

Dan Hoffman ([00:00](#)):

We're about to allow Donnie Johnson to enter the studio here.

Amy Simmons ([00:05](#)):

<Laugh> He's so excited.

Dan Hoffman ([00:06](#)):

He's very excited. So let's not waste any time. We got a lot of chatter about water and pipes.

Amy Simmons ([00:15](#)):

And lots of things to learn.

Dan Hoffman ([00:17](#)):

Yeah. Lots of stuff. So let's bring in Donnie. All right. Donnie Johnston. Donnie, how long have you been with the City?

Donnie Johnston ([00:27](#)):

Get ready to start my 26th year

Dan Hoffman ([00:29](#)):

26?

Amy Simmons ([00:31](#)):

So many long term. <laugh>

Dan Hoffman ([00:32](#)):

So many long term folks. 26 years. What'd you start off doing here with the City?

Donnie Johnston ([00:38](#)):

I started as a Utility Service Mechanic. I started at the entry level and worked my way up.

Dan Hoffman ([00:43](#)):

Awesome. With the City of Winchester, like many cities, we manage our own water. Some places have water authorities or they're part of a bigger kind of water conglomerate of some sort, but we have our own water. We've talked previously about where we get it and what we do to it. But today we're gonna talk about once we've got clean, potable...

Amy Simmons ([01:13](#)):

Drinking water.

Dan Hoffman ([01:13](#)):

Drinking water, it leaves our plant. What happens between there and when it gets to your faucet?

Donnie Johnston ([01:21](#)):

All once the treated water leaves the water plant, it's our team's responsibility to make sure it gets to the water meter of the business or residence, to the fire hydrants for the firefighters to use, and to get to the water storage tanks. So that way we have some reserve.

Dan Hoffman ([01:38](#)):

So that sounds easy. You just open up a big valve, it goes through the pipe, and it shows up in my sink. So what's the big deal?

Donnie Johnston ([01:43](#)):

I wish it was that easy.

Dan Hoffman ([01:45](#)):

<Laugh> Well, what happens between...

Donnie Johnston ([01:47](#)):

Well, being the third oldest water system in the United States, we have a lot of old lines, 200 years old. It's cast iron. Cast iron, longer it's in the ground it becomes brittle. Then, when you get the thaw and the freeze and thaw, the ground contracts, and it causes that line of break. So we have about 125 miles of waterline that we have to maintain.

Dan Hoffman ([02:11](#)):

In a 9.2 square mile city.

Amy Simmons ([02:13](#)):

But it's because it's coming from Middletown.

Dan Hoffman ([02:15](#)):

Oh, that's right. I forgot.

Donnie Johnston ([02:16](#)):

Yes. It comes from Warren County sort of water plant, and then it's 16 miles to town.

Dan Hoffman ([02:22](#)):

So there's a big old pipe that goes from that plant into town.

Donnie Johnston ([02:26](#)):

Correct.

Dan Hoffman ([02:26](#)):

How big is that pipe?

Donnie Johnston ([02:27](#)):

It's a 30 inch.

Amy Simmons ([02:28](#)):

Is it just one?

Donnie Johnston ([02:29](#)):

It's one 30-inch that comes all the way up to Kernstown. Then, it reduces to a 24 and that 24 comes all the way up to Southwerk Street where it splits in the two twelves.

Dan Hoffman ([02:40](#)):

Wow. 30-inch pipe. So that's enough for somebody to crawl through, right?

Donnie Johnston ([02:45](#)):

Yeah. There is companies that do that.

Dan Hoffman ([02:47](#)):

I would not want to do that.

Amy Simmons ([02:48](#)):

No. That's that sounds claustrophobic.

Dan Hoffman ([02:51](#)):

It's claustrophobic. No, not at all. So, it leaves the plant. It travels through the big pipes to get here, then what?

Donnie Johnston ([03:01](#)):

And it's us to make sure that when you go to bed at night, you turn your water on, it's there. When you wake up in the morning, it's there.

Dan Hoffman ([03:09](#)):

What can happen? What can go wrong.

Donnie Johnston ([03:11](#)):

Sometimes in between there, the pipe will split or break and we have to cut a section out or we dig it up and put a repair clamp on.

Amy Simmons ([03:19](#)):

Does that usually happen in the wintertime though?

Donnie Johnston ([03:21](#)):

It happens in the winter and spring.

Amy Simmons ([03:23](#)):

Okay. Spring too.

Donnie Johnston ([03:24](#)):

Anytime you get the freeze, thaw and the change of temperatures where it's huge, then that happens. And then sometimes just because the pipe's old.

Dan Hoffman ([03:32](#)):

Now, I've noticed in our public services building that we've got one on display one of the old wooden pipes. Do we still have any of those?

Donnie Johnston ([03:39](#)):

There's still some in the ground, but not in use. They haven't been used in a long time.

Amy Simmons ([03:43](#)):

Those where the first ones, right?

Donnie Johnston ([03:45](#)):

Correct. Winchester was fed by three springs up until we got our first water plant and that wooden system was part of that.

Dan Hoffman ([03:53](#)):

Gotcha. Where was our first water plant?

Donnie Johnston ([03:56](#)):

Where it's at now. That is the plant.

Dan Hoffman ([03:58](#)):

So, we've always been getting water from...we get ours out of the...

Donnie Johnston ([04:02](#)):

Shenandoah River.

Dan Hoffman ([04:03](#)):

Shenandoah River. That's right.

Amy Simmons ([04:03](#)):

North fork.

Dan Hoffman ([04:04](#)):

North fork. And we've got ample water. So it's gone through the pipes. We make sure those pipes are clean and, you know, flowing.

Amy Simmons ([04:17](#)):

I learned last week at INSIGHT there's stuff in the water that protects those pipes.

Dan Hoffman ([04:22](#)):

Really?

Amy Simmons ([04:22](#)):

Mm-Hmm <affirmative>.

Dan Hoffman ([04:23](#)):

What

Donnie Johnston ([04:24](#)):

You'd have to talk with water plant people. I'm not as familiar with that, but there's times where things are going great, and then there's times where it's not so great. Several winters back, we had 339 emergency calls in a two-week period. 274 of those were citizens that didn't have any water due to the pipes freezing or the meters freezing. 201 of those was because of the meters or the service lines. And then also in that two-week period, we had 15 water main breaks.

Amy Simmons ([04:57](#)):

It's horrific.

Donnie Johnston ([04:58](#)):

It can go great. And then it can go bad.

Dan Hoffman ([05:00](#)):

So when a water main breaks and let's say we're driving down the road, I see water bubbling up out of the sidewalk or whatever. It's probably a water main break of some sort.

Donnie Johnston ([05:10](#)):

Correct.

Dan Hoffman ([05:11](#)):

What do you guys do?

Donnie Johnston ([05:12](#)):

Well, we have an emergency hotline. So if you're a citizen riding down, there's emergency hotline number that you can call it's in with your billing information. Call that in. And then as soon as we get the call, we respond to it and we start figuring out if we have to isolate it or if we can do it under pressure. If we can't isolate it, then we try to get as much done as possible to that point. And then we'll isolate it, fix it, and then get the customers back in water.

Dan Hoffman ([05:39](#)):

How do you do it under pressure? Cause all I'm imagining me trying to like clamp a hose onto my spigot outside while the water's running.

Donnie Johnston (05:48):

We got a big, big bandaid. It's a stainless steel repair clamp. So we'll excavate and pump while we're excavating, which keeps that water flowing outta the pipe. No contaminants get in because the pressure's pushing out. And then once you get down there, you just clamp it. You wrap the beast.

Dan Hoffman (06:03):

Oh wow. Is that like a permanent fix? Does it stay that way or what happens?

Donnie Johnston (06:09):

The repair clamps we've installed for a long time. I've there's many of 'em that's out there that I installed that are still there today. Back when I started in '96.

Dan Hoffman (06:20):

<Laugh> That's kinda weird to think. There's just big steel bandaids all over the city that you applied. It's pretty cool. So, it's come outta my faucet. I've washed my hands with it ,or I've showered, or I've flushed it, and then it goes back. So I'm done with it. I've used this water. It's been great, clean water. Now, it goes back to you guys. What happens after that?

Donnie Johnston (06:49):

You've used the distribution system, now it goes into the collection system. Once you flush or it goes down the drain, then it hits the street. It's our responsibility to make sure that it gets to the sewer plant. We have a camera truck that we use to TV the sewer lines and look for any problems, preventative maintenance. See if there's anything that we need to do.

Dan Hoffman (07:13):

And when you say TV truck, it's literally a camera.

Donnie Johnston (07:16):

Correct.

Dan Hoffman (07:17):

On a little contraption that goes through the pipe. The sewage pipe, correct?

Donnie Johnston (07:23):

Yeah.

Dan Hoffman (07:26):

Is this a high-definition camera?

Donnie Johnston (07:27):

It's pretty good camera.

Dan Hoffman (07:28):

Oh, no.

Amy Simmons (07:28):

You gotta be able to find everything.

Donnie Johnston (07:31):

Right. Because we also use it for inspecting the lines when we take acceptance of it. When a project's done, or new subdivisions built, we TV those lines to accept it. And that camera, it captures everything pretty good.

Dan Hoffman (07:43):

What's the weirdest thing you've ever found in a pipe?

Donnie Johnston (07:47):

Probably would be a man's razor.

Dan Hoffman (07:48):

A man's razor.

Donnie Johnston (07:49):

Yes. How does that get flushed down the...?

Dan Hoffman (07:52):

Yeah.

Amy Simmons (07:53):

Like an electric one? Wow.

Donnie Johnston (07:55):

Yeah. Like Norelco.

Dan Hoffman (07:56):

Yeah. Like the big Norelco ones.

Amy Simmons (07:58):

Huh. So you use that same camera to figure out where the blockages are too. If you get a [call].

Donnie Johnston (08:02):

Correct. If we have a blockage, we have a jet truck that also cleans. We have 150 miles of sewer line that we maintain and we'll get a call for a stoppage. The truck will show up. We will get it open, and then we follow up with the camera truck to figure out what it was. And is there anything that we can do to prevent this from happening?

Dan Hoffman ([08:25](#)):

What is normally?

Donnie Johnston ([08:26](#)):

Normally, it's FOG--fats, oils, and grease. Where people will fry, hamburger, bacon, they dump it down the drain. Well, at some point it's gotta solidify when it cools and everybody thinks that they can run hot water in with it. You can't and eventually, it's gonna cool. So it usually cools in the mains. If people would just take and put that grease into a jar that's safe for it, and then wipe out the pan and wash it, it'll eliminate that. And then, every once in a while, we get tree roots.

Dan Hoffman ([08:54](#)):

Tree roots.

Amy Simmons ([08:55](#)):

We are a Tree City USA.

Dan Hoffman ([08:56](#)):

That's right. Trees love any water pipes, too. So what should folks...what was it? The fault? What?

Amy Simmons ([09:07](#)):

FOG.

Donnie Johnston ([09:07](#)):

Fats, oils, and grease.

Dan Hoffman ([09:08](#)):

Fats, oils, and grease. Got it. That's the kind of stuff you can reuse, too. If you just fry up a bunch of bacon, you save your bacon grease folks. It's delicious.

Amy Simmons ([09:18](#)):

I'm making a face that you can't see <laugh>.

Dan Hoffman ([09:20](#)):

Yeah. Cause you don't eat bacon. That's your loss.

Amy Simmons ([09:25](#)):

<Laugh>.

Dan Hoffman ([09:26](#)):

So, it's left my house. It's gone through, hopefully it didn't hit any blockages. Although, once a year, how many calls do we get for a sewage blockage?

Donnie Johnston ([09:41](#)):

We get several of 'em throughout the year.

Dan Hoffman ([09:44](#)):

Oh, really? Not nearly as many as like water main breaks.

Donnie Johnston ([09:47](#)):

Correct.

Dan Hoffman ([09:47](#)):

Okay. Gotcha. So, it's left. It's made its way all the way back to the treatment plant, which is an entirely different facility. We want to keep the two different plants far away. And that facility is closer to town.

Amy Simmons ([10:04](#)):

It's on Route 7.

Donnie Johnston ([10:05](#)):

That's on Route 7 down there by the Opequon Creek.

Dan Hoffman ([10:07](#)):

Gotcha. So, we get it, we get all the sludge. What happens then?

Donnie Johnston ([10:14](#)):

The sewer plant will do their process of it. Dewatering it, and then, I believe that they have a company that comes in and takes this solids. Don Riggelman would be a great guy to talk about that.

Amy Simmons ([10:29](#)):

They do. I learned about that last week again. They take the solids and they take it to a company that gives it to farms, so they can land apply it. So instead of it going, it used to go to landfill, now it goes to farms and is used.

Donnie Johnston ([10:44](#)):

Correct.

Dan Hoffman ([10:45](#)):

I don't know if I'd want food from that farm, but I'm sure it's good and perfectly safe.

Amy Simmons ([10:50](#)):

It's good enough for the cows.

Dan Hoffman ([10:51](#)):

So, all of these pipes. We've got all the pipes for distribution and then collection. About how many folks does it take to maintain all of those pipes?

Donnie Johnston ([11:07](#)):

We have 22 people in the field that maintains the 125 miles of water and 150 of sewer.

Dan Hoffman ([11:14](#)):

So there's 125 water and then another 150 miles of sewer pipes.

Donnie Johnston ([11:18](#)):

Correct.

Dan Hoffman ([11:19](#)):

It's almost hard to imagine that many pipes underneath the city, but pretty much, if you're walking down a sidewalk in Winchester, there's multiple pipes underneath you.

Donnie Johnston ([11:31](#)):

Correct.

Amy Simmons ([11:32](#)):

There's utilities too under there and stormwater.

Dan Hoffman ([11:35](#)):

Yeah. And in the city, like, we're not a huge city. You think about a place like New York or another place where there's probably tons and tons of different conduit and pipes and water. It's gotta be a zoo. How do you guys keep track of where all these pipes are and making sure nobody digs a little too deep in their backyard and hits a pipe.

Donnie Johnston ([11:57](#)):

Well, that's another thing that we do. When somebody goes to dig, they call Miss Utility. We have local crews that go out when we get those tickets, and we locate utilities that are City-owned. Last year, we had [over] 7,800 tickets that we had to respond to and mark those utilities.

Dan Hoffman ([12:14](#)):

How often does somebody just accidentally crack one of our pipes?

Donnie Johnston ([12:18](#)):

That happens probably once every couple months.

Dan Hoffman ([12:21](#)):

Oh, really. That often?

Amy Simmons ([12:22](#)):

That's too many.

Dan Hoffman ([12:23](#)):

Yeah. Really. Call Miss Utility. She's very nice. She'll take care of you. Wow, go ahead. Oh,

Amy Simmons ([12:31](#)):

Go ahead. I thought you were gonna, okay. I was going to ask about the water meter process, reading the water meters and how all that works.

Dan Hoffman ([12:37](#)):

Oh, yeah.

Donnie Johnston ([12:38](#)):

That's the project that really helped us a lot. When we had those 339 emergency calls and all those frozen meters, last winter, we had a comparable two-week timeframe. This meter project that went, we only had one frozen meter last winter. And we had comparable temperatures for the same length time. So, that project really helped tremendously.

Dan Hoffman ([13:03](#)):

Refresh everybody's memory about what the meter project was.

Donnie Johnston ([13:05](#)):

So the meter project was, all the small meters being one inch and three quarter inch meters, we replaced them and installed check valves to help secure our water system to help prevent cross contamination.

Dan Hoffman ([13:17](#)):

And everyone got that. I moved to Winchester after that occurred. Where is that in my house?

Donnie Johnston ([13:29](#)):

Your water meter is out in the street, or not in the street, but either at the sidewalk or right behind the sidewalk. Usually at the property line if there is no sidewalk there. But that's where your water meter is. And we replaced every single one of those settings in the meter.

Dan Hoffman ([13:42](#)):

Okay. So it wasn't something inside my house.

Donnie Johnston ([13:46](#)):

No. Now, inside there were expansion tanks that needed to be installed because once you close the system, before that check valve's installed, when your water heater builds up pressure it releases it back into the system. By putting the check valve in to secure system, now it has no place to go. So the expansion tanks were installed to take some of that pressure that was built up, and then as you use, the expansion tank releases back.

Dan Hoffman ([14:10](#)):

Got it.

Donnie Johnston ([14:10](#)):

But we were also able to install the new meters, which really helps us because if you're a citizen and you got an issue with your water bill, and you don't believe that the consumption was there, you don't know where this water's going. We can pull information off that meter for 90 days and go back and tell you exactly where the consumption was, the times within the hours.

Dan Hoffman ([14:31](#)):

Oh, wow.

Amy Simmons ([14:33](#)):

That's impressive.

Dan Hoffman ([14:33](#)):

That is pretty impressive. So anything else we should know about our water?

Donnie Johnston ([14:39](#)):

We get a lot of compliments on how good it tastes.

Amy Simmons ([14:41](#)):

<Laugh>

Dan Hoffman ([14:42](#)):

It is tasty water. It is pretty tasty water. And why is that?

Donnie Johnston ([14:46](#)):

Because the people at the water plant do a great job.

Dan Hoffman ([14:49](#)):

There you go. That's the right answer. Well, Donnie, thanks for coming in, chatting with us about water, how it gets from plant to person, and then back to another plant. There's a lot of stuff under your feet. If you wanna know more, INSIGHT Academy is a great, great way to learn about that stuff. Amy, I know we're in the midst of INSIGHT Academy right now.

Amy Simmons ([15:10](#)):

Yep.

Dan Hoffman ([15:11](#)):

For folks for the next class, how do they find out about it?

Amy Simmons ([15:15](#)):

We do it annually, once a year. You just go to our website, search for INSIGHT, and it'll bring it up. We have a schedule we'll probably post, October/November timeframe, because we usually start in January each year.

Dan Hoffman ([15:26](#)):

Yeah. And during INSIGHT they get a tour of...

Amy Simmons ([15:30](#)):

Both plants. Yeah. We'll talk to utilities. We'll go through everything that you ever wanted to know, and then we'll actually go into both plants. It's an eye-opening experience. Most of the time, they say 'I'll never flush my toilets the same way ever again.' It's something you don't normally get to see.

Dan Hoffman ([15:45](#)):

It is quite the sight to see. All right. Well, thank you very much, Donnie. Thanks for coming and joining us.

Donnie Johnston ([15:49](#)):

Well, thank you.

Dan Hoffman ([15:55](#)):

So there goes Donnie. So many of our employees have been with us a long time.

Amy Simmons ([16:01](#)):

That's because we're so awesome.

Dan Hoffman ([16:02](#)):

We're a great place to work. And that utilities team. Man, they...

Amy Simmons ([16:07](#)):

They're special.

Dan Hoffman ([16:08](#)):

They are special. I never hear any problems.

Amy Simmons ([16:36](#)):

That's because Donnie and Perry and everybody involved in the supervision part of it is so amazing. And one thing I'm always amazed at is that when they get those water main breaks and it's in the middle of winter. They have to go out at 2:00 AM and be called outta their bed. They go and dig into the cold ground and deal with cold water to fix that, and not a single one complains.

Dan Hoffman ([17:01](#)):

That would be my hell.

Amy Simmons ([17:04](#)):

Public service at its best.

Dan Hoffman ([17:06](#)):

Yeah. That is actually another job I would not want to do, but I'm very thankful, and we should also be very thankful, that we have somebody that does it and does it so well.

Amy Simmons ([17:16](#)):

Yep. And one thing he didn't mention though, he said that the our water system is the oldest in the U.S., or third oldest in the U.S. [rather], but we are the oldest in Virginia. Of all the old, Williamsburg and all those old towns we have around here, we were the innovators.

Dan Hoffman ([17:30](#)):

Old wooden pipes. I wonder, well, no, I'm not gonna get into it.

Amy Simmons ([17:35](#)):

You're not gonna get into it. <Laugh>.

Dan Hoffman ([17:36](#)):

Well, yeah, cause wooden, I mean, it just seems like it would get dirty or rotten or something.

Amy Simmons ([17:41](#)):

Which is probably why they replaced it so soon after.

Dan Hoffman ([17:43](#)):

That's a good point. It's probably why we don't use water pipes anymore.

Amy Simmons ([17:46](#)):

<Laugh>.

Dan Hoffman ([17:46](#)):

Get splinters in your water.

Amy Simmons ([17:47](#)):

We've learned a lot over the decades.

Dan Hoffman ([17:49](#)):

Yes. All right. So I hope everybody enjoyed that and learned a little something. Next program..do we know what we're doing?

Speaker 5 ([17:56](#)):

We do not. Anybody have any suggestions?

Dan Hoffman ([17:58](#)):

All right. Well, we'll have to come up something in the next two weeks. Thanks for listening to the City Works portion of the Rouss Review. I've been your City Manager, hope to continue to be your City

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Manager. <Laughs> And I'm here with Amy Simmons. Thanks everybody, and we'll see you around City Hall.