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Dan Hoffman:

Hello, and welcome to the City Works portion of The Rouss Review. I'm your city manager, Dan Hoffman, and Amy Simmons is still here with us.

Amy Simmons:

Still here.

Dan Hoffman:

Still here. And next up we're going to bring in Mike Neese. You've probably heard that name before if you listen to this podcast. He is our refuse and recycling manager.

Amy Simmons:

And?

Dan Hoffman:

And recycling manager...

Amy Simmons:

Michael Recycle.

Dan Hoffman:

And he's Michael Recycle. Yes. You might know him by that, his not given name.

Amy Simmons:

No, it's the preferred name.

Dan Hoffman:

No, on his birth certificate it says Mike Neese. He's going to come in. He's no stranger to the show, so let's bring him on in.

Dan Hoffman:

Welcome back, Mike Neese. Hi.

Michael Neese:

Hi.

Dan Hoffman:

Hi, there you are.

Michael Neese:

I keep forgetting this is audio.

Dan Hoffman:

Yeah, no video.

Amy Simmons:

[inaudible 00:00:49] No giving. Yeah.

Dan Hoffman:

Yeah.

Michael Neese:

No, it didn't help.

Dan Hoffman:

So, welcome back. For those of you don't remember Mike, or maybe didn't hear the other episodes. Mike is Michael Recycle informally, but formally, what is your formal title? Sub...

Michael Neese:

Refuse and Recycling Manager.

Dan Hoffman:

Refuse and Recycling Manager. So...

Amy Simmons:

We just call him Michael Recycle.

Dan Hoffman:

Exactly. All things trash.

Michael Neese:

Yeah.

Dan Hoffman:

So last time I know we talked a bit about... I think a variety of things related to trash and solid waste. Today we're going to focus a little bit more on one of the new tools that we are acquiring. It's been a while, I think it's got approved in the budget the year before this past budget.

Amy Simmons:

FY22, I think.

Dan Hoffman:

Yeah. The FY22 budget, or we started doing with... Actually, we're getting this with stimulus funds. I think.

Amy Simmons:

Yeah.

Dan Hoffman:

ARPA money is being used for this. For this being the glass crusher. So it is kind of what it sounds like, it crushes glass, we'll get into how it works in a moment. But currently the City does not accept glass for recycling. We do accept metal, plastic and cardboard and paper. But, just for those of you who aren't aware, yes, metal and plastic, that's an easy one. The cardboard that does not include what kinds of paper and cardboard.

Michael Neese:

It can be all paper and cardboard, except the ones that are food stained or you know, like a pizza box that's-

Dan Hoffman:

Yeah. No pizza boxes.

Amy Simmons:

But what about ice cream cartons and OJ cartons? That kind of thing.

Dan Hoffman:

The waxy ones.

Dan Hoffman:

Yeah.

Michael Neese:

The waxy ones or the really horrible ones, in my opinion, like the soy milks and such.

Dan Hoffman:

Oh, yeah.

Michael Neese:

It looks like paper, but it's infused with plastic, so... Yeah. It's great because then you can't recycle the plastic or the paper.

Dan Hoffman:

I didn't know that. I knew we didn't recycle those, but I didn't know how un-environmentally friendly they were.

Amy Simmons:

It must have a neck, right? The plastic bottles.

Michael Neese:

Yes.

Amy Simmons:

Can't just put the containers in there.

Dan Hoffman:

Yeah. Like the stuff you get berries in from the grocery store.

Amy Simmons:

Right.

Dan Hoffman:

We don't accept that kind of plastic. Or plastic bags that you would get at the grocery store.

Amy Simmons:

Has to have a neck and no tops. Michael has really educated me over the last few years.

Dan Hoffman:

Wow.

Amy Simmons:

We spend a lot of time together.

Dan Hoffman:

Amy's got a future in trash.

Amy Simmons:

I might.

Dan Hoffman:

It could be. So in order to kind of fill one of the holes in our kind of recycling system here in Winchester, we are in the midst of acquiring a glass crusher. Tell me what is a glass crusher.

Michael Neese:

It it's a big blue box with like a...

Dan Hoffman:

With magic inside.

Michael Neese:

Yes. With little elves with hammers.

Amy Simmons:

That would be awesome.

Michael Neese:

There's a conveyor belt that takes the glass bottles up into the machine. And then there's a spinning trommel inside.

Dan Hoffman:

What is a trommel?

Michael Neese:

Think like a cheese grater-ish looking thing.

Dan Hoffman:

Oh, Okay. Yeah.

Michael Neese:

And then there's little hammers that they also call knives that look neither like hammers or knives. So I don't really get that part, but that's the part that does the braking and then the trommel separates it into sand and then an aggregate. The aggregate is gravel size. But it's smooth because it's not shattered glass. It's been run through the trommel. So it's smooth, and you can use it.

Dan Hoffman:

Like a rock tumbler.

Michael Neese:

Yeah.

Dan Hoffman:

Oh, okay. So what do we then do with said byproducts?

Michael Neese:

Anything you can do with sand and gravel you can do with it.

Dan Hoffman:

Oh really?

Michael Neese:

Yeah. So we're going to have a few test sites and we'll have a little stockpiled material in the yard, but we're going to try it for asphalt applications, concrete applications, mulching, maybe a sandbag. I would really like to talk them into mixing it in with the salt during the wintertime. As that sand it's not very attractive. So the citizen might not like that.

Dan Hoffman:

Oh really? Because I'm picturing just sand. Because sand is just silica, which is a form of glass.

Michael Neese:

Yes. But from these bottles, it'll be a variety of colors. Your green bottles, your browns, your blues.

Dan Hoffman:

It's going to be you a brownish sand.

Michael Neese:

Yeah. Multicolored.

Amy Simmons:

But we also have the black stuff that you mix in. Is that...? What do you put in salt normally that's black?

Michael Neese:

I have no idea.

Amy Simmons:

Or is the salt black?

Dan Hoffman:

He's not a salt guy.

Amy Simmons:

I know but usually it's already a color when you're salting the roads.

Michael Neese:

It's brownish when it comes out. But once it hits the roads, then it starts...

Amy Simmons:

Maybe that's what it is.

Michael Neese:

Yeah. Getting the dirt I there.

Dan Hoffman:

Oh, Okay.

Amy Simmons:

That makes sense.

Dan Hoffman:

Now, is it like grains of sand that you might get on a beach? Or is it more of a powder?

Michael Neese:

Grains of sand like in the beach. Just like Play Sand at Lowe's except for the colors.

Dan Hoffman:

So if I dive my hand into a pile of this, am I going to come out all shredded?

Michael Neese:

No, not at all.

Dan Hoffman:

What about the gravel? So I imagine like sea glass over time, that's kind of gotten smooth and worn down. Is it kind of like that?

Michael Neese:

It's not as worn down looking, it looks like shattered glass.

Dan Hoffman:

Oh, jeez.

Michael Neese:

It looks like you do not want to touch it, but you can, you can put your hand in it and just roll it around.

Dan Hoffman:

Oh, wow.

Amy Simmons:

That's interesting.

Dan Hoffman:

Now I want to play with that.

Michael Neese:

It's a lot of fun.

Amy Simmons:

Now we have to see that. Yeah.

Dan Hoffman:

Yeah. Okay. That's a video [inaudible 00:06:10].

Amy Simmons:

It's definitely a video. Yes.

Dan Hoffman:

Yeah. Definitely going to be a video.

Amy Simmons:

Already in the plans.

Dan Hoffman:

So how much will we be able to process? How many tons or pounds of glass we'll be able to process with this thing?

Michael Neese:

According to the manufacturer, it should be a ton an hour.

Dan Hoffman:

Oh, wow.

Michael Neese:

We wanted one that was fast so that we don't have to dedicate a staff member 40 hours a week. If we are able to collect 5, 10 tons; 5, 10 hours here and there throughout the week, we could do.

Dan Hoffman:

Oh, that's awesome. And we are not, but once we start doing this, we're not going to be doing curbside collection yet?

Michael Neese:

Correct.

Dan Hoffman:

So we're going to have what? Drop off locations?

Michael Neese:

Yes. We'll have five drop off locations. There'll be... What's the word? Rustic looking at first. I am using my best guess and best available locations for people to be able to drop off, but they might not be accurate.

Michael Neese:

We might need to shift them five feet. We may need to shift them to an entirely different location. Then we can put them in permanently.

Dan Hoffman:

But main areas within Winchester will probably have one out at Jim Barnett Park, I would guess, and City Yards, of course.

Michael Neese:

Douglass Park.

Dan Hoffman:

Douglass Park. Yeah.

Michael Neese:

Whittier.

Dan Hoffman:

A variety of places.

Michael Neese:

What's the rugby field one called?

Dan Hoffman:

Weaver.

Michael Neese:

Weaver [Park].

Dan Hoffman:

Yeah. Out of Weaver. Excellent. We're looking to get that done sometime in late this month, late August, right?

Michael Neese:

Yes.

Dan Hoffman:

Okay. Then, people, start collecting your glass, get ready to drop it off at one of the locations. Now you talked a little bit about back to what the machine does, so it pumps out gravel and sand.

Michael Neese:

Yes.

Dan Hoffman:

There's some stuff we will do with it. Is there any application for a resident? Like if somebody wanted to contact the city and maybe get some of this product, is that something we're going to make available? How is that going to work?

Michael Neese:

Yes. That it would be available in the City Yards.

Dan Hoffman:

Oh, okay. What could people do with it at their house?

Michael Neese:

Same things as us, but hopefully more experimental as well. We're basing our applications on what was approved through VDOT and through Fairfax's system, but the more innovation and the more people we have... I don't want to have this machine forever. My goal is that the private sector will pick this up the same way they have with plastic bottles and with paper.

Dan Hoffman:

Got it.

Michael Neese:

This is more of a stop gap.

Dan Hoffman:

Tell me about... When you talk about the private sector. Because right now our cardboard still goes to a local place in my understanding.

Michael Neese:

Yes. All the materials go there now.

Dan Hoffman:

Oh, really?

Michael Neese:

Yes.

Dan Hoffman:

Oh, excellent. That's, I think, within the city limits of Winchester.

Michael Neese:

Yes. Right on 10th street.

Dan Hoffman:

Awesome. So private sector will take all those other things we talked about, but glass not yet. Why is that?

Michael Neese:

There's just not a market for it. It's cheaper to use raw sand, virgin sand than the stuff that's been processed. Most of the glass recycling, when it goes back into glass, it has to be separated by color and by specification, whether it's a lighted glass or a certain thickness. This machine does not do that. So

hopefully we can show that by making it convenient in keeping these materials together, then there are applications for it that other industries will be interested in.

Dan Hoffman:

Nice.

Michael Neese:

I hope we put a couple test strips in, of like sidewalk, concrete, asphalt, and then some of these local construction companies will say, "Ooh, I would like to offer a green alternative for, I don't know, a hundred dollars, more square foot." Whatever the profit is, then they would invest in the machine.

Dan Hoffman:

Nice. So talk a little bit about the recycling system. We obviously there's no market for glass. Where is the market heading in terms of all these different products? There's some things that we currently don't take like some of the different types of plastics, we take all metals, right?

Michael Neese:

Yes. Steel, aluminum, tin.

Dan Hoffman:

That one is an easy one. There's a pretty good value proposition for it. Certain types of paper we don't take, do and don't take. Where is the market? What are the limitations put on us in effect by the private market?

Michael Neese:

Yeah. We can only put on a truck where we can get off a truck. That's the easiest way for it. So whatever the vendor wants and is able to process and sell, that's what we can take to them, if they can't take something then we can't take it.

Dan Hoffman:

Yeah. And then which case it goes to...

Michael Neese:

Landfill.

Dan Hoffman:

Landfill. I know there are places that you can recycle, for example, plastic grocery bags, or some of those other different types of plastics. What is the hold up? Can they not be turned into other products or is it more difficult to process? What is the hold up there?

Michael Neese:

Well, plastic bags, that's one you would think would have to be in our curbside program because we have trucks here and they are the main user of recycled plastic bags in the United States, but it can't be

contaminated with any other material. The plastic bags must be collected separately. They must be kept dry. That's why you see the drop off locations at schools and grocery stores.

Dan Hoffman:

Now, we currently have a dual stream system here in the city. Other cities have different streams, talk about the different streams and how they are, what that means.

Michael Neese:

Yeah. The more pure the material you're collecting, the higher value it is. So say we had a truck that only collected plastic bags, of course, a very clean, dry truck, then that would have value to be baled, but nothing else could be collected with it. Places like Germany, for example, they have seven or eight different recycling streams. It's mostly the same materials we're collecting, but they're collecting them individually, separate. Or you think of the Frederick County drop off locations, then you separate out all the different materials there. In that way it has a higher value than mixed together like ours.

Dan Hoffman:

Got it. Some of these products, especially the biomass products, your limbs and leaves and all that kind of yard waste stuff. What does that do? Does Frederick county or do jurisdictions mulch that, what do they do with that kind of product?

Michael Neese:

I don't know if mulch is the word, it's a giant tub grinder they bring out every couple years or so. It shreds everything down small so they can use it as land applications, alternate daily cover that sort of thing to get a reuse out of it.

Amy Simmons:

We take our leaves and we compost them.

Dan Hoffman:

Oh yeah, that's right.

Amy Simmons:

Maybe hand them out, people can come and get it.

Dan Hoffman:

See that's just leaves. So again, with the different streams. Yard waste can be grass, sticks, branches, poison ivy leaves. Whereas just the leaves in the fall, that's a pure stream. So you can get more of a value out of it

Dan Hoffman:

Don't burn your poison ivy, people, do not burn your poison ivy. Inhale that stuff and it'll mess you up. But some jurisdiction, some places they will burn that product and turn into electricity, like a waste energy type of facility. We don't have anything like that in Virginia?

Michael Neese:

Virginia is very tough to get these started. There's a pyrolysis place that is...

Dan Hoffman:

A what place?

Michael Neese:

Kind of like that in... I don't want to say incinerator, because it's not an incinerator, but a waste energy type of facility. Believe it's plasma based instead of-

Dan Hoffman:

Plasma based.

Michael Neese:

Yeah. It's pretty neat. But it's only in theory right now because the permitting process in the state is very difficult. Hopefully it goes in down the Tidewater or Norfolk area. Their primary focus is plastics #3 through #7 and the waste generated off of it can be a fuel derived.

Dan Hoffman:

Oh, okay. In that situation, they're turning it into a liquid fuel, like a kind of what people used in... What's the stuff they put in gasoline these days? Ethanol.

Michael Neese:

Ethanol. Yeah. Similar like that.

Dan Hoffman:

Similar process to that, but no one actually burns it to turn a turbine or to create energy, right?

Michael Neese:

Covanta in Fairfax, if I'm saying that one right. Then just across the border from us in West Virginia, there's a... It's not more of a burn. It's more of a pelletization.

Dan Hoffman:

Oh, okay. Got you. Well, a lot of different stuff you can do with your garbage. So what's next for the city. I guess I could kind of ask myself that question, Council as well, but Michael, what's your idea? What should be our next step?

Michael Neese:

The biggest bang for the buck, what I would love to see is some form of either methane derived from food waste and organic waste or composting or waste energy. That would be our biggest one. That's our biggest volume inside the trash stream.

Dan Hoffman:

That's about 30% typically?

Michael Neese:

Yeah.

Dan Hoffman:

That's a big chunk. So with that, you said we could generate things from it. How does that process work? Would people need to put their organics in a separate container? That's a totally different stream, right?

Michael Neese:

Yeah.

Dan Hoffman:

So talk about what that process would look like for a resident.

Michael Neese:

Well, it's all in my head right now. Because the first thing we would need is a facility. So hopefully one starts in the State. We've had Black Bear Composting, was it Christiansburg for a while. Hopefully that model will now be able to catch on and expand. For that one, the food waste and the yard waste can go together. We could build off of our current collection program if it was that type of facility.

Dan Hoffman:

In my mind, I'm envisioning something kind of like the glass crusher, is it just basically a machine where stuff goes in one end and comes out the other side? What comes out the other [side]? Is it some type of gas, a liquid? What comes out of the product?

Michael Neese:

It could be any of those things. So there's ones that do methane, there's ones that will liquefy it, there's ones that make pellets so that you can burn them in different things; then there's ones that make composts. So it could be any of them.

Dan Hoffman:

Could be any of them.

Michael Neese:

Yeah. A friend of mine has one of the gas digesters. He's pretty well west of Winchester. But it's very neat.

Dan Hoffman:

What is it? That produces what a natural gas, methane, propane?

Michael Neese:

Produces like a methane gas off of it. It goes through a little bit of cleaning. He runs different appliances and machinery off of it.

Dan Hoffman:

Oh, wow. Really?

Michael Neese:

I think I have a video he sent me today where he has it hooked up to a four-wheeler but I haven't seen it run yet.

Dan Hoffman:

Oh, wow.

Amy Simmons:

That sounds dangerous.

Dan Hoffman:

Yeah. That's...

Michael Neese:

That'd be awesome.

Dan Hoffman:

Yeah. I'll let him try out his methane powered four-wheeler first.

Michael Neese:

That's something that's on the private sector market. You can do it for individual households or as well as communities.

Dan Hoffman:

Oh, wow. Very cool.

Michael Neese:

He calls it "A farting yogurt." Because that's kind of what the bladder looks like. It puts out a liquid fertilizer I've use on my gardens as well.

Dan Hoffman:

Very cool. Remind me about that next budget cycle. We'll see what we can do with your fart machine. All right. Well Mike, thank you very much for stopping by again. That's always fascinating. Folks, think about where your waste goes, think about your trash and keep an eye out for the glass crusher locations coming very, very soon.

Michael Neese:

Very soon. It's going to be awesome. I'm very excited.

Dan Hoffman:

Thanks, Mike.

Michael Neese:

Thanks.

Dan Hoffman:

All right. There goes, Mike, always a nice chat with Mike. I think I said this last time, but he just loves what he does.

Amy Simmons:

He loves it. He doesn't just do it. He lives it.

Dan Hoffman:

He walks the walk.

Amy Simmons:

At home and at work.

Dan Hoffman:

Yep. We're going to start training garden stuff. That dude's hardcore.

Amy Simmons:

Very.

Dan Hoffman:

Yeah. He produces pounds of food, so...

Amy Simmons:

And he helps with community gardens too.

Dan Hoffman:

Yeah. When the zombie apocalypse comes, I'm going to Mike's house.

Amy Simmons:

Absolutely.

Dan Hoffman:

He's going to have this self sustaining little place. Mike, is a great asset to the City and we're very lucky to have him.

Amy Simmons:

Yep.

Dan Hoffman:

All right. So that does it for the City Works portion. Thanks you for sticking around and listening. And next time, who...? Do we know who we're talking to next week?

Amy Simmons:

Oh, you shouldn't ask me that. We do have somebody scheduled...

Dan Hoffman:

We do?

Amy Simmons:

Yeah.

Dan Hoffman:

Oh, wow.

Amy Simmons:

For the next two. Can you believe it?

Dan Hoffman:

Planning ahead. Look at that.

Amy Simmons:

I know one thing, one of them is Purpose Safety Radios, I think the other one... Oh, gosh. I can't remember.

Dan Hoffman:

Oh, talk about radios next time, maybe.

Amy Simmons:

Yeah, maybe.

Dan Hoffman:

Maybe, we'll see. Check out the website and you'll find out for yourself. Thanks a lot for listening. I'm your City Manager, Dan Hoffman. And we will see you around City Hall.