CITY OF COOPER CITY

WATER AND WASTEWATER MASTER PLAN WORKSHOP

Thursday, March 13, 2025 at 5:00 PM
City Hall Auditorium | 9090 SW 50th Place

AGENDA

PLEDGE OF ALLEGIANCE

Mayor Curran opened the meeting at 5:00 PM and led the assembly in the Pledge of Allegiance.

ROLL CALL

Present were Commissioners Smith, Mallozzi, Katzman (online), Shrouder and Mayor Curran.

PUBLIC COMMENTS (3 MINUTES)

None.

TOPICS FOR DISCUSSION

1. Water and Wastewater Master Plan

City Manager Rey advised we have had consultants from Hazen and Sawyer working for almost a year outlining the status of our water and wastewater systems. They will walk the Commission through the results of the study tonight.

Janeen Wietgrefe, George Brown and Alonso Griborio presented. Ms. Wietgrefe advised the water system is in very good condition. Normal repair and replacement are needed for the water system, as is typical of all water systems in this area. Staff has done an excellent job of keeping your wastewater plant alive for many years beyond its typical useful life but it is at the end of the useful life, and significant investment is required. The electrical system that serves both the water plant and the wastewater plant is at the end of the useful life and significant investment is needed. The master plan resulted in a 500 page report with a 20 year CIP. The City also been provided a power BI Dashboard that has every project loaded in from the CIP so that staff can use that to update the CIP every year in the future.

Mr. Brown advised the City's water service area has a population that is forecasted to grow 35,000 to about 38,000 over the next 20 years. The City's water supply contains PFAS. The City's existing treatment plant reduces PFAS to below detection levels. The EPA passed a rule recently that we all have to comply with by April 2028, and we have to achieve a level of 4 parts per trillion. The City's technology membrane treatment is capable of meeting that requirement and the City is meeting it today. The City has sufficient treatment capacity and water supply to meet demand through the year 2045. The focus going forward is maintaining the reliability of the City's existing assets through renewal and replacement of infrastructure as they age out. The City’s water quality complies with all current regulations and will comply with the future PFAS regulation with no new capital investments. Hazen assessed the condition of the City's water supply and treatment assets. The key findings were that there's iron scaling and sedimentation that's coming from the raw water wells and impacting the treatment plant. This is a common occurrence in the Biscayne Aquifer that has high iron in the water as oxygen enters the raw water conveyance system, it can transform that dissolved iron into particulate matter. That then impacts the pretreatment system at the membrane plant. That pretreatment system

is called cartridge filters. The City's treatment assets are in good condition. The chemical systems, however, are near the end of their useful life and need replaced. Near-tern, well rehab and pump replacement is also recommended. Water mains are expected to have a useful life of 75 to 100 years. Nearly 27% of the City's water piping is about 50 years or older. So by 2045, that will rise to 66% if the City takes no action. What most utilities do is they typically have an annual water main replacement rate or renewal and replacement fund for funding infrastructure to replace it as it ages. A typical range for the industry is somewhere between .5% and 3% annual replacement of piping. The recommendation of the master plan is from fiscal year 2025 to 2029 preserve funds and invest in other higher need infrastructure improvements. Starting in fiscal year 2030 begin replacin, piping at a rate of about point 7.5% annually. The City has a state of the art water treatment plant. This is one of the City's most important assets and is critical to public health. Normal renewal and replacement investment is needed and recommended to ensure the long term sustainability of the City's water infrastructure. A total of $120 million dollars' worth of projects were identified or recommended over the next 20 years related to water supply, water treatment and water distribution. Not investing in the in the City's water system potentially results in or does result in avoidable operating costs. The City's current operating cost is about $1.68 million dollars. The recommendation of the project for removing air could potentially save $1.1 million dollars over 20 years.

Commissioner Smith asked if any neighboring municipalities utilize the project recommended. Mr. Brown answered yes, the City of Plantation. Ms. Wietgrefe advised the City of Plantation completed the project in house and costs were significantly lower. All costs were extremely conservative and project costs can be brought down by utilizing small changes in-house.

Mr. Brown stated the switchgear and diesel engine generator are at the end of their useful life. Typically, in a modern facility all electrical equipment is built indoors, however, the City's is outdoors. It was installed in 1973, based on available records that would put it its current age at 52 years. The typical expected useful life is 30 years. Staff has done heroic work to maintain the equipment over the years, because it's now 22 years beyond its expected useful life. The wastewater treatment plant switchgear is 23,000 volts. It is the largest distribution power that FPL would supply to a utility. They have met with FPL several times to discuss the recommended project and it takes approximately two years to procure new switch gear. They recommend replacing the switch gear at a new location in the plant and enclosing it within a building to protect it from hurricanes. The recommended electrical improvements amount to about $21 million dollars. The project duration is about five years. If the switchgear is not replaced it can produce severe consequences for the entire system.

Mr. Griborio advised we have over 90 miles of gravity sewer, over 30 miles of force main and 83 lift stations. The replacement of the collection system is based on age. Many of the City's components are past life expectancy of 50 years. 17% of the City's components are 50-years old or older. The recommended projects include, annual force main replacement, gravity sewer lining, lift station rehabilitation, new lift station generators, collection system condition assessment and lift station control module migration. The total cost for a 20 year CIP is $54.2 million. The treatment capacity is in compliance. The firm provided three options for the CIP for the wastewater plant. One is to build a new wastewater treatment plant. Second, is rehabilitating the existing plant and the third option is to accelerate the schedule for a new plant. Option one has a cost of $128.8 million dollars. Rehabbing the existing plant would cost $96.8 million dollars. Option three would cost $124.1 million dollars.

City Manager Rey asked Mr. Griborio what the perks are of a new plant compared to rehabbing the current plant. Mr. Griborio said the City will have to keep maintaining the old technology if the plant is rehabbed and will cost more money over time. A new plant would be reliable.

Commissioner Shrouder asked how option 3 is cheaper than option 1. Mr. Griborio explained accelerating the new built saves money.

City Manager Rey said there are two critical projects. The electrical project and the waste water plant. The first step will be the selection process for design firms, the design process and then ordering of the equipment. We do have the money available for the design work. Near FY 2027 we will need look into borrowing money. He alongside the CFO will prepare financial schedules and cash flow projections for the proposed infrastructure projects. The City will need a financial analyst to help with the borrowing as well.

Commissioner Shrouder asked if there options when building the plant. City Manager Rey said the options will be in the design criteria.

Commissioner Smith asked the first step. City Manager Rey said the Commission will receive a package for a consultant for a rate study, a package to select a financial analysist and a package to select the design of the electrical system.

Commissioner Shrouder believes the Commission needs to decide on the technology to be used.

Commissioner Smith asked if some options can be completed now. City Manager Rey said staff is looking into options that will be the most affective.

Commissioner Mallozzi said she wants to know if it is possible to earn money from giving sludge. Ms. Wietgrefe said a study can determine the most beneficial option. Commissioner Mallozzi also asked about reclaimed water options. Ms. Wietgrefe said it was determined for the City to be much cheaper to pay another facility for the reclaimed water.

Commissioner Shrouder asked how the City fell so behind on replacing infrastructure. Ms. Wietgrefe said there was a master plan done around 2008 where it was recommended to replace the infrastructure.

ADDITIONAL PUBLIC COMMENTS (3 MINUTES)

No additional comments.

ADJOURNMENT

The meeting adjourned at 6:05 PM.

The minutes of the City Commission Workshop of February 25, 2025 were approved during the regular Commission meeting of April 8, 2025.

Mayor James Curran

Tedra Allen, City Clerk

ADA NOTICE

This meeting is open to the public. In accordance with the Americans with Disabilities Act of 1990, all persons who are disabled and who need special accommodations to participate in this meeting because of that disability should contact the Office of the City Clerk, 954-434-4300 ext. 220, not later than two days prior to such proceeding. One or more members of the City of Cooper City Advisory Boards may be in attendance and may participate at the meeting. Anyone wishing to appeal any decision made by the Cooper City Commission with respect to any matter considered at such meeting or hearing will need a record of the proceedings and, for such purpose, may need to ensure that a verbatim record of the proceedings is made, which record includes the testimony and evidence upon which the appeal is to be based. Agenda items may be viewed online at www.coopercity.gov or at the Office of the City Clerk, City of Cooper City, 9090 SW 50 Place, Cooper City, Florida, 33328, 954-434-4300.

DECORUM

Members of the Commission, staff members, citizens, and others are required to use civil and appropriate language when addressing the Commission or anyone present at the meeting and must refrain from using profanity, cursing, or exhibiting aggressive or threatening behavior. All comments should generally be directed to the presiding officer and not to individual members of the Commission, staff, or the audience. No personal verbal attacks toward any individual by either the Commission, staff, citizens, or others shall be allowed during any meeting of the Commission.

Any persons making impertinent or slanderous remarks or personal attacks or who becomes boisterous while addressing the Commission or who otherwise violates the decorum rules set forth herein shall be barred from further audience before the Commission by the Mayor, or by request of any member of the Commission unless permission to continue or again address the Commission be granted by a majority vote of the Commission members present.

WEBVTT

1

00:00:02.710 --> 00:00:09.570

Cooper City Hall: Thank you all for coming to tonight's workshop, those on time, and those are getting here a little late. Thank you for showing up.

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00:00:14.040 --> 00:00:16.270

Cooper City Hall: We all stand up for the pledge of allegiance. Please

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00:00:21.550 --> 00:00:34.710

Cooper City Hall: pledge allegiance to the flag, the United States of America, and to the republic for which it stands. One nation under God, indivisible liberty, justice for all. Roll call, please.

4

00:00:38.090 --> 00:00:43.229

Cooper City Hall: Commissioner Smith. Here Commissioner Melozzi, here Commissioner Katzman.

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00:00:44.300 --> 00:00:45.690

Jeremy Katzman: I'm online. Can you hear me.

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00:00:46.150 --> 00:00:52.510

Cooper City Hall: Yes, thank you, Commissioner Schroeder, Mayor Karen here.

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00:00:56.200 --> 00:01:00.850

Cooper City Hall: Mr. City manager, any changes to the agenda or anything we need to know about

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00:01:01.330 --> 00:01:10.739

Cooper City Hall: no changes to agenda, sir, but I just wanted to. Kind of define what we're doing. No, no, I'm turning this over to you right now, right right? For sure, perfect. So

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00:01:11.110 --> 00:01:21.999

Cooper City Hall: at the last meeting you got a presentation from city staff as to the different components of our water and wastewater system, including the distribution and collection lines.

10

00:01:22.170 --> 00:01:49.670

Cooper City Hall: What the what we're going to be doing today. We have a consultant who has been working for, I believe, almost a year. On telling you what is that needs to be changed over the next 2025 years and give you a good footprint as to what that's going to look like. So the consultant is is hasten and Sawyer and we have a draft, a final draft or their proposal.

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00:01:50.160 --> 00:01:52.030

Cooper City Hall: Yeah. And

12

00:01:52.410 --> 00:02:03.589

Cooper City Hall: they want to walk. You, you know today through a series of slides and give you the recommendations for what needs to be done into our system. Aquine is anything you want to add to that?

13

00:02:04.893 --> 00:02:14.610

Cooper City Hall: No manager I just would like to say that we have the presentation how the system works now they are going to present us our future.

14

00:02:19.060 --> 00:02:41.609

Cooper City Hall: Thank you, Mayor. Thank you. City manager commissioners and city clerk and city attorney. Thank you for being here. My name is Janine Witcherthy. I'm with Hazen and Sawyer Project director for this project we will present to you and several of us today. George Brown will present the water. Alonzo Graborio will present the wastewater, and Adrian Myrie is here as well for any questions on the cip.

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00:02:45.550 --> 00:02:50.509

Cooper City Hall: Okay, do I use the clicker or the

16

00:02:54.160 --> 00:03:00.479

Cooper City Hall: excuse me for one second while we advance the slides. I just don't know. Everybody here is from Staff, I believe.

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00:03:00.940 --> 00:03:01.670

Cooper City Hall: Yes.

18

00:03:05.890 --> 00:03:06.630

Cooper City Hall: okay.

19

00:03:06.840 --> 00:03:17.039

Cooper City Hall: alright for the introductions. Just so you can see who's speaking with you today. So again, we appreciate you. Having Hazen and Sawyer to present this important project to you. Thank you for having us.

20

00:03:17.150 --> 00:03:33.659

Cooper City Hall: we will start with the project goals. What questions does the master plan answer? We'll talk about the water system, the plan electrical, the wastewater system, and then be open for questions and answers from you. But please do interrupt at any time, if you have questions while we're presenting, please interrupt us at any time.

21

00:03:35.080 --> 00:04:02.710

Cooper City Hall: So the water system, just as an overview before we get started. The good news is, your water system is in very good condition. Normal repair and replacement are needed for the water system, as is typical of all water systems in this area, the wastewater system. Your team has done an excellent job of keeping your wastewater plant alive for many years beyond its typical useful life. But it is at the end of the useful life, and significant investment is required.

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00:04:02.710 --> 00:04:13.810

Cooper City Hall: Similarly, the plant electrical. You have an electrical system that serves both the water plant and the wastewater plant, and that electrical system is at the end of the useful life and significant investment is needed.

23

00:04:15.100 --> 00:04:39.890

Cooper City Hall: So the goals of the project. What questions does the Master plan answer? So a master plan is completed to assess your water and wastewater infrastructure and answer these questions, what is the quantity? Is the quantity sufficient both on the water plant and the wastewater plant to meet the the demand requirements, the quality. There are specific requirements through the Florida Department of environmental protection. Are improvements needed to meet the regulation.

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00:04:40.110 --> 00:04:49.410

Cooper City Hall: the condition, what is the condition of the assets? What assets need to be replaced? And if these assets need to be replaced, what is the cost of those assets?

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00:04:50.730 --> 00:05:15.349

Cooper City Hall: And so the deliverables we have provided to the city. There is a report that I believe you received a Pdf. Of ahead of this meeting. All of the findings are documented in that report. Everything from the condition assessment through what the cost estimates are for future projects. The 20 year Cip is in there. It should be noted that this master plan was completed this year, which was almost 20 years after the 1st

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00:05:15.350 --> 00:05:27.840

Cooper City Hall: master plan was completed. So it had been a while since the city had a comprehensive master plan put together for the city. And so this is an update of that original master plan. After many, many years.

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00:05:27.840 --> 00:05:40.579

Cooper City Hall: You have also been provided with what's called a power bi dashboard that has every project loaded in from the cip so that your staff can use that to update the cip every year in the future.

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00:05:41.720 --> 00:05:45.409

Cooper City Hall: And with that I'll have George Brown to talk about your water system.

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00:05:47.520 --> 00:05:53.879

Cooper City Hall: Thank you, Janine. George brown with hazel and sawyer, I focused on the water system.

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00:05:56.580 --> 00:06:02.709

Cooper City Hall: The city's water service area has a population that is forecasted to grow

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00:06:02.840 --> 00:06:10.759

Cooper City Hall: from this year about 35,000 to about 38,000 over the next 20 years.

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00:06:10.860 --> 00:06:16.690

Cooper City Hall: and that's an approximate growth rate of 0 point 4 3% per year.

33

00:06:23.660 --> 00:06:40.589

Cooper City Hall: The city's water supply contains pfas. So what is pfas? You've probably heard about it in the news? It's often called the forever chemical. It's been utilized for many years in in thousands of industrial products.

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00:06:40.920 --> 00:06:49.190

Cooper City Hall: And typically, it's something like a teflon, or that's used to coat pans for nonstick surfaces.

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00:06:49.560 --> 00:07:03.710

Cooper City Hall: The city's existing treatment plant reduces pfas to below detection levels. The EPA passed a rule recently that we all have to comply with

36

00:07:04.140 --> 00:07:25.699

Cooper City Hall: by April 2028, and we have to achieve a level of 4 parts per trillion. That's an incredibly low value. But the city's technology membrane treatment is capable of meeting that requirement. And so the city's meeting it today.

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00:07:31.370 --> 00:07:44.300

Cooper City Hall: The city has sufficient treatment capacity in its water treatment, infrastructure and its water supply infrastructure to meet demand through the year 2045.

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00:07:44.470 --> 00:07:46.649

Cooper City Hall: The Graphic on the left

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00:07:46.760 --> 00:08:13.679

Cooper City Hall: illustrates 2 blue bars. One is the the 2025 demand, and the the one on the right of that is 2045 maximum day demand. And what it illustrates is the the city's demand is far below its available treatment capacity from its membrane treatment plant. So that's that's great news. And let me stop you there for a second, because I want you to remember this.

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00:08:13.910 --> 00:08:29.729

Cooper City Hall: as we have discussions in the future of additional service areas, because there are discussions with Southwest ranches, with time of Davey to add a few more accounts, and that graph on the left gives you the comfort that the capacity on the water side is there.

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00:08:30.050 --> 00:08:30.850

Cooper City Hall: Thank you.

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00:08:32.530 --> 00:08:37.870

Cooper City Hall: You go, and you only increase us by 3,000 people in 20 years.

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00:08:38.299 --> 00:08:56.760

Cooper City Hall: Your 1st slide that obviously will no longer apply, because if you add southwest ranches and other places, it's going to be more than 3,000 people. We're not looking at large areas we're looking at very targeted, you know, right? But it's 3,000 people that we're looking at. When you

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00:08:57.000 --> 00:09:10.059

Cooper City Hall: you said you said we can interrupt at any time. So when you included your 3,000 person, increase your point. 4 5% over 20 years was that, including the possibility of

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00:09:10.630 --> 00:09:18.210

Cooper City Hall: adding on southwest ranches, or that was just what we have here. Our city's growth in 20 years.

46

00:09:18.880 --> 00:09:29.330

Cooper City Hall: I believe it was the city's only that's what I thought I. Just. But if you verify that, yeah. But if you look at the graph, you're really far from the dashed line.

47

00:09:30.510 --> 00:09:35.219

Cooper City Hall: No, I understand that. But I'm just. I still want the clarification. Thank you.

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00:09:37.900 --> 00:09:48.819

Cooper City Hall: So again, the city's water supply and water treatment capacity sufficient through the next 20 years, given the current level of growth within the city.

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00:09:48.980 --> 00:10:06.299

Cooper City Hall: Hence, and the facilities remove pfas. Hence the the focus going forward is maintaining the reliability of the the city's existing assets through renewal and replacement of infrastructure as they age out.

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00:10:06.770 --> 00:10:10.410

Cooper City Hall: That's the city's key investment need going forward.

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00:10:12.350 --> 00:10:21.600

Cooper City Hall: The city's water quality complies with all current regulations, plus it also complies with the future pfas regulation.

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00:10:21.830 --> 00:10:41.259

Cooper City Hall: The city tests its water tens of thousands of times per year to document this compliance, and we will comply, or the city will comply with future pfas, and no new capital investments are needed for regulatory improvements.

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00:10:44.200 --> 00:11:10.769

Cooper City Hall: Hazen assessed the condition of the city's water supply and treatment assets. The key findings were that there's iron scaling and sedimentation that's coming from the raw water wells and impacting the treatment plant. This is this is a common occurrence in the Biscayne aquifer that has high iron in the water as oxygen.

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00:11:10.870 --> 00:11:26.740

Cooper City Hall: If oxygen enters the raw water conveyance system, it can transform that dissolved iron into particulate matter. And what happens is that that then impacts the pretreatment system

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00:11:26.920 --> 00:11:32.030

Cooper City Hall: at the membrane plant. That pretreatment system is called cartridge filters.

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00:11:32.240 --> 00:11:35.700

Cooper City Hall: and what it does is it simply removes those particles.

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00:11:36.000 --> 00:11:40.220

Cooper City Hall: So the and we'll talk more about it in a few moments. The

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00:11:43.720 --> 00:11:53.979

Cooper City Hall: the city's treatment assets. They're in good condition. The chemical systems, however, they're near the end of their useful life, and we've recommended replacing them

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00:11:56.610 --> 00:12:16.290

Cooper City Hall: relative to water supply. There's near term. Well, rehab and pump replacements that have been recommended, and the total amount for renewal and replacement of water and water, water treatment and water supply over the next 20 years is about 47 million dollars.

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00:12:20.310 --> 00:12:30.620

Cooper City Hall: We also looked at water distribution system asset replacement needs that was simply based on age of the infrastructure.

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00:12:31.000 --> 00:12:34.990

Cooper City Hall: Water mains are expected expected to have a useful life of

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00:12:35.410 --> 00:12:37.789

Cooper City Hall: 75 to a hundred years.

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00:12:38.210 --> 00:12:39.920

Cooper City Hall: Optimistically.

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00:12:41.810 --> 00:12:50.789

Cooper City Hall: currently, the city's about 27% of the city's water piping is about 50 years old or older.

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00:12:51.260 --> 00:12:57.969

Cooper City Hall: So by 2045, that will rise to 66% if the city takes no action.

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00:12:58.370 --> 00:13:22.250

Cooper City Hall: So what most utilities do is they typically have an annual water main replacement rate or renewal and replacement fund for funding infrastructure to replace it as it ages a typical range for the industry is somewhere between 0 point 5% and 3% annual replacement of piping.

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00:13:23.210 --> 00:13:27.659

Cooper City Hall: The recommendation of the master plan is for from fiscal year 20,

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00:13:27.780 --> 00:13:32.559

Cooper City Hall: 5, th 2025 to 2029 to basically just.

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00:13:32.710 --> 00:13:50.510

Cooper City Hall: you know, preserve your funds and invest in other higher need, infrastructure improvements and then starting in fiscal year 2030 to begin replacing, piping at a rate of about point 7 5% annually. Question. Yes.

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00:13:50.750 --> 00:13:54.400

Cooper City Hall: Are you taking into account the sleeves that we've been doing.

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00:13:54.510 --> 00:14:04.639

Cooper City Hall: Oh, the sleeves on the the the service lines! Well, we've been doing some sleeves, and then we've done some in the past where we've like.

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00:14:05.040 --> 00:14:08.700

Cooper City Hall: Oh, I think yeah, the lining. The lining is on the sewer side.

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00:14:09.030 --> 00:14:15.440

Cooper City Hall: right? But we've also done some on piping in general as well we've done in the past. Is that? Yes.

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00:14:15.960 --> 00:14:24.819

Cooper City Hall: you can answer. I swear you can. There's some service line that I think that you're referring to right. There are some service lines.

75

00:14:25.410 --> 00:14:28.300

Cooper City Hall: Type. 1st thing. So right

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00:14:29.370 --> 00:14:56.499

Cooper City Hall: is that related to the water or the sewer water when pipes oh, they were related to the water when that happened. Yes, there's some old pipes that the city has has replaced over there. Water pipes the city has replaced right. So if they were pipe burst. The the city's Gis data would have indicated that that pipe is basically new. So then it would. It would have been accounted for in our analysis. Yeah.

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00:14:57.000 --> 00:14:57.970

Cooper City Hall: thank you.

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00:14:59.830 --> 00:15:06.140

Cooper City Hall: So the the the cip recommended recommended

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00:15:06.260 --> 00:15:11.400

Cooper City Hall: cip is 73 million dollars over the next 20 years.

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00:15:14.360 --> 00:15:21.459

Cooper City Hall: In conclusion, the city's water system is in good condition. The city has a state of the art water treatment plant.

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00:15:22.030 --> 00:15:27.319

Cooper City Hall: It's 1 of your most important assets. It's critical to public health.

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00:15:28.080 --> 00:15:37.709

Cooper City Hall: normal renewal and replacement investment is needed is recommended to ensure the long term sustainability of the city's water infrastructure.

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00:15:38.850 --> 00:15:52.339

Cooper City Hall: A total of 120 million dollars worth of projects were identified for or recommended over the next 20 years related to water supply water treatment and water distribution.

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00:15:56.410 --> 00:16:05.370

Cooper City Hall: So next we'll talk about on the water system. What would happen if the water system projects are not implemented? I'm present, and I'm going to present one example.

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00:16:06.860 --> 00:16:10.329

Cooper City Hall: So not investing in the in the city's water system

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00:16:10.490 --> 00:16:22.250

Cooper City Hall: potentially results in or does result in avoidable operating costs. The example I'm presenting here is the one I described earlier about cartridge filters

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00:16:22.930 --> 00:16:23.863

Cooper City Hall: in the

88

00:16:24.700 --> 00:16:41.320

Cooper City Hall: graphic. On the left, the circle on the furthest left. It shows the the housing of the pretreatment cartridge filters. It just looks like a horizontal tank, and inside that tank is a series of tubes.

89

00:16:41.420 --> 00:17:02.770

Cooper City Hall: Those tubes are illustrated on the Graphic. Just to the right of that. What that is. It's a woven material called a cartridge filter, and it's used to remove particulate matter to prevent it from going through into the membrane treatment process which would not be good for the membrane treatment process.

90

00:17:03.000 --> 00:17:20.620

Cooper City Hall: So after about 6 to 9 weeks, the cartridge filters looks like the the one called used cartridge filters. It has a dark brown material on it, and what that is is, it's iron and sediment that's coming from the wells.

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00:17:21.660 --> 00:17:32.519

Cooper City Hall: So a normal system in in South Florida could should expect to be able to replace cartridge filters every 6 months.

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00:17:32.680 --> 00:17:39.049

Cooper City Hall: The city system is you're having to replace your cartridge filters every 9 weeks.

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00:17:39.370 --> 00:17:50.759

Cooper City Hall: and so we've recommended a series of projects that would that would reduce the or attempt to eliminate the. This challenge presented here.

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00:18:02.760 --> 00:18:05.810

Cooper City Hall: They have to be discarded and replaced with new.

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00:18:09.230 --> 00:18:17.069

Cooper City Hall: So not again, not investing is results in avoidable operating costs. That operating cost

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00:18:17.600 --> 00:18:25.699

Cooper City Hall: over 20 years. Your current operating cost is about 1.6 8 million dollars

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00:18:26.460 --> 00:18:35.550

Cooper City Hall: that's based on both the material for replacing the cartridge filters and the Associated Staff labor for performing that work.

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00:18:36.640 --> 00:18:42.350

Cooper City Hall: So we've recommended a project for removing air and

99

00:18:42.940 --> 00:18:54.790

Cooper City Hall: automate it with using a process of adding automated blow off valves, and that could significantly reduce the air. Entering the system

100

00:18:55.180 --> 00:19:03.549

Cooper City Hall: which would then reduce or hopefully eliminate the amount of iron that's being formed particulate iron.

101

00:19:04.000 --> 00:19:09.500

Cooper City Hall: And so potentially, we think we could save 1.1 million dollars over 20 years.

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00:19:10.130 --> 00:19:12.260

Cooper City Hall: Question for you, sir. Yes, sir.

103

00:19:12.480 --> 00:19:29.359

Cooper City Hall: where is that recommendation currently being utilized in the tri-county area? Any place particular? You can give us a couple. Yes, the the photo on the left illustrates an example of a blow off valve. This is at the city of plantation.

104

00:19:29.810 --> 00:19:35.359

Cooper City Hall: So what this valve does is when the when the well is called the start.

105

00:19:35.550 --> 00:19:37.950

Cooper City Hall: If there's air in the casing.

106

00:19:38.170 --> 00:19:46.970

Cooper City Hall: so this valve would open and the water would be discharged to disposal of typically a storm water system.

107

00:19:47.180 --> 00:19:48.980

Cooper City Hall: and that would help

108

00:19:49.120 --> 00:19:57.540

Cooper City Hall: purge that air out of the system so that it doesn't react with the dissolved iron in the water.

109

00:19:58.340 --> 00:20:04.010

Cooper City Hall: They actually have signs. When they do that, they put signs up throughout the city when they do that. If I remember correctly.

110

00:20:04.670 --> 00:20:10.720

Cooper City Hall: Janine designed the project, she would know better than I if there are signs without. That's a great idea to add them.

111

00:20:11.640 --> 00:20:12.310

Cooper City Hall: Cause

112

00:20:19.720 --> 00:20:27.340

Cooper City Hall: what is the the cost of the project to implement the blow off valves. That's the question, right?

113

00:20:27.510 --> 00:20:47.060

Cooper City Hall: It's about 1 million dollars. So if you compare the 2 costs, you potentially save 1.1. But you gotta pay one. We hope that we could lower that cost. Remember, this is a master plan level cost estimate. So you gotta be. You gotta be conservative. It's for planning.

114

00:20:47.710 --> 00:20:55.819

Cooper City Hall: I I believe it could be reduced. But you know we got to pay the 1 million right away for the 1.1 over 20 years. So

115

00:20:56.010 --> 00:21:07.660

Cooper City Hall: logical. Right? So if you could lower the the capital construction cost of the implementation of the blow off valves, you could have a significant savings.

116

00:21:07.840 --> 00:21:10.169

Cooper City Hall: so that an opportunity does exist.

117

00:21:10.810 --> 00:21:33.380

Cooper City Hall: and Georgia just add real quick that at plantation they constructed it with their own forces. So it was a significantly lower cost than that. So, and your folks are quite capable of this. They have done a lot of piping work that you do have a couple wells. I don't remember the exact number that have blow off on them that just need to be operational, so that the cost is probably much less than that upper limit George gave you.

118

00:21:33.380 --> 00:21:44.060

Cooper City Hall: and I would add that there are some other utilities in the Tri-county area who are presently investing in a much more costly pretreatment operation.

119

00:21:44.060 --> 00:22:07.819

Cooper City Hall: So there's monomedia pressure filters that could be added, which we did not recommend in this master plan, because we see that you're operating presently. You're doing fine. You're just having to change out your cartridge filters very frequently, so we did not recommend a very expensive additional pretreatment process. We're recommending instead, start with the blow off valves, initiate them at the ones you can do with your own staff.

120

00:22:07.920 --> 00:22:26.270

Cooper City Hall: There's probably a refurbishment of well projects. I think that's in there. Anyways, that needs to be done. You could include the blow offs on the other wells as part of that project. So there's there's steps you can take instead of spending large money on a whole new unit treatment process. We didn't recommend a whole new unit. Is there any reason why?

121

00:22:26.850 --> 00:22:31.450

Cooper City Hall: Maybe it's not the right word abandon, but that they abandon the current

122

00:22:32.000 --> 00:22:59.520

Cooper City Hall: ones. You said there are some that are not working. Yeah, I don't know historically why they why, they aren't operational, I mean as as Commissioner. I'm sorry for the pronunciation of your name mentioned it. You know the the residents are aware when the well blows off, the residents are aware, so I don't know if, historically, there were complaints about it. It's discharging to Stormwater, so it's just charging to the stormwater, so they can. Sometimes they can see it depending where the well is.

123

00:22:59.800 --> 00:23:06.869

Cooper City Hall: So that's why the signs are informative and important, so that your residents understand that? It's just a typical operational discharge

124

00:23:07.230 --> 00:23:09.939

Cooper City Hall: of the Biscayne aquifer to the stormwater system.

125

00:23:10.400 --> 00:23:11.120

Cooper City Hall: So

126

00:23:11.230 --> 00:23:34.849

Cooper City Hall: so yeah, we think there's a lot of room. We you know we're very conservative in our estimates. That's why George gives you an upper limit, and then, of course, you work with your staff. Who can do you know, work themselves. You work with the Well Refurbishment Company, and and certainly those those project costs can be brought down. But they're much less than designing a whole new unit treatment process. We think there's a lot that you can do ahead of adding another treatment process.

127

00:23:34.950 --> 00:23:37.340

Cooper City Hall: So thank you. Okay, I hope that helps. Thank you.

128

00:23:37.480 --> 00:23:38.950

Cooper City Hall: Thank you, Janine.

129

00:23:42.127 --> 00:23:45.470

Cooper City Hall: I will transition to plant electrical.

130

00:23:46.160 --> 00:23:50.330

Cooper City Hall: The all power in the plant or all power

131

00:23:50.790 --> 00:23:59.620

Cooper City Hall: is supplied to the water plant and the wastewater plant through a single set of electrical cabinets called switchgear.

132

00:24:00.170 --> 00:24:14.230

Cooper City Hall: and this graphic just illustrates the location of the switch gear within the treatment plant on the left hand side. It's blue. That's the water plant, and right hand side is the orange. That's the wastewater plant.

133

00:24:14.620 --> 00:24:20.819

Cooper City Hall: the switch gear and the Diesel engine generator together. They're at the end of their useful life

134

00:24:24.740 --> 00:24:35.580

Cooper City Hall: again, the plants, the switch gear at the end is at the end of its useful life. You see it illustrated here in this photograph. It's all outdoors. It's exposed to the weather. It's a

135

00:24:35.680 --> 00:24:53.330

Cooper City Hall: typically a modern facility. All of this electrical equipment would be built indoors in a in a hurricane rated building to protect it from weather. So some key facts about the electrical equipment it was.

136

00:24:53.670 --> 00:25:15.459

Cooper City Hall: we estimate. It was installed in 1973, based on available records that would put it its current age at 52 years. The typical expected, useful life is 30 years, I think Staff has done heroic work to maintain the equipment over the years, because it's now 22 years beyond its expected useful life.

137

00:25:19.700 --> 00:25:34.219

Cooper City Hall: So some key information about this electrical system, you know, in your house you use 120 volt. Power, an electrical outlet, or 220 volt power at your at your dryer.

138

00:25:35.400 --> 00:25:59.840

Cooper City Hall: The wastewater treatment plant switchgear is 23,000 volts. It's the largest distribution power that Fpl would supply to a utility like yours, and we've met with Fpl. Several times to discuss our recommended project with them. It takes approximately 2 years to procure new switch gear.

139

00:26:03.240 --> 00:26:05.969

Cooper City Hall: We recommend replacing the switch gear

140

00:26:06.180 --> 00:26:16.060

Cooper City Hall: at a new location in the plant replacing it at the existing location is just simply not feasible. Given the space limitations.

141

00:26:17.160 --> 00:26:17.920

Cooper City Hall: the

142

00:26:18.030 --> 00:26:35.620

Cooper City Hall: the aerial image on the right illustrates the congested area around the switch gear. It's simply not possible to replace the switch gear. One little piece at a time while you're trying to maintain your existing water plant and wastewater plant in operation.

143

00:26:36.510 --> 00:26:46.249

Cooper City Hall: So we also recommend, you know, if you put it in a new location, then you can also enclose it within a building and protect it from hurricanes.

144

00:26:49.410 --> 00:26:50.540

Cooper City Hall: Yes, sir.

145

00:26:51.210 --> 00:26:57.340

Cooper City Hall: So basically, understanding you, right, shop I was at, we did.

146

00:27:00.630 --> 00:27:06.400

Cooper City Hall: We actually built a building a way like you're talking about, use the existing ones we had.

147

00:27:06.830 --> 00:27:08.389

Cooper City Hall: We actually didn't even prove it.

148

00:27:08.660 --> 00:27:12.450

Cooper City Hall: Still, after all the equipment phone in. Then they put the roof on top of it.

149

00:27:12.820 --> 00:27:23.000

Cooper City Hall: Is that something that you're that is something that's feasible? Yes, yeah. And great question.

150

00:27:24.420 --> 00:27:26.700

Cooper City Hall: Alright, it's okay.

151

00:27:31.160 --> 00:27:31.830

Cooper City Hall: That's really

152

00:27:34.290 --> 00:27:44.516

Cooper City Hall: yeah, given the age of this equipment, I've got a slide. I I mean, I actually think it's needs to be replaced as soon as possible.

153

00:27:45.560 --> 00:28:01.540

Cooper City Hall: so along with switchgear replacement, which is illustrated in orange, the orange blocks on the aerial image, the one with the letter S in it. That's this new switch gear building and adjacent to it, just to the east is a

154

00:28:01.660 --> 00:28:07.609

Cooper City Hall: orange box with the letter G, that would be a Diesel engine generator.

155

00:28:08.310 --> 00:28:18.719

Cooper City Hall: And then there's supporting electrical equipment, which is also at the end of its useful life throughout the treatment plant. Those are the little blue boxes.

156

00:28:19.420 --> 00:28:24.900

Cooper City Hall: So altogether this project would amount to about 21 million dollars.

157

00:28:31.190 --> 00:28:38.319

Cooper City Hall: The estimated project duration of the project is about 5 years that would start with

158

00:28:39.050 --> 00:28:49.220

Cooper City Hall: procuring a professional engineer through the the Consultant Competitive Negotiation Act, followed by design and permitting

159

00:28:49.370 --> 00:28:54.779

Cooper City Hall: probably 9 months to a year, and then about

160

00:28:55.060 --> 00:29:03.820

Cooper City Hall: pessimistically, 2 years of procurement to procure the switch gear in parallel with the construction

161

00:29:04.180 --> 00:29:08.370

Cooper City Hall: so altogether about 3 years for construction.

162

00:29:12.150 --> 00:29:24.020

Cooper City Hall: At the same time, in parallel we, the design consultant would coordinate with Fpl. Because Fpl. Would have to design, permit and construct.

163

00:29:24.250 --> 00:29:28.600

Cooper City Hall: providing a new primary power drop into the plant.

164

00:29:32.110 --> 00:29:36.999

Cooper City Hall: So what would happen if the switch gear replacement project was not implemented

165

00:29:37.910 --> 00:29:44.540

Cooper City Hall: just like your heart, and the heart pumps blood throughout your circulatory system.

166

00:29:44.820 --> 00:29:52.200

Cooper City Hall: The switchgear distributes power from Fpl throughout your treatment plant to keep.

167

00:29:52.330 --> 00:29:57.549

Cooper City Hall: and a failure of the switch gear is akin to having a heart attack, so it it

168

00:29:57.820 --> 00:30:16.719

Cooper City Hall: with it. Can. It can have a severe consequence if it fails unexpectedly, and as you know that this the city did have a recent boil water notice several 6 months ago or so, when there was an electrical storm which did result in an outage at the switch gear.

169

00:30:20.110 --> 00:30:33.250

Cooper City Hall: So there's certain risk to staff that this switch old switchgear represent aging switch gear is prone to this thing called arc flash, which is a sudden release of electrical energy.

170

00:30:33.610 --> 00:30:40.730

Cooper City Hall: and the temperature of that arc flash can be 4 times hotter than the surface of the sun.

171

00:30:45.310 --> 00:30:49.620

Cooper City Hall: So, not implementing this project can result in an unplanned outage.

172

00:30:50.010 --> 00:30:57.310

Cooper City Hall: An unplanned outage in the switch gear would have certain risks to the city water production would stop.

173

00:30:58.640 --> 00:31:07.859

Cooper City Hall: There's that has results in an increase in fire hazard in the city. If the city is not able to maintain pressure in its distribution system

174

00:31:08.760 --> 00:31:11.840

Cooper City Hall: that would also result in a boil water notice

175

00:31:12.340 --> 00:31:23.979

Cooper City Hall: and then drinking water would be limited to whatever you could get supplied through the 4 interconnects that the city has with Sunrise. Davie and Pembroke Pines

176

00:31:28.140 --> 00:31:30.869

Cooper City Hall: relative to the water treatment risks.

177

00:31:31.760 --> 00:31:45.110

Cooper City Hall: wastewater treatment would stop and effluent disposal would stop you send water to both the a deep injection well, and about a million gallons per day to the city of Hollywood.

178

00:31:46.050 --> 00:31:53.140

Cooper City Hall: So there, potentially, you could have an overflow at your at your effluent pump station.

179

00:31:53.530 --> 00:32:00.030

Cooper City Hall: But, more importantly, if raw water sewage overflows, that presents a significant public health risk.

180

00:32:04.330 --> 00:32:06.939

Cooper City Hall: and I'm going to turn it over to Alonzo to

181

00:32:07.180 --> 00:32:13.979

Cooper City Hall: discuss the wastewater system. Are there any questions relative to electrical or water?

182

00:32:16.280 --> 00:32:17.250

Cooper City Hall: Thank you.

183

00:32:21.520 --> 00:32:30.719

Cooper City Hall: Thank you, George. My name is Alonso Rivori, one of the wastewater, especially when he's in soil here and thank you for the opportunity to to present to you the this project.

184

00:32:33.170 --> 00:32:41.319

Cooper City Hall: So on the wastewater system. We? We're gonna divide the the presentation into the collection system, which is very similar to what George already mentioned about the

185

00:32:42.220 --> 00:32:45.950

Cooper City Hall: well, I don't please. There you go.

186

00:32:46.330 --> 00:32:48.090

Cooper City Hall: Do I say that?

187

00:32:48.650 --> 00:32:56.869

Cooper City Hall: Very similar in terms of the ways of our collection about what yours talk about the distribution system? Right? It's the typical aging of the infrastructure you see here the components.

188

00:32:57.030 --> 00:33:06.009

Cooper City Hall: You are a very large component for a city on this side, right 90 over 90 miles of gravity sewer over 30 miles of ports Main, which is the pressure line

189

00:33:06.130 --> 00:33:09.700

Cooper City Hall: over 2,200 mangles, and you know, 80

190

00:33:09.870 --> 00:33:31.520

Cooper City Hall: 3 lease stations. Those require a mayor maintenance, and the city had done a really good job to keep up with this one. Obviously the forecast for the population to grow. We have to keep providing a reliable, reliable system right in terms of the collection system. And as we're going to be talking about in terms of the the wastewater treatment facility.

191

00:33:33.930 --> 00:34:03.620

Cooper City Hall: So in terms of the collection system, the the replacement that are needed are basically based on the age of the collection system, as you know, like yours playing as similar to the wire distribution that is suspecting life for this component right. And many of these components are passing that expected life over 50 years. You see, on the on the graph, you know, you had about 17%, the 4th main 18% of the gravity sword that are beyond those 50 years or older. So

192

00:34:03.840 --> 00:34:18.579

Cooper City Hall: got to start implementing a program. That replacement, you know, it's typical for other cities to do and obviously try to start on that replacement through the through the course of the 20 years. But it's nothing is done. There's opportunity for breaks into into this line.

193

00:34:19.370 --> 00:34:30.970

Cooper City Hall: So you see that what is recommending on the cip, which again, the typical renewal replacement for the typo system is the annual force made replacement about 1%,

194

00:34:31.070 --> 00:34:41.959

Cooper City Hall: including obviously the the rehabilitation only station, which is something the city have been doing in a in a regular basis. Maybe, you know, need to accommodate some few more stations a year.

195

00:34:42.679 --> 00:34:45.089

Cooper City Hall: But again, it's something they've been doing regularly.

196

00:34:45.219 --> 00:34:57.540

Cooper City Hall: There are some new generators that that need to be included, and some some upgrades to the system and lining of the of the gravity sewer to know. Reduce the the flow that goes to the the treatment plant

197

00:34:58.257 --> 00:35:09.110

Cooper City Hall: overall over this 20 year period. The investment predictor requires about 54 million dollars, right in terms of the the large collection system that we have.

198

00:35:09.710 --> 00:35:19.121

Cooper City Hall: And while the collection system is a typical replacement that will be that will be required, and many cities had to.

199

00:35:19.790 --> 00:35:22.280

Cooper City Hall: you know, do performance well.

200

00:35:22.510 --> 00:35:38.369

Cooper City Hall: the condition of the wastewater treatment plan is different, the the plan, the the city has done a great job to keep it running and keep the plan in compliance, but we see significant important issues in terms of some of the components of the treatment plan that that will require to to be addressed.

201

00:35:38.630 --> 00:35:49.650

Cooper City Hall: And the good news is that it's not driven by the needle treatment capacity. Okay, the the plan has been in compliance, and that's that's great news. And and again, kudos to

202

00:35:49.890 --> 00:36:15.699

Cooper City Hall: to the staff that have been running when you know keeping running this system is that it's a little old, and and you know, is an old technology from what nowadays. But the good news is that the capacity is there? There is no need to increase the actual capacity on the, on the system on these 20 years. Okay. So if this plan will be in really good condition, they will be able to treat. You know the the current flows that are required all the way to the 20 year period.

203

00:36:16.330 --> 00:36:28.539

Cooper City Hall: Now, some of these, this, the components will show you a graph, but is is basically a. The wastewater treatment plan is, is comprised of 3 package plan, right, 3 individual components.

204

00:36:28.930 --> 00:36:37.390

Cooper City Hall: The the 1st package plan is from 1972. This plan is supposed to last 20 to 30 years. So this is 52 years already.

205

00:36:38.020 --> 00:36:44.790

Cooper City Hall: actually the original master plan. There were some recommendations about looking at potentially replacing that

206

00:36:44.940 --> 00:36:49.619

Cooper City Hall: the the second treatment plan is from 1986,

207

00:36:50.040 --> 00:36:54.189

Cooper City Hall: close to 40 years, 38 years already also passed the 30 Year

208

00:36:54.320 --> 00:37:13.069

Cooper City Hall: Package Plan one is in in their condition, 2 and 3 seems to be doing better. We'll talk a little more about that. But you know many of these processes are beyond the spec to use it for life. Okay, adding is, as you can imagine, right technology from 72, that is basically being kept into operation.

209

00:37:14.840 --> 00:37:30.520

Cooper City Hall: So in in terms of the master plan and because of the old technology. And and it's an idea that was actually brought up long time before, is the building or a new wastewater treatment plant, the potential of replacing this old technology that is always more difficult to maintain

210

00:37:30.750 --> 00:37:40.420

Cooper City Hall: versus building a brand new wastewater treatment plant at the same location where where these facilities right while maintaining the the treatment that is required.

211

00:37:40.530 --> 00:37:50.569

Cooper City Hall: That was option one. That's the 1st option that we presented to plan staff. But at the same time we realized that the cost investment in a nutriment plan is considerable. So we said, Okay.

212

00:37:50.810 --> 00:38:04.530

Cooper City Hall: what about? We try to maintain this whole infrastructure right, and keep it longer into into the time that that was a requirement on the a question that came on the master plan. And we entertain, and and that's option. 2.

213

00:38:05.240 --> 00:38:07.189

Cooper City Hall: But also the question becomes

214

00:38:08.010 --> 00:38:27.150

Cooper City Hall: auction. 3. Right? Is, you wait too long for the wastewater treatment plan to build? You're going to have to spend money on a system package plan one and something called the search tank. Because we don't really know. How long is that going to last, and that will put on a very tough position. So we wait too long. That plan requires immediate attention.

215

00:38:27.390 --> 00:38:34.369

Cooper City Hall: and the the issue is that we spend that money on package plan one. And then we build a new wastewater treatment plan. You know that money

216

00:38:34.500 --> 00:38:39.439

Cooper City Hall: that that infrastructure won't be there anymore, right? It's difficult to accommodate both things.

217

00:38:39.690 --> 00:38:58.559

Cooper City Hall: So city staff, then, okay, what about? We try to accelerate the schedule of the new wastewater treatment plan. And that's how option 3 really came to be so. It's different in terms of the timing and implementation of the cip, that I know may sounds a little confusing. But please, if you have any any question, I'll be glad to entertain.

218

00:38:58.988 --> 00:39:20.669

Cooper City Hall: So auction one. You see that on that graphic, the the big circle, those are the system. 3 package plan, all combined for over a ready capacity. More than sufficient that we have even for 2045. And the plan had been, you know, keeping compliance with that old system. But but package plan one which is the one a little more on the north.

219

00:39:20.760 --> 00:39:32.469

Cooper City Hall: is really really requires some attention. We? We hastened, inspected they, the original manufacturers inspected, and they couldn't tell what exactly, how, how long is that plan going to last?

220

00:39:33.200 --> 00:39:43.690

Cooper City Hall: But by keeping this in operation by doing construction on stage. There is the ability to build the plan, the new plan on the same side by maintaining treatment

221

00:39:43.820 --> 00:39:52.972

Cooper City Hall: and having on the secret operation guarantee that the new plan basically will be the kind of orange squares will be a

222

00:39:53.960 --> 00:40:07.079

Cooper City Hall: It's very obviously there are different technology. We based on one technology activated slots. Right? They, they stay of their activated slots that that we have implemented multiple other facility and the same type of clarification that that we have

223

00:40:07.949 --> 00:40:11.719

Cooper City Hall: but again, as we look at this option one.

224

00:40:11.950 --> 00:40:17.519

Cooper City Hall: the total investment that is most of the investment come from that construction. A new plan

225

00:40:17.640 --> 00:40:22.220

Cooper City Hall: is is in the order of 12028,000,000, right for 2024,

226

00:40:22.620 --> 00:40:28.709

Cooper City Hall: and that's during the the investment required for for the 20 years, but on $2024

227

00:40:31.545 --> 00:40:36.304

Cooper City Hall: option 2 is is, we keep these plans in operation.

228

00:40:37.420 --> 00:40:47.759

Cooper City Hall: you see that plan plan one which is the one that is on blue, light blue, dark blue is the one that requires immediate attention on 2025, 2026.

229

00:40:48.340 --> 00:40:59.369

Cooper City Hall: But again, this rehabilitation don't last forever. So you're looking at that plan to rehab. You're going to have to rehab it again on the course of these 20 years. That's why, you see 2 colors on that. On that plan

230

00:40:59.930 --> 00:41:06.229

Cooper City Hall: we we really believe this. This plan requires, you know, a immediate attention.

231

00:41:06.600 --> 00:41:21.060

Cooper City Hall: Now, the other 2 plans can be rehabed on the. On the course of that they had a longer spectrum. Live. We'll talk a little more about that. But again, another significant investment, even by keeping this treatment plan right? But it's is in terms of the capital. Dollar

232

00:41:21.250 --> 00:41:25.330

Cooper City Hall: is is a relatively lower amount of of 97 million

233

00:41:27.540 --> 00:41:35.830

Cooper City Hall: option 3 is just avoiding to rehab package plan one by accelerating the construction of

234

00:41:36.220 --> 00:41:46.960

Cooper City Hall: of of the new treatment plan, and that results on saving about 4 million dollars 5 million dollars compared to the but requires that more capital of promise, as you can imagine.

235

00:41:50.140 --> 00:41:57.699

Cooper City Hall: Well, and this is a sorry. This is a summary right? Obviously, we had the the wastewater treatment plan, and and in a

236

00:41:58.470 --> 00:42:15.700

Cooper City Hall: the injection well, improvements, which is, you know, significant amount. And the wastewater collection price, right? That is the the renewal replacement of this system. And also it was including a period about the grad replacement of utility fleet. And you see the total amount there for

237

00:42:15.950 --> 00:42:21.080

Cooper City Hall: for the 3 options into the 20 year lifespan of the of the project?

238

00:42:21.440 --> 00:42:25.290

Cooper City Hall: Could you expand for the benefit of the Commission.

239

00:42:25.790 --> 00:42:30.990

Cooper City Hall: The the rehab option is 30 million dollars less than the new option.

240

00:42:31.140 --> 00:42:35.520

Cooper City Hall: What is that they're going to get for the new option that they wouldn't be getting on the rehab option.

241

00:42:35.680 --> 00:42:46.640

Cooper City Hall: Yes, I can go. I can go to that question. Thank you for for asking that, Alex. That's that's a great question. Right? Why? Why, to invest that that additional money.

242

00:42:46.960 --> 00:42:48.100

Cooper City Hall: and

243

00:42:48.670 --> 00:42:57.060

Cooper City Hall: and on the long term beyond the 20 year life in terms of a life cycle cost. This would be a a put, a better option for the city.

244

00:42:57.330 --> 00:43:00.770

Cooper City Hall: The the system package plan is is an old technology.

245

00:43:01.010 --> 00:43:11.149

Cooper City Hall: and it will require over the course of the 20 years that you keep replacing those right? This kind of investment on these old plans are going to last you maybe 10 years. So you're gonna have to

246

00:43:11.280 --> 00:43:27.160

Cooper City Hall: do a major rehabilitation or package of land, you're going to have to do 2. You're going to have to do 3, and you're going to have to keep rotating about maintaining an old technology. And it's a technology that is required more chemicals and more energy because of the type of technology that that it is

247

00:43:27.500 --> 00:43:39.210

Cooper City Hall: so. Yes, it's a lower is a lower capital. But when you look at the capital and you go beyond the 20 years it will be a more expensive option, the building, a new new treatment plan.

248

00:43:39.400 --> 00:43:49.419

Cooper City Hall: And and, by the way, right? Because it's an old technology, the reliability of the system is not completely there either. Right? It's always a sitting directly we tried you.

249

00:43:49.850 --> 00:43:59.199

Cooper City Hall: engineer will try to design a system that keep running, but it's still the the sorry, the reliability of of running a still old facility.

250

00:43:59.470 --> 00:44:07.729

Cooper City Hall: You know. It's like fixing a car. You fix a car that something broken. It's an old car, something else. And you're saying that with what happens to me spend, you know.

251

00:44:08.336 --> 00:44:15.309

Cooper City Hall: And something else. May May broke eventually, so it's a little more uncertain on how things will last. A brand new plan

252

00:44:15.670 --> 00:44:22.650

Cooper City Hall: will guarantee the future of the city for the water treatment, for for the longer period. Overall. Lower cycle costs

253

00:44:22.860 --> 00:44:41.060

Cooper City Hall: will be a state of the art facility that can be built as an asset to the community. Many cities do that like an educational facility, a bar or something is right. The money is also invested around that, and and could be a demonstration of facility, but it will have things that improve efficiency

254

00:44:41.240 --> 00:44:48.230

Cooper City Hall: right? Make sure that orders are very well controlled. The system plans sometimes suffer from that from order. It's part of the the technology

255

00:44:48.844 --> 00:45:01.790

Cooper City Hall: and it could be billed when added capacity right? That would be to decide on the benefit of that, in that, knowing that the current rated capacity of the plan is sufficient for the 20 years. But you want to build a new plan.

256

00:45:02.020 --> 00:45:12.469

Cooper City Hall: you building, not for 20 years. You build that, probably for the next 15 years. Okay? And you will have something that that will be reliable for the system, for for that, for that period of time.

257

00:45:13.916 --> 00:45:23.230

Cooper City Hall: Is that question, why is why is option? 3. Which is accelerated? Option, one cheaper than option? One.

258

00:45:23.340 --> 00:45:29.997

Cooper City Hall: Yes, that that's a great, that's a great question. Let me. Let me go back and try to explain under this graph.

259

00:45:31.110 --> 00:45:37.089

Cooper City Hall: why? Why auction? 3 cheaper right? Because if we delay package, plan one

260

00:45:37.480 --> 00:45:45.899

Cooper City Hall: that that's the one that that we feel really nervous about. Okay, and then let me show you. But the photo may not be the the greatest one.

261

00:45:47.210 --> 00:45:57.639

Cooper City Hall: But if you see the photo at the at the bottom the 1st circle there, right? That's an old plan. It's over 50 years old, and it's starting to bend the steel.

262

00:45:57.890 --> 00:46:02.659

Cooper City Hall: So the risk of catastrophic failure, or that package plan is there right? Since

263

00:46:02.950 --> 00:46:08.680

Cooper City Hall: 1 million, a million gallon of sewer on that line that that had the potential to to go into the street.

264

00:46:08.990 --> 00:46:24.019

Cooper City Hall: So if we delay the construction, a new treatment plan for the next 5 years, we strongly recommend to pay attention to that plan. No way. 5 years to try to fix, even though we've been running for a long time now. But we cannot really say when it's going to fail.

265

00:46:24.170 --> 00:46:36.819

Cooper City Hall: So if you wait 5 years to build a new treatment plan, our recommendation is to go ahead and replace and and rehabilitate package plan one, which is a project around 3, 4 million dollars, just to rehab that plan.

266

00:46:37.400 --> 00:46:52.190

Cooper City Hall: you know. And that's why, if you will accelerate the plan, and you. You try to building in a couple of years start construction. Then you can start thing and and avoid rehaving that plan, because when the new package, when the new plan is built, those 3 plans are gone right? You wouldn't need it anymore.

267

00:46:52.500 --> 00:46:53.200

Cooper City Hall: right?

268

00:46:54.340 --> 00:47:23.729

Cooper City Hall: I hate to interrupt. But I just wanted to add the 3 package plants that we keep referring to. They're steel plants, and the steel gets repaired, I believe, by welding on more sheets of steel. So over time. The city has been very good about having somebody come out there and weld and repair the steel, but they're steel structures. The new wastewater plant that Alonzo is proposing, think large, thick, walled, concrete basin low to the ground. So so when we talk about you know how resilient these facilities are.

269

00:47:23.730 --> 00:47:48.120

Cooper City Hall: The future concrete structure designed to today's standards is much more significant than these. What are referred to as package plants think thin walled steel just getting thinner over time, that the city has amazingly repaired over time and kept going, but we can't predict how long those steel package plants will last, so that I just sorry to interrupt. I just think that's a fundamental difference that we need to make between the

270

00:47:48.120 --> 00:48:10.119

Cooper City Hall: you know, there's a bunch of process considerations. But thinking about the functionality of the basin itself, I think, needs to be noted. Yeah, the concrete will last for 50 years, and plus no. Yes, when the caveat package 3 is, it is a concrete plan, the newest plan, which is from 1994. That's actually a concrete plan on the similar condition structure than the other one.

271

00:48:10.200 --> 00:48:17.313

Cooper City Hall: so it could be the opportunity to maybe reuse that time. That is there for some you, some other purposes. Is that is that

272

00:48:17.860 --> 00:48:21.510

Cooper City Hall: New plan is built. But yes, they're still definitely present. A challenge.

273

00:48:22.320 --> 00:48:23.230

Cooper City Hall: Am.

274

00:48:25.010 --> 00:48:35.579

Cooper City Hall: This is well, George. George presented very well on what the the problem will be by by no build by the electrical, obviously the electrical. Losing the electrical. You lose the treatment plan.

275

00:48:35.900 --> 00:48:42.057

Cooper City Hall: and you will have this kind of the same consequences if something happened like that catastrophic failure.

276

00:48:42.680 --> 00:48:49.120

Cooper City Hall: or this treatment plan is, you see, it's obviously the environmental risk of the overflow of that

277

00:48:49.977 --> 00:48:52.960

Cooper City Hall: but even even if if we

278

00:48:53.280 --> 00:49:21.049

Cooper City Hall: don't build, we had inadequate investment. There are other risks right? Like you. The in time the capacity will be starting to be decreased. The plan efficiency will be starting to be decreasing. And we're risking the potential for for no compliance. Right again. It's being a stellar record. But there, there are things. You know so much that the plan stack will be able to do a a certain point. So so you know, the decrease of

279

00:49:21.090 --> 00:49:33.149

Cooper City Hall: increased maintenance costs right more frequent breakdowns, more energy consumption, and the potential for for complaints. Right is, is the investment is not not there.

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00:49:36.860 --> 00:49:44.730

Cooper City Hall: I. There was a question about the Simary live, I think we really touched a little bit on that one. The most important thing is package plan one

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00:49:45.030 --> 00:49:52.480

Cooper City Hall: and search tank, which is a internal component of that. It's also a tank that that you need to be rising or steel tank.

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00:49:53.270 --> 00:50:01.660

Cooper City Hall: And the good news is package plan, do, and 2 and 3 there they they can laugh. Another another period of time, right?

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00:50:01.890 --> 00:50:12.859

Cooper City Hall: 10 years. Seems to me, maybe, for Plan 2, a little assessive. But you know it's already 38 years, but but it's in decent shapes in good shape. Package plan 3, which is the concrete one is in better shape

284

00:50:13.840 --> 00:50:22.654

Cooper City Hall: and and this this kind of also answer the question. Commissioner, stroder.

285

00:50:23.280 --> 00:50:34.599

Cooper City Hall: You see that if you if you go to auction one and you try to build the treatment plan right? Starting that we recommend that you go and build package plan. Sorry no. Build rehab package, plan one.

286

00:50:34.790 --> 00:50:46.959

Cooper City Hall: But if we try to accelerate the construction on the new wastewater treatment plan. Then, even though there is a little risk, it's better to, you know. Wait a year instead of having something 4 million dollars that we're going to have to abandon later.

287

00:50:47.200 --> 00:50:47.840

Cooper City Hall: So

288

00:50:49.660 --> 00:50:55.819

Cooper City Hall: And with that, I think that's the major things that that we have any question for for the team.

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00:50:56.240 --> 00:50:59.749

Cooper City Hall: and thank you again for the opportunity to present to you

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00:51:11.360 --> 00:51:13.740

Cooper City Hall: time. Good, yeah.

291

00:51:14.320 --> 00:51:17.199

Cooper City Hall: Does everybody know what we need to do. No, come on.

292

00:51:17.320 --> 00:51:22.119

Cooper City Hall: come on. 1st 1st of all, you're gonna have to educate the residents, and you're going to fund some money. But

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00:51:22.965 --> 00:51:31.734

Cooper City Hall: there are 2 critical projects, right? The the electrical project and the and waste water plan one.

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00:51:32.710 --> 00:51:45.820

Cooper City Hall: You do have some time because we gotta go through the selection process to get the the design firms, then go through the design process and then place the orders for the for the equipment, so

295

00:51:46.210 --> 00:51:48.390

Cooper City Hall: that on

296

00:51:48.940 --> 00:51:55.710

Cooper City Hall: it's going to take you fiscal year 25 and 26, and you do have enough money to do that.

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00:51:55.930 --> 00:51:57.400

Cooper City Hall: That design work

298

00:51:57.530 --> 00:52:04.150

Cooper City Hall: available. So somewhere in 2027 is when the rubber is going to meet the road.

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00:52:04.270 --> 00:52:09.510

Cooper City Hall: and they're going to have to then borrow money.

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00:52:10.190 --> 00:52:21.289

Cooper City Hall: and the decision to borrow money is going to be contingent upon 2 things. Number one, we're going to have to set the right fees so we can repay the money that we borrow.

301

00:52:21.520 --> 00:52:47.600

Cooper City Hall: and then the Commission is going to have to decide what kind of obligation we want to use to borrow money. If you, if you go to a general obligation, you have to go to a board of approval, but the Commission can approve a bond issue, which is what's called a revenue bonds. Thank you. Thank you. Where you are pledging the monies from the utility as a source for repayment of this.

302

00:52:47.760 --> 00:53:07.379

Cooper City Hall: What's going to be happening now is that Erwin and I are going to build up schedules, you know, with the with the software that they gave us, and basically begin laying out that cash flow and tell you in the no, you know, if you're going to be borrowing money, it will be

303

00:53:07.540 --> 00:53:20.090

Cooper City Hall: to doing. We need a financial analyst that is going to help us get credit rating. So all of that needs to start, we need to be selecting a firm that is going to be doing the

304

00:53:20.370 --> 00:53:29.390

Cooper City Hall: what's called a rate study is going to basically look at the flow from the financial analysts and say, Okay, if we're going to have to borrow 20 million dollars in

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00:53:29.390 --> 00:53:52.170

Cooper City Hall: in fiscal year 26. How much is the debt? Obligation for that, and how much money we need to be charging for all of that. So it becomes the financial piece that's coming next. These guys are giving you the technical advice as to what needs to happen. Some order of mind numbers. They're not exact numbers. They're very order of magnitude, which is what you normally get in a plan.

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00:53:52.420 --> 00:53:55.530

Cooper City Hall: and then we'll we'll move in forward from for that.

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00:53:56.420 --> 00:53:57.180

Cooper City Hall: But

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00:53:57.480 --> 00:54:22.449

Cooper City Hall: there's some some real work that needs to happen. Yeah, so and there's still some options, right? So when you say, like on the wastewater to put an updated facility, there has to be different processes or different technologies on right? So, and that's what the design. No work is going to give you. So your design work. But oh, that doesn't make sense to me. So you would tell them.

309

00:54:22.640 --> 00:54:34.290

Cooper City Hall: Do we put out design criteria to well, wouldn't we 1st want to know what the type of plant we want to build first.st Well, the the design work that you'll put it in basically says we need to replace this plant.

310

00:54:34.440 --> 00:54:37.830

Cooper City Hall: So the design will be going through

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00:54:37.960 --> 00:54:49.480

Cooper City Hall: 2 phases in what you're thinking in your mind. One is the alternative. You know this decision as to what you're going to get. And then you go into detailed design process

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00:54:49.690 --> 00:55:02.379

Cooper City Hall: based upon what has been presented over the last 2 workshops. What should we be expecting from utilities through your office at a commission meeting? A a proposal of what?

313

00:55:02.640 --> 00:55:15.810

Cooper City Hall: What system needs to be prepared for? First, st what? What is, what are you identifying? Is our next M.

314

00:55:16.400 --> 00:55:31.010

Cooper City Hall: I guess a package to select a consultant for a rate study. You're gonna be getting a package to select the financial analyst. You are going to be getting a package to select the

315

00:55:31.220 --> 00:55:34.299

Cooper City Hall: the firm that's going to design your electrical system

316

00:55:34.440 --> 00:55:37.940

Cooper City Hall: and a package for the firm that is going to be designing your plant.

317

00:55:38.070 --> 00:55:46.039

Cooper City Hall: and then the financial schedules that go with. With all of that, those are the most immediate things that you're going to be seeing

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00:55:48.140 --> 00:55:50.040

Cooper City Hall: there's not one that can do it all

319

00:55:50.350 --> 00:55:51.910

Cooper City Hall: other than the Fp. And L.

320

00:55:52.230 --> 00:55:55.740

Cooper City Hall: No, no, these are very different. Right?

321

00:55:56.280 --> 00:55:57.499

Cooper City Hall: You know, skill sets.

322

00:55:57.900 --> 00:56:04.999

Cooper City Hall: Okay? I mean, yeah, like, so obviously, we have to see how we can do the financing stuff. But I still think there are

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00:56:05.660 --> 00:56:13.820

Cooper City Hall: decisions to made on the technology we're going to use each one. I imagine you're gonna like.

324

00:56:14.000 --> 00:56:41.580

Cooper City Hall: have a system where each one's on their own right, and then maybe they can back, feed each other or something if one goes out or right, because right now, the system we have is phenomenal to last 20 years longer than yeah, yeah, that's precisely the the 1st question in into when you had a new wastewater treatment plan, like like the city manager explained, this can be done in 2 phases, right, actually, by the same consultant, or the city will have the preference.

325

00:56:41.810 --> 00:57:08.499

Cooper City Hall: you know, would take longer. But you could do interface. But most typical, and many cities have gone through that on. The 1st phase of the story is to decide how exactly that treatment plan is going to look and compare different options. So you get the more feasible and and the most cost effective. Also auction for the city based on the trimming and the needs and the future. And we normally go to that. Obviously, from 1972, there are multiple new technologies that are there that are very excited

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00:57:08.500 --> 00:57:27.539

Cooper City Hall: and that should be considered bring to the table, and it's a decision that consultant lays out and and then staking when the the plan start right to arrive to do it right. And we put many examples or utilities going going right now to that as well. So, yeah, that would be the 1st step. But it can be done under the same, the same consultant

327

00:57:27.560 --> 00:57:29.740

Cooper City Hall: deciding what that technology is.

328

00:57:29.990 --> 00:57:42.349

Cooper City Hall: winning the the project. It will come also the cost and the cost benefit of different technologies to. So the city can make a decision on what the right technology and then proceed with the design of the optimal alternatives. A typical way to do it.

329

00:57:43.740 --> 00:57:59.700

Cooper City Hall: Mr. Manager, are we? Are we? Or should we be expecting some of the lower lower fruit as far as the air purge system? Isn't that something that can be somewhat done. It sounds like almost immediately to be helping with the

330

00:57:59.980 --> 00:58:21.779

Cooper City Hall: the oxygenation, with the yeah, it's 1 of the things that we're going to look at. And we got to find ways to make it more cost effective. You know, right now, it will basically have a 5%, you know, return on investment. It's going to take, you know, 20 years to recover the 1 million dollars. But if you can find

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00:58:21.920 --> 00:58:28.519

Cooper City Hall: better ways, but that's without compounding your 1 million dollars. Right? So it's

332

00:58:29.110 --> 00:58:32.760

Cooper City Hall: we gotta find ways to see if we can do that that cheaper.

333

00:58:34.220 --> 00:58:38.269

Cooper City Hall: And then what about? We were talking about making this sludge

334

00:58:38.830 --> 00:58:52.950

Cooper City Hall: where we can sell that instead of having it carted off and having it useless, it was more of an investment on the front end, but then we could potentially get something for it on the back end.

335

00:58:53.560 --> 00:58:58.559

Cooper City Hall: That's something that that was a class one, I think facility right?

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00:58:58.970 --> 00:59:15.410

Cooper City Hall: But the last presentation they said that the investment was not okay. Yeah, that's different. Yeah, right? Basically make it into a reclaimed water level. Right? I believe the city is participating in the countywide biosolid study right now

337

00:59:15.410 --> 00:59:28.200

Cooper City Hall: the city is participating in that. So I know that the county is still ongoing with their consultant on that project, and as long as the city I believe you signed the next phase of that project you did. Okay?

338

00:59:28.200 --> 00:59:49.880

Cooper City Hall: So so there'll be more to come on that we referenced that study in the master plan, but because that is ongoing through a separate effort, I think the city needs to just continue participating in that effort and see what the regional plan is. And if the city wants to continue participating in the regional plan as you approach the days where you have to start putting dollars into the regional plan.

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00:59:50.340 --> 00:59:55.780

Cooper City Hall: So I don't know that that answers your question. But actually, because if I'm going to

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00:59:56.080 --> 01:00:24.640

Cooper City Hall: potentially make an extra investment in my plan to where I can recoup some money on Sludge instead of paying to have it hauled off right. You want to know that on a city level, right? If I'm going to spend all of this money. Excellent point. Yes, I want to know that prior to that's what's happening on the county should really have no bearing. I mean, granted we're in a study, but that should have no bearing on whether or not my plant will be able to

341

01:00:24.960 --> 01:00:31.179

Cooper City Hall: put make my sludge worthy of sale. We're basically talking about like pennies.

342

01:00:31.180 --> 01:00:55.760

Cooper City Hall: Well, not pennies. Yes, the hauling of sludge is like nothing compared to like. What do we pay a year to haul Sludge? But well, you could study it so you could study what you pay a year to haul Sludge versus with a new treatment process if you do the fine bubble which has previously been studied for the city, and and, you know, priorly selected prior previously selected as the treatment option for the future.

343

01:00:55.760 --> 01:01:20.509

Cooper City Hall: You could look at the biosolids produced under that fine bubble aeration process and look at separate alternatives for the city independent of the county study to answer the question of of what you're looking at, that that could be done as a Ccna project or as part of the larger project. If if you go forward with the wastewater treatment plant last week it was presented that it was not going to be a large investment

344

01:01:20.980 --> 01:01:33.469

Cooper City Hall: for us to make it where it was a product that we could sell. Now, maybe I misunderstood, and I don't want to go down a rabbit hole. It was just something that I wanted to not.

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01:01:34.010 --> 01:01:51.930

Cooper City Hall: you know, completely forget about, and also with the I call it the Gray Water, because we were also looking at, you know, using that for potentially like, right across the street, bill lips and potentially other areas. And if that would also be something that

346

01:01:52.190 --> 01:02:10.250

Cooper City Hall: while we are retrofitting air, quoting, if that's something that needs to be included in the design process, then that's also something we need to, I know. But still, if we're going to talk, pipes were involved in this, if we're going to talk, and they're going to make a plan that also needs to be

347

01:02:10.840 --> 01:02:37.229

Cooper City Hall: moved forward. So the point is, valid, Commissioner, that you would have to add secondary high level disinfection to the treatment plant to be able to produce reclaimed water. This was studied for the city years ago under a countywide study, and for a city such as Cooper City that did not already have reclaimed water infrastructure installed the price per gallon of producing reclaimed water was very, very high.

348

01:02:37.230 --> 01:03:05.719

Cooper City Hall: very, very high, which is why the city participated in a virtual option for ocean outfall, legislation, compliance of paying another utility for producing that one Ngd that you required, because it was much cheaper for that utility who already had reclaimed water infrastructure. But but the point is a good point that it could be studied under the new treatment plant if there's any benefit for the city, adding on some high level disinfection to produce reclaimed water for any local facilities

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01:03:05.760 --> 01:03:07.779

Cooper City Hall: that could be evaluated at that time.

350

01:03:08.370 --> 01:03:18.159

Cooper City Hall: or we just not fix the the infrastructure the pipes, and when they bust it'd be like, just let it take care of itself. We'll recycle the, you know, fertilize the grass.

351

01:03:19.300 --> 01:03:29.169

Cooper City Hall: It'd be like reclaiming. Well, they're doing it in the water. I doubt that they'll recommend that, but they're doing it in the water right now, right? No comment, no comment. The intercoastal.

352

01:03:30.470 --> 01:03:55.120

Cooper City Hall: I just over a question, how do we get to a point where we're like 20 years past useful life? Was there not one of these things done before and what happened there. So there was a study in 2,007, 2,008. There was a master plan at that time, and it was, I believe it was recommended to replace the infrastructure. But again, you know, kudos to your staff, you have been able to weld and repair and replace

353

01:03:55.120 --> 01:04:10.600

Cooper City Hall: and and keep the infrastructure going. So there's definitely a cost savings that has been realized over the last 20 years of keeping infrastructure alive beyond its useful life, but there's a risk associated with doing so. There's a risk to the

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01:04:10.640 --> 01:04:16.920

Cooper City Hall: they did to replace what was done on it. I believe that plan. I believe that plant one was planned for replacement. Right? Yes.

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01:04:17.020 --> 01:04:33.739

Cooper City Hall: What happened with you guys? No, she said. 2,007 Farrell left in 2,008. Okay, I'm here. Plan one was recommended for replacement at the time. What I want to know historically, I'm just. I'm young. I was. I was in high school. I want to know what happened.

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01:04:33.860 --> 01:04:41.709

Cooper City Hall: We implemented a bunch of things and then they stopped. I don't know why it stopped

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01:04:43.980 --> 01:04:46.356

Cooper City Hall: just whenever I can.

358

01:04:47.160 --> 01:04:50.350

Cooper City Hall: There's a reason he's wearing black and not liked.

359

01:04:53.570 --> 01:04:56.130

Cooper City Hall: Thank you very much. He's a huge one.

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01:04:56.510 --> 01:04:59.039

Cooper City Hall: Any more questions any from the public.

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01:04:59.810 --> 01:05:04.710

Cooper City Hall: I want to thank you guys for all coming out. Thank you for participating in this.

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01:05:05.010 --> 01:05:06.650

Cooper City Hall: We definitely have

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01:05:07.510 --> 01:05:13.510

Cooper City Hall: a motion to adjourn, but we also have our work ahead of us. Good luck to everybody going to Tallahassee next week.

364

01:05:14.750 --> 01:05:16.569

Cooper City Hall: Everybody bring it back.