Grundy to be redeveloped in the future. Based upon those alternatives, the task force, working with the citizens of Grundy, selected what they felt was the preferred alternative for redevelopment of the community. One of the things, though, that we also tried to do was we work a lot in other Appalachian communities that suffer from some of the same factors that are now affecting Grundy. Grundy, over the last several years, has not been terribly successful in the marketplace. In fact, they have suffered quite a bit of trade loss to adjacent counties, both Grundy and Buchanan County. We've tried to look at both the physical factors and the market factors that led to the current state of Grundy and tried to win our redevelopment planning, be able to address some of those to not only create a new physical sense of Grundy but also to address some of the physical and some of the market issues that have caused it to perform somewhat poorly in recent years and suffer, quite frankly, what's obviously been some decline and deterioration of the downtown.

MK: What are some of those markets?

DH: Well, Grundy is no different than many communities throughout Appalachia that suffer from several things. First of all, they are nestled along a narrow valley floor between steep mountainsides, following a watercourse. Of course, because of that, land area is very valuable. Grundy, over the last sixty to seventy years, has pretty much fully developed. One of the issues is there are really no sites available for redevelopment within the downtown. What happens is that when development occurs, then it goes out along the developing commercial corridors or what people commonly call the strip, and that development takes place out of the downtown and causes downtown to be weaker in terms of performance. Parking is also, characteristically, a troublesome issue in these types of communities. With the premium for buildable sites, parking gets squeezed wherever it's available. As a result, you have both a lack of adequate spaces and a poor location of the spaces that are available. Grundy's done a good job of trying to mitigate that with the development of the parking garage, but parking does remain an issue for Grundy, as it does with many other downtowns. Probably one of the biggest issues affecting Grundy in terms of performance, though, is that it has been repeatedly been damaged by very serious floods, and that has caused, I think, some disinvestment in the downtown and a lack of new investment in the downtown. As long as Grundy is seen as being under a serious flood threat, I think it can be expected to be a deterrent to downtown investment. So, we saw Grundy from a physical sense as a nice, attractive historic area nestled into the valley floor, but with some very serious physical problems that affected its ability to perform in the marketplace. We did then look at some of the marketplace issues, particularly in terms of what was happening with the business occupancies. The buildings were built in the early part of the century. Commercial floor space is very different today in terms of how it's designed. Grundy's buildings, while they were originally well-built structures, they are not very flexible in terms of their adaptability. They're typically two and three-story structures. They don't have elevators. They've been repeatedly damaged by floods. As a result, they have some problems. We've also looked at the market data and noted that Grundy does have what is called trade leakage of approximately $20 million a year. What that means is that people are not having their goods and services met in the local marketplace but

are, in fact, going out of the county. Obviously, what we want to do is be able to reverse that and have Grundy not only meet the commercial needs of its residents but hopefully have people come into the county as a regional center to do their shopping. So, we tried to understand both the physical location factors and the market factors that were affecting Grundy when we looked at redevelopment opportunities. The intent was not just to replace the square footage of the downtown office space, but to really solve and resolve some of those issues so the new downtown Grundy will not only be an attractive, convenient, good place to live in the shop, but it can also be more economically successful. Through our analysis, one of the sites that it was obvious that had some of the best promise for redevelopment was what was called the depot site across the Levisa Fork from the historic downtown area. The site, with a relocation of the main line of the Norfolk and Southern Railroad, can be upwards of ten-plus acres, which will then be available for redevelopment. One of the issues that we really tried to pay attention to in Grundy is that the historic downtown has traditionally been the heart of Buchanan County and the center of the Grundy community. The heart of downtown is pretty much been defined by the prominent county courthouse, which is a very attractive building on the National Register of Historic Places. We wanted to make sure that the heart of Grundy remained intact, even as Grundy changes significantly over the next several years. We've done that by trying to reinforce the courthouse area as a distinct district unto itself, which will have a mixture of courthouse-related office uses but also some retail uses and things that will serve the Appalachian School of Law just across Slate Creek, while the new downtown of Grundy, which is on the depot site, will have a commercial footprint and a building layout that will be fully meeting the needs of the 21st century retail environment. So, in some respects, Grundy has a very unique opportunity in that, unlike many Appalachian communities who don't have an easy solution to their problem of location, limited sites, poor parking, and physical decline in their old building stock, Grundy can really reinforce the historic area of the community and make that perform better, at the same time, develop a new, strong mixed-use area anchored by large retail tenants who can really make the community a much more attractive and successful commercial location within Buchanan County.

MK: Okay.

DH: I guess we can now probably talk a little bit about how it's going to function.

MK: Very cogent discussion there. Okay. Yes. Let us talk about how it is going to function then.

DH: Okay. The depot redevelopment area has been selected as the preferred redevelopment site in the heart of downtown. Besides the depot area, however, there are going to be a number of sites along the relocated 460 corridor that are going to be secondary development opportunities that are also going to be very important to Grundy. So, while there may be a tendency to focus on the downtown as where most of the change and most of the investment is going to take place, we really need to look at this in a more community-wide fashion to make sure that the downtown complements and works well with the other parts of the community that has been part of this analysis as well. We think that the redevelopment site will offer several very important opportunities for Grundy. First, it will provide an opportunity for investment in the downtown, an investment that, as we have discussed, has historically not taken place within the downtown.

This will be done at several levels. Number one, there will be many large flood-free sites available for redevelopment. I think that's one of the key benefits of this plan is that we really finally resolve these issues of flood threats in the commercial downtown, and all the sites that are going to be developed will be flood safe. Number two, we're really designing the site to accommodate both large and small businesses within the redevelopment area. Grundy historically has been a collection of small businesses that have, in different ways, contributed to the economic base of the community. Retailing has changed over the last twenty years, and many of the new retail developments have much larger square footage requirements, much larger parking requirements, and as a result, cannot find a place within the historic downtowns. We want to be able to do both in downtown Grundy, and that is, to make a good location for businesses that have historically been part of the community, to relocate to the new site across the Levisa Fork and continue to be important parts of the community. We think that it provides several opportunities to do that. At the same time, we want to be able to take advantage of the land that's going to be available and be able to attract either existing or new retailers of a bigger nature onto the redevelopment site, because that's the trend of retailing in the 21st century. We think by doing that, it's going to reinforce Grundy as the commercial center of Buchanan County, help Grundy become defined as maybe a regional retailing center within the entire region. In doing so, it will provide a benefit to the small businesses, much as the way an anchor store in a mall draws a large number of people who, while they're shopping in that area, also go to many of the smaller specialty or single purpose stores that are located around it. This concept is not that different in that a major anchor or anchors on the redevelopment site can provide the same type of benefit to the small businesses that will be located with them in that area. We think that's a real plus to the businesses that decide to relocate from the old downtown over to the redevelopment site. One of the things we've also paid a lot of attention to is really resolving the issue of circulation and parking. Historically, as we've talked about, that's been a deterrent to the downtown's success. We think that with the combination of a large parking garage on the depot site, with surface parking areas located in the right location, serving the type of businesses that will be located there, that parking and circulation will be much improved. Of course, that's a very important element in terms of attracting customers these days is to be able to bring people in, conveniently park them, give them good access to stores, and things like that. We've paid quite a bit of attention and have provided a generous amount of parking in the downtown. Another issue that we've also tried to pay attention to is what Grundy will function like in terms of its community part of the downtown. We have designed the redevelopment site to look out over the historic downtown Grundy to take advantage of the location along the Levisa Fork. Historically, the Levisa Fork has been a threat to Grundy. The town has turned its back on the Levisa Fork, and it has not been seen as an asset. We want to turn it from a liability into an asset. We'll do that by having the buildings arched along the curve of the Levisa Fork, looking out into the historic courthouse area. We see there's great opportunities for a green corridor along the Levisa Fork, which will provide pedestrian amenities, a nice, green ribbon separating the new 460 from the depot area and the courthouse, and really provide some much-needed open space and greenery in the new heart of downtown Grundy. We have also paid attention to design, and having a pedestrian corridor that extends out from the center of the parking garage to the curve of the Levisa fork. This will be designed as a green space that will end in a plaza and a focal element right along the Levisa Fork, and we think that will provide some definition to the downtown, make it a convenient place not only for vehicle access but for pedestrians who want to walk along the creek and take a break from the shopping or the other business that they will do

on the site. I'm going to shift gears a little bit here and talk about kind of the mix of uses in downtown. One of the things that made downtown Grundy historically very strong in its early days is that it had a mixed-use component to it. The buildings were two and three stories tall. They had retail on the first floor, sometimes offices or storage on the second floor, and oftentimes residential uses on the third floor. That historically gave a lot of strength to the downtown, and you not only had a mixed use of types of occupancies, but you had a built-in population for your retail uses because people lived downtown. Over the last forty to fifty years, that trend has changed. There's very little residential activity in downtown Grundy today, and as a result, many of the second and third-floor stories are underutilized and not performing. One of the things that is a wonderful opportunity on the depot site is for mixed-use developments. Originally, the redevelopment site was going to have a primarily retail nature to provide the business center of Grundy and Buchanan County. As we looked at it further, though, we saw there were great opportunities to do more mixed-use types of land uses there and, in some cases, almost turn back the clock in terms of having a community within a community on the depot site. As a result, now we're looking at a variety of different types of land uses on the site. Still, we will have a major retail center which, square-footage-wise, will probably be the most commanding use of the site. There are opportunities for public and semi-public uses in terms of a municipal complex, a new location for the teen center, and things that will give people a destination within the downtown. We've looked at residential housing opportunities within the depot site to really take advantage of the Appalachian School of Law and some of the demand that's going to be created for housing within Grundy, and responding to that demand on the depot site and looking for some upper story residences to take advantage of the sites that are available. Finally, the community college, which is now located in the downtown, is a very important player in bringing people to downtown. We are suggesting a location for the community college on the depot site to really, we think, provide another important element to the effective and full utilization of the redevelopment site. So, unlike many downtowns today, where at 5:00 there is no activity within the downtown and people go back home, if we see this plan for Grundy developed, we'll have not only a major commercial center, we'll have public and semi-public functions. We'll have areas of greenery and open space that will draw people after hours who want to relax or visit with family and friends, and we'll also have a residential and a community college use that will really make this area almost a twenty-four-hour location. Of course, one of the benefits of that is the businesses within that area can take full advantage of the people that are in the area and the purchasing that they are expected to do. This is not linear. Obviously, you are going to have to –

MK: That is all right. That is all right.

DH: When we conducted a physical analysis of downtown Grundy, one of the things that became clear was that because of the current alignment of 460, access and circulation within the downtown was quite broken up. Southbound traffic was routed down along the Levisa Fork, literally in the back of all the downtown businesses. Northbound traffic was brought down along Main Street on two one-way pairs, which really divided the traffic, gave poor accessibility to the downtown merchants, and really did not take advantage of the traffic that was there. We've tried to look carefully at access and circulation issues with the depot area redevelopment to really find a way to make the downtown better accessible.

MK: Can we let the train pass?

MS: Yes.

DH: Should we hold on for a second?

MK: Yes.

DH: Okay.

MS: Thank you.

DH: Sure.

MK: You were talking about accessibility of downtown.

DH: Yes. The new 460 will eliminate the one-way pairs that are currently there. One of the things that we've worked very hard to do was provide good access not only to the historic courthouse area, which is going to be a very important part of the office and retail use of the community but also to provide good access to the depot site. We've done that in several ways. Railroad Avenue, which is a bridge crossing the Levisa Fork on the south side of downtown, will be one of two important vehicle and pedestrian access points into the redevelopment area from 460. Approximately several hundred yards north of the courthouse area, there will be another vehicle crossing, which will be on the north side, and it will provide a very efficient loop system where traffic can travel in both directions with a strong corridor throughout the heart of the redevelopment site to not only move traffic efficiently but to provide good access for both consumers and trucks and other suppliers to the redevelopment site. We've also tried to pay very close attention to the pedestrian needs of the community. Grundy historically has been a walking community, and we think this redevelopment can also maintain that. To do so, we've suggested a pedestrian bridge which would link the historic courthouse area through 460 across the Levisa Fork into the heart of the depot or the redevelopment area. That will be an opportunity for people who are working in the courthouse, who happen to be at the Appalachian School of Law can take a very pleasant and very short, direct walk across the Levisa Fork from the historic downtown to the redevelopment area. We think it'll provide additional stimulation to the commercial uses there and, more importantly, do an effective job of linking and tying these parts of the community together. One of the implications of the redevelopment has been that there will be different subareas of downtown that are now physically organized along the Levisa Fork. As a result, we have tried very hard to make strong vehicle, pedestrian, and visual connections between the various parts of downtown. So, while they will be in some areas, some small physical distances between them, the linkages will be strong and there will be good circulation of both people and vehicles back and forth between the different areas.

MK: What is the tower that makes this appear something like an airport from a distance?

DH: I don't have any idea. I don't have any idea.

MK: [inaudible].

DH: No.

MK: This is not your…

DH: Well, it is. We did the design and Sumeet went to the core. They went there, and they did some of this stuff. Southwest Virginia has strong linkages to the remainder of the Commonwealth of Virginia, and much of the architecture in Southwest Virginia, Buchanan County, and Grundy reflects the colonial theme that I think characterizes much of the historic Virginia architecture. We've tried to respond to that in designing some ideas about what the physical look of the redevelopment area might be. It is important to visually, as well as from a circulation standpoint, tie the various parts of the town together. The courthouse is a very important architectural defining element. The Appalachian School of Law, with its colonial architecture and facade, is one of the now important landmark structures in the downtown. We've tried to design the redevelopment area to respond to and reflect some of the historic architecture themes of Southwest Virginia, the Commonwealth, and the colonial architecture. We think that we can take that even further in terms of some of the building facades, streetscape, lighting, some of the pedestrian amenities. So, not only will the redevelopment area be a very functional and attractive commercial center, but it will have an important and identifiable design quality that not only says we respect and respond to the historic architecture, but we are part of Grundy and we are really visually tied in. To help reinforce that, there is a large vertical element that is in front of the parking garage between the major retail centers that, in some respects, responds to the clock tower on the historic Buchanan County Courthouse, and really, in some respects, have these two areas respond in some ways, as architects would say, visually communicate with each other. We think it will help be a defining element and a signature element to the redevelopment site. That's about as good as I can guess.

MK: Okay. This area here?

DH: One of the benefits of the redevelopment plan that has been prepared is that there are new sites available on the courthouse side of the Levisa Fork for redevelopment. Three sites come to mind. One site will be the site that is immediately in front of the courthouse, which has an area for new surface parking to be developed, which we think will be a much-needed enhancement to the courthouse area. Slightly north of that, across the Slate Creek along State Route 83, is a new area which can be developed for office and retail uses. Finally, we're suggesting that if the current Food City site were to become available, that could have a redevelopment option, which would include both retail and office uses, a strong colonial design element, which would then be located along 83 and Slate Creek and be part of a new sub-complex next to the Appalachian School of Law. So, in some respects, because of the sites that are being made available on the courthouse side of the downtown, there can be some parking improvements and redevelopment opportunities that take place that really take advantage and respond to some of the needs that are there right now in terms of parking and developable square footage.

MK: Okay. So, we have already talked about the…

DH: Oh, yes. Oh, yes. Let me…

MK: All right.

DH: The design of the depot area has been done to best meet the anticipated mix of large and small retail operations, the public and semi-public uses that may be located there, as well as what may be called outparcels for associated commercial development. The design of the site is characterized by a strong central element of a parking structure, which is flanked by multiple-story buildings, which will be mixed-use in nature. They will have a retail first floor. They may have office second-floor uses, and in some cases, either a community college or residential uses program for the third floors. Truly a mixed-use development. That's the central building element that is wrapped around the relocated railroad tracks facing the Levisa Fork. Flanking, though, is, however, on both the north-south and on the side towards the old courthouse area are smaller associated building sites that can be developed for uses that respond to the specific needs as they are determined to in the future. We expect some of those to be public and semi-public, possibly with a new municipal building and teen center. Some of those will be retail in nature. Others may be mixed-use with retail, office, and possibly residential development. The resulting development pattern, however, will be one with a central building mass, which is centered around the parking garage and the retail developments, and surrounding those will be freestanding commercial or mixed-use sites. Connecting and running between those buildings will be pedestrian corridors and vehicle circulation routes and areas of green space that link and tie the various pieces together in a organized and well-functioning manner. Well, Michael, where do you want to go from here? How much do we get? About thirty-five minutes.

MK: Yes. I do not know. I think that pretty well covers it.

MS: We were talking about regional patterns of urban development.

DH: Right. Grundy is very characteristic of communities throughout the Appalachian region that have seen physical and economic declines over the last several decades. It's an unfortunate but very real fact that communities throughout the region have seen a decline and loss of their viability downtown because they can no longer compete in the marketplace as it's evolving now. Many of the businesses that are left within the downtown tend to be marginal retailers, consignments, second-hand stores, folks who do not perform well in the commercial marketplace. While you may have the majority of your storefronts occupied in your downtown, if you look carefully at who is there and how they're performing, they tend to be some of the more marginal businesses that would not otherwise be in the downtown area if it were more successful and performing at a higher level. We think that is an unavoidable consequence of the evolution of retail trade at the end of the century. Grundy is in a unique, literally one-of-a-kind position to be able to not only maintain and strengthen the historic part of the downtown, which is centered in the courthouse area, but to really literally reinvent itself in the commercial sense, with a redevelopment plan that provides the type of retail, office, and service needs that the retailers of the 21st century are demanding. We think one of the main benefits of this plan is that we will be able to stem the disinvestment in the downtown and create a very attractive investment environment so that downtown can become, once again, the strong retailing center that it has historically been but has clearly not been performing like over the last several decades.

MK: That puts a lid on it.

DH: Well…

[end of transcript]