



1 Remote meeting

2 May 25, 2022

3 At 2:00 p.m.

4

5 CHAIRPERSON QUADROZZI: Turning to item nine 6 the public hearing on the proposed fiscal year 2023 7 Clean Water State Revolving Fund project plans. COMMISSIONER WOLFSON: 8 Thank you Madam William Wolfson chief administrator and 9 Chair. compliance officer. This is the opportunity for the 10 11 public to have input on the Clean Water Act State 12 Revolving Fund projects that this utility is proposing. 13 We will be doing it a little differently. This is a 14 single hearing on all projects. And so what we are 15 going to is pause after each project and give members of 16 the public the opportunity to comment. They have two 17 options in how they wish to comment: First is to -- is to approach the podium in the room and make comment if 18 19 they are present here today. The second is if they're participating by Zoom by either raising their hand on 20 their handset or pressing star nine on the telephone to 21 raise their hand. 2.2

And Madam Chair, each member of the public has three minutes and what is a bit of a departure from our normal custom is that there may be -- we will try



Page 3

and respond to the extent that it is appropriate. And so after each project there will be an opportunity to comment on that project, so there is not a need to repeat your comment twice if it is.

5 So with that, Madam Chair, I'm going to turn 6 it over to Kim Garland who is going to be introducing 7 the speakers and operating. And Kim you're muted.

Thank you. Good afternoon. 8 MS. GARLAND: Kim Garland, financial services area chief of staff. 9 I'm going to be kicking off the public hearing today for 10 our fiscal year 2023 project plans under the Clean Water 11 12 State Revolving Fund program. It is our intent to apply 13 for six loans in the state's upcoming FY 2023 fiscal 14 year. Our deadline for applying for these loans or 15 submitting an intent to apply for these loans is June 16 1st, 2022. As part of this process we're required to hold a public hearing and that is our intent today. We 17 have project teams online and ready to speak to each 18 19 project; however, before we move into the individual projects, the chief operating officer for waste water 20 operating services will speak briefly to how these 21 projects relate to the currently GLWA capital 2.2 23 improvement plan. I will turn it over very briefly to Mr. Navid Mehram. 24

25

MR. MEHRAM: Thank you Kim. Thank you Madam



This -- what I wanted to do, if 1 Chair and the board. 2 you can advance to the next slide, the big thing that I 3 wanted to cover here was really building a crosswalk 4 between our current project updates and our SRF requests 5 and how that aligns with our -- our recent 2023, 2027 board approval because there is a discrepancy between 6 those numbers and I wanted to make sure that we all 7 understand why some of those things are and just give 8 you a high level review for the board before each team 9 goes into giving detail information on each one of these 10 projects; and I'll cover both the WRF facilities and I'm 11 12 also going to cover the Oakwood and Freud pump stations. 13 So just to walk you along this document and 14 the table the first column is the CIP number and the

15 project information but, more importantly, the board 16 approved amounts that you can see for 2023, 2027. The 17 second column is the previous spend because when we look at SRF funding and when we look at project we look at 18 19 the entire life. So many of these projects have initiated, design has initiated a study phase and some 20 of those things aren't eligible for SRF, so we wanted to 21 make sure it's captured and it's not providing a 2.2 23 misunderstanding on the dollar amounts; so there are previous spends for many of these projects because they 24 have been on the way for some time through the design 25



1 development.

2 Then you have the project cost, the total project cost, which at the time was the -- the 3 designer's best estimate, the team's best estimate after 4 reviewing the scope and reviewing and identifying these 5 projects; and keeping in mind that some of these 6 projects started a long time ago, although we do 7 realignment checks of our CIP annually it is still stale 8 by six months to as I'm standing before you. So -- and 9 what we're experiencing right now with the war in 10 Ukraine, with the supply chain shortage and also the 11 12 inflation rates that the construction industry is 13 experiencing, there's a lot of volatility there that 14 I'll speak to specifically for our projects but where we 15 are now today, and again keeping in mind that this is 16 the engineer estimate based on the state of the project. Some of these projects are in their final phrases before 17 they go out for bid for construction. Some of them are 18 19 still in preliminary phrases but because of the SRF program a notice of intent has to be issued a lot 20 earlier. So, therefore, we have to identify a dollar 21 amount and because of that, there are crosswalks where 2.2 23 the dollar is sometimes not matching up with the project progress. There's a lot of contingencies, for example, 24 in a project that's in a study phase versus a project 25



1 that's in final 100 percent design phase, so some of 2 that variability is expected.

3 And again, it all comes to fruition when we receive bids so that's when really the numbers will 4 become accurate. At that time they'll go through the 5 6 bond closing process and so on. So majority of the 7 differences that you see here before you are ranging between 30 and 40 percent. When I talked to all the 8 9 project managers and I talked to the team and the consulting team, none of these increases are related to 10 necessarily scope creep or adding different portions of 11 12 the project. This is really what we had intended, we 13 continued executing but we're experiencing this -- this 14 very volatile market right now.

15 To give you some examples, and if we can go 16 to the next slide here, so the first bullet is really 17 when the opinion of construction cost established by our design team for some of the projects, so you can kind of 18 19 see that relative to this stale dollar amounts that I was referring to that those things are being established 20 21 earlier on and being incorporated into our CIP plan but 2.2 now we're experiencing market changes but just to give you some real life experiences that we're experiencing 23 on some of the projects Flowserve pumps are especially 24 -- are our sole source manufacturer of the pumps that we 25



1 operate at the water resource recovery facility. So the pump station one project CIP number, which was at the 2 3 top of the prior table that you saw, we experienced a 40 4 percent increase on the pumps, a \$2.7 million increase 5 just over a phone call. This project is going out to bid soon here and we received a call from the 6 manufacturer that we'll be sole sourced on this project 7 because they are the only ones that can kind of work on 8 9 these pumps increased their cost based on our anticipated cost by 40 percent. 10

11 Similarly, you see some other examples 12 there. Another one that I thought was very interesting 13 that came to my attention was the Flyght pumps that we 14 installed at a pump station, recently installed; so, 15 fortunately, we finished this project and we received 16 these pumps and it's installed but if you were to 17 replace these pumps, they're about 88 percent more than when we bought them for the construction durations. 18 So 19 it's just contractors holding prices and material manufacturers holding prices has been significant 20 21 change. Some of the key points what we're experiencing in steel; steel prices is a very heavy component of what 2.2 23 we use for construction at our facilities. We depend on it very heavily and year over year, last year it was 24 25 about a 5 percent increase. This year it was 127

> HANSON RENAISSANCE COURT REPORTERS & VIDEO 313.567.8100

1 percent increase.

What one of the things that might not come 2 to light is that the war in Ukraine has raised the cost 3 of nickle. Nickle is a material that's utilized for 4 creating stainless steel and because of the corrosive 5 6 material that we have at the Water Resource Recovery 7 Facility, we heavily depend on stainless steel so that vulnerability plays in the game here. 8 So we have been in close communications with 9 SRF on the majority of these projects and truly working 10 with them in trying to identify these projects but I 11 12 wanted to make sure that I was available; I'm available 13 here to discuss any high level questions that the board may have before we jump into each one of the projects as 14 15 it relates to just the cost increases that we're 16 experiencing. And if not, we can proceed with the rest 17 of the public hearing.

18 CHAIRPERSON QUADROZZI: Anyone have any19 questions at this time? None from the chair.

20 MR. MEHRAM: Thank you ma'am. I'll turn it 21 over to Todd.

22 MR. KING: Okay. Thanks Navid. Todd King, 23 field services director for water and field service --24 or sorry for field services. Thank you. The first 25 project I'll be talking about today is the Freud's



1 pumping station improvements. Next slide please. This project is situated at the Freud pump station. The area 2 in purple shows the service area for the Freud pump 3 station, which is the -- basically the Jefferson 4 Chalmers area of Detroit up into the Grosse Pointe and a 5 6 little bit up into Wayne and Macomb County over in that direction. The need for the project is that this 7 facility is critical to prevent flooding on stakeholder 8 premises. The key -- it's a key component in 9 10 discharging waste water during dry weather and then combined storm water during wet weather generated in 11 12 this portion of the system. One of the goals of this 13 project, the original Freud pump station was built as a 14 storm water pumping facility and one of the components 15 of this project is to separate the sanitary portion out 16 and it's a separate facility, which I'll talk about in a minute, and what that will allow is for better ability 17 to make storm pumps and make sure that those are up and 18 19 operating when the wet weather conditions arrive. And the overall goal is to maintain the two billion gallon 20 per day firm storm water pumping capacity at this 21 facility. Next slide please. 22

23 So the overall scope of the project is to 24 replace the -- the existing pumps. This is the storm 25 water station what you're looking up at the upper photo



Page 10

1 is currently doing double duty. There's two smaller pumps in the bottom of that facility that provide the 2 sanitary flow and what we'll be doing is going just east 3 of that facility a couple blocks and rerouting a portion 4 of Freud Street and rezoning that area and then building 5 a sanitary pump station right over a couple -- the two 6 7 intercepters that feed the Freud pump station. And what that will allow is for us to take the sanitary flow and 8 discharge it directly to the Detroit river intercepter 9 during dry weather days and that will also allow us to 10 be able to get in and do work on the wet well of the 11 12 Freud pumping station during dry weather days, which 13 currently we can't do because it's all one wet well. So 14 that new sanitary pump station will be sized at the 30 15 million gallons per day and we will also be upgrading 16 the existing rotating elements of the existing eight pumps and making sure those will last the next 50 years 17 and doing some direct routing into DRIs, so currently 18 19 the sanitary flow is pumped from the Freud station to Conner station so we're double pumping and this 2,500 20 lineal feet of 36 inch main will eliminate that by 21 pumping it directly to the DRI. So the overall benefits 2.2 23 to the project are to improve system resiliency, reliability, operability and integrity of the equipment 24 and maintainability over the life of the facility. 25 Next



Page 11

1 slide please.

The overall estimated project cost on the 2 left about 3.6 million for the design, 3.5 million for 3 services during construction. A \$75 million 4 construction cost for a grand total of about \$82.1 5 6 million. Notice to proceed was January of 2020. We're 7 currently just about done with the design so that's 8 being submitted next month and then we hope to open bids 9 in January of 2023, get the contractor on board by April, next construction season, and then get that thing 10 11 done in about three years. The -- this project is being 12 managed by Mini Panicker. The overall project team is 13 Arcadis, Brown and Caldwell, with support from NTH, PEA 14 and Nederveld and the approximate total cost per user in 15 terms of household per month is about \$0.36 per 16 household per month. And with that I'll open it up for 17 any public comment.

18 COMMISSIONER WOLFSON: Madam Chair at this 19 point it would appropriate to call for public comment in 20 the room.

21 CHAIRPERSON QUADROZZI: Is there any public 22 comment as relates to the Freud pumping station project? 23 In the room or virtually?

24 COMMISSIONER WOLFSON: Madam Chair - 25 CHAIRPERSON QUADROZZI: Hold on a sec. We



1 have a couple of people on the board who would like to ask questions but I'm opening it to the public first. 2 3 COMMISSIONER WOLFSON: I do not see any public comment so I apologize we should ve taken the 4 board member questions first. My mistake. 5 6 CHAIRPERSON QUADROZZI: That's okay. Brian. 7 DIRECTOR BAKER: Todd, question for you. Ι 8 know, you know, these are old pumps and an old facility. 9 Did you say we're not going to be increasing any of the flow capacity with these pumps; is that correct? 10 11 MR. KING: Correct. There's two pump stations and initially we talk about these as Conner and 12 13 Freud. This project is farther along in the design phase so we separated the two projects out to get this 14 15 moving forward faster but the -- in both cases the 16 installed capacity and the firm capacity of existing pump station is what the basis of design and the new 17 designs are both based on. 18 19 DIRECTOR BAKER: Thank you. 20 CHAIRPERSON QUADROZZI: Randal, did you have 21 question? COUNSEL BROWN: Yeah. Todd, construction 2.2 23 administration. 24 MR. KING: Mm-hmm. 25 COUNSEL BROWN: Is that generally a set



Page 13

1 percentage of the overall construction cost or does it 2 vary? 3 MR. KING: It varies from bid to bid. 4 Ballpark number I would say somewhere in the 5 neighborhood of four to seven percent in varying --6 COUNSEL BROWN: And --7 MR. KING: -- increment. COUNSEL BROWN: And what are some of the 8 9 items that go into construction admin? It's usually the resident project 10 MR. KING: 11 representative or the field engineer or field inspector, 12 whatever term you want to use for that. It's managing 13 the pay applications or reviewing the shop drawing 14 submittals, approving pay apps, handling any request for 15 information that come from the contractor with respect 16 to design clarifications or see conditions in the field, 17 things of that nature. 18 COUNSEL BROWN: Thank you. 19 CHAIRPERSON QUADROZZI: Gary, did you have 20 one? I did. Thanks for the 21 DIRECTOR BROWN: 2.2 update, Todd. I just got a couple questions. So in a 23 couple of weeks we're going to get this report from the AECOM group and others that worked on recommendation 24 25 short-term, mid-range and long-range with regards to



hopefully relieving some of the flooding that took place

1

Page 14

in the area of Freud and so how -- how is what we're 2 3 recommending today is this maintenance that should be done, would be done regardless of whatever 4 recommendations come out of that report? 5 6 MR. KING: I hope so yes. I think one of 7 the key parts of this project is the splitting out the sanitary station, so I don't think that anybody would 8 9 object to that with respect to the expert reports. In terms of the overall capacity and the sizing of the two 10 respective stations, I think that's something that can 11 12 be looked at as part of the Conner project. Based as 13 part of this project the nature of the design is 14 sufficient; it's a two billion gallon per day facility. 15 This is not the area that we can probably expand the 16 capacity if the report goes in that direction. The 17 Conner facility or reuse of the old Conner pumping station would be the things that we'd look at in order 18 19 to address any increase or any desire to increase capacity from this area of the system. 20 21 DIRECTOR BROWN: Okay thank you. 2.2 CHAIRPERSON QUADROZZI: Any other questions? 23 Okay I guess we can go to project two. 24 Okay. So if that closes the MR. KING: 25 public comment for project one, then I'll start project ENAISSANCE hansonreporting.com 313 567 8100

Page 15

1 This project is called the Oakwood District two. Intercommunity Relief Sewer modification. Next slide 2 please. So this project is focused on the northwest 3 4 intercepter, which is the western most intercepter for 5 the GLWA system and what we have on that side is we have 6 an intercepter that surcharges during wet weather and we 7 can't maintain a hydraulic grade line to allow everybody 8 to reach their contract capacity on the west side of the 9 system and what this project will do is put a relatively short length of tunnel between the northwest intercepter 10 and the Oakwood CSO basin and about 3,600 lineal feet, 11 12 so they're relatively close together; and what that will 13 allow us to do is alleviate some of the hydraulic grade 14 line on the northwest intercepter and eliminates a 15 portion of the CSOs on that side, eliminates some SSOs, 16 eliminates -- hopefully reduce or eliminates Southfield 17 Freeway flooding and take advantage of the capacity that Oakwood has available. 18

There's another use scenario that would also come into play if there was ever a catastrophic incident at the WRRF. This piping would also allow for some backup at least partial treatment prior to the discharge to the Rouge River so that's not the primary focus but that is an added benefit of this project. Next slide please.



Page 16

1 So the scope of the project that yellow line you see with the funny curve that is the proposed 2 It's going to be about 3,600 feet long, about 3 tunnel. ten foot in diameter and there's I-75 goes through there 4 5 and there's foundation piles that go all the way down to 6 bed rock, so the routing of this thing went through a couple -- three or four iterations. And that's where 7 some of the challenge was in terms of evaluating 8 9 alternatives but we're in the process of working with the marathon refineries to the lower left of the picture 10 and those are some of the marathon tanks to the upper 11 12 right. So we think we've got a good path for this 13 tunnel and it should do what we want in terms of 14 providing the conveyance necessary to lower the 15 hydraulic grade line within the northwest intercepter 16 and it's going to be controlled by a flow control structure that is up in the right of the northwest 17 intercepter main line there in the upper left-hand 18 19 corner where the yellow line intersects the white line; and, again, the project benefits are it's going to 20 reduce the hydraulic grade line thus reduce CSOs, SSOs 21 2.2 and allow contract, more contract capacity to get in to 23 the GLWA system at the northwest intercepter. Next slide please. 24

25

So this project is being managed by Biren



1 Saparia. The study and design is about 2.5 million, construction engineering is 3 million. We are currently 2 at about 30 percent complete design and our engineer's 3 estimate of probably cost is 69.4 million for a grand 4 total of 75 million. The project team is FK Engineering 5 and with support from Applied Scientist (sic), CDM and 6 Hubbell Roth & Clark. The design notice to proceed was 7 in November of 2021, 60 percent design will be handed to 8 us around July of this year, 100 percent design in 9 November and we hope to get the bids out and start 10 notice to proceed next construction season around May 11 12 and about another three year construction cycle for this 13 project as well. And the total user cost is about \$0.33 per household per month. And with that I'll open it up 14 15 for public comment or board comment.

16 CHAIRPERSON QUADROZZI: I'm sure this is 17 just my stupidity but 30 percent construction cost 69? 18 I don't -- explain to me those two numbers.

MR. KING: The 30 percent refers to about what percent complete the design is right now. So we've got a pretty good handle on the layout. Some of the details, the specifications are in their formative stages so it's just a term of art for the design portion.

CHAIRPERSON QUADROZZI: Okay. So at 30



25

percent of the design completion you believe the 1 construction costs will be that 69? 2 3 MR. KING: Right. So as the -- as we get 4 each milestone typically 30 percent, 60 percent, 100 5 percent we ask the design engineer to update their engineer's estimate of probable cost at each of those 6 7 milestones. CHAIRPERSON QUADROZZI: 8 Thank you. 9 MR. KING: And hopefully that estimate gets better and better as the project design details are 10 completed. 11 12 CHAIRPERSON QUADROZZI: Any other board 13 members have questions? 14 DIRECTOR BROWN: I just got a couple. Todd, 15 what is -- what will the capacity of this new tunnel be 16 when it's complete? 17 Oh boy in terms of flow I don't MR. KING: know if any of the design team's on the call. That 18 19 number is not something I memorized, I apologize. 20 Yeah, no, it's okay did --DIRECTOR BROWN: hey Todd, did I understand you to say that this tunnel 21 will allow communities to get their full contracted 2.2 23 capacity into this tunnel? And I guess my question is is that not happening now that communities that contract 24 with us with GLWA for certain capacity they're not able 25



Page 19

1 to get into our system because you need this new tunnel? I can speak to that Todd. 2 MS. COFFEY: I'm 3 sorry, I don't mean to interrupt, but I think I have a better -- I think it's a great question. Yeah, so we 4 have lots of conversation and this waste water master 5 plan as a very good project. This is really making and 6 7 maximizing the use of existing assets this short tunnel but to your question we have had conversation with Wayne 8 9 County and their Rouge Valley system, also Dearborn and I think Melvindale also have comments and concerns about 10 being able to get their contract capacity into this part 11 12 of the sewer. So we're still working through all of that but there's been a significant amount of modeling 13 14 that indicates that this is the right answer for that 15 problem. 16 DIRECTOR BROWN: Okay. Yeah, I was under 17 the impression that they were exceeding contractor capacity but that's obviously not true? 18 19 MS. COFFEY: So Wayne County does have three outlets so depending where it is they're at and what 20 storm event comes and so that's part of the additional 21 conversation that we're having right now is under what 22 exact circumstances are you suggesting this but we 23 certainly have had -- well there's a couple things -- we 24 certainly have had plenty of modeling to indicate that 25



Page 20

1 there's an issue here. The next piece of it is as Todd said this connecting to the CSO facility, the Oakwood 2 CSO facility doesn't seek capacity. We've already built 3 that so there are other benefits to that in terms of 4 5 lowering hydraulic grade in addition to helping with contract capacity reducing CSO and SSO. So there's some 6 benefits there in addition to this backup for the waste 7 water facility. So it's multi-pronged benefits. 8 9 DIRECTOR BROWN: Okay thank you. 10 CHAIRPERSON OUADROZZI: Brian? 11 DIRECTOR BAKER: Suzanne, is this part of 12 the Ever(Green) Farm project or is that a different 13 project? 14 MS. COFFEY: It's different. 15 DIRECTOR BAKER: Okay. So this is a common 16 to all project? MS. COFFEY: So the cost allocation is 17 actually under discussion right now, so when you say 18 19 common to all --DIRECTOR BAKER: Oh this is the discussion 20 21 on sewer shares? MS. COFFEY: Exactly. So this is a -- this 2.2 is a very specific project with benefits that are 23 24 different than what we've seen before and so the question is how should it be allocated? We have 25



1 multiple cost buckets that we allocate in sewer shares so this is absolutely -- so let me back up and say this: 2 3 Unequivocally, everyone believes this is a good project; it's the right project. We want to move forward with 4 5 it. How we allocate those cost to customers has yet to 6 be determined. 7 DIRECTOR BAKER: Okay. Yeah, I was confused between the two and this is the CIP that we haven't 8 9 gotten to the construction on where to put the assets 10 vet? 11 MS. COFFEY: That's exactly right. 12 DIRECTOR BAKER: Okay thank you. DIRECTOR BROWN: If it's good for DWC, it's 13 14 qood for... 15 CHAIRPERSON OUADROZZI: Those in the back of 16 the room. All right. Any other comments from the board on this project? Are there -- is there anyone from the 17 public either in the room -- I really don't see anybody 18 in the room -- or virtually that would like to comment 19 on this project? 20 21 COMMISSIONER WOLFSON: I do not see any 22 hands up, Madam Chair. 23 CHAIRPERSON QUADROZZI: Okay so I think we can move on to -- I guess we're going to have -- -24 25 MR. KING: Oops. I'm sorry I'd like to just



Page 22

1 add one thing to Director Brown's question. Biren shot me an email that it's 1,200 to 1,400 CFSs, the hydraulic 2 3 capacity of this project. I apologize for that. Thanks Biren. 4 DIRECTOR BROWN: 5 CHAIRPERSON OUADROZZI: Okay. I think we're going to handle the three, four, five and six together? 6 MR. WHITE: All right. Good afternoon my 7 name is David White. I'm a vice president with Wade 8 9 Trim. We are the engineering consultant that is preparing the SRF project plan for four projects at the 10 waste Water Resource Recovery Facility, the WRRF. Next 11 12 slide please. So we have four projects that are being 13 proposed at the facility. What we're looking at is a 14 number of improvements to the head works that deliver 15 the flow to the treatment plant, some critical 16 improvements to the aeration decks and the secondary 17 treatment flow stream and then upgrading the ability to provide water service to the various process units 18 19 throughout the facility as well. Next slide --20 MR. SWARTZ: Dave? 21 MR. WHITE: Yeah? MR. SWARTZ: Did they just lose power? Is 2.2 23 everybody on? 24 MR. WHITE: I don't know. Is everybody 25 hearing me?



	05/25/2022 Page 23
1	MR. SWARTZ: There's some talk about power
2	loss.
3	MR. WHITE: Oh. Okay. I'll pause there.
4	MR. SWARTZ: Do you know if the court
5	reporter can still hear us?
6	MR. WHITE: Caitlyn, are you there?
7	THE REPORTER: Yep. I'm here. I can hear
8	you.
9	MR. WHITE: Okay.
10	MS. GARLAND: I can hear as well, Dave.
11	This is Kim Garland.
12	MR. WHITE: Okay. I'll just wait and see if
13	it comes back.
14	MR. SWARTZ: Thanks Dave.
15	MR. WHITE: Yep. Thank you for letting me
16	know.
17	MR. SMALL: This is Jeff Small. I'm going
18	to go to the board room and see what's going on, if
19	there's an issue there, if the rest of the building has
20	power so I'll be right back.
21	MR. WHITE: And, Kim, question do you want
22	me to start over potentially? I guess we can see.
23	MS. GARLAND: I can easily move the slides
24	back if we need to start over.
25	MR. WHITE: Okay.



1

COMMISSIONER WOLFSON: We are back in

2 session. We are waiting for our project three through 3 six to kick off. Who's going to address those? 4 MR. WHITE: Yeah I am. If you guys are 5 ready, I can proceed? 6 CHAIRPERSON QUADROZZI: Yeah. 7 MR. WHITE: Okay. Let me just start over. So my name is Dave White. I work for the firm of Wade 8 9 Trim. I'm a vice president there. We are the 10 engineering consultant that is preparing the SRF project plan for these four projects at the WRRF facility. 11 Next 12 slide. 13 So the four projects that we're going to be 14 talking about today include upgrades to the head works 15 at the WRRF at pump station one and two, upgrades to the 16 aeration decks and some improvements to the process 17 related water that serves many of the units out there onsite. Next slide. 18 19 This map here shows you the location of the WRRF on Jefferson Avenue right adjacent to the Rouge 20 The four locations of the projects are shown 21 River. 2.2 here. We are working at the existing facility. Next 23 slide. 24 So we have four projects. We have

prioritized these in terms of those that are the most 25



Page 25

critical in terms of request for funding. The first 1 project is pump station one, which is a priority 1A. 2 Our recommended alternative is to rehab the eighth large 3 existing pumps and motors onsite and do a complete 4 renovation of the site, the building and all of the 5 mechanical and electrical systems at this critical 6 facility. The benefits of the project is it's going to 7 extend the life of pump station number one for another 8 9 20 years and it's going to improve the reliability. This facility operates all the time during dry weather 10 and also during storm events and is critical to meeting 11 12 your NPDES permit requirements by providing reliable 13 service. The total project cost estimated at at this 14 time is \$95.6 million. Next slide.

15 The second project priority 1B is the 16 aeration decks one and two modifications. The recommended alternative is to make some changes to these 17 large tanks by upgrading the weir that allows water to 18 19 flow through this process to improve the ability for step feed and to replace the intermediate lift pump 20 station that services this area of the plant. 21 The benefits of this work is it's going to provide for 2.2 23 biological phosphorous removal to meet the anticipated 24 upcoming NPDES requirements for this item. It's also going to increase the overall efficiency and provide for 25



better ability to meet wet weather treatment capacity through the secondary systems. And it's also going to reduce energy consumption and improve the system's energy efficiency. The total project costs for these improvements is \$74.1 million. Next slide.

6 The third project is the pump station two 7 rack and grit improvements. This alternative is going 8 the replace the existing screening units that are out 9 there with new finer screens. We're going to put in new 10 stirred vortex removal units and associated

cyclone-classifiers to handle the additional grit that's 11 12 going to be pulled out of the treatment process and then 13 there's going to be a complete overhaul to the building, 14 the structures that are out there and all the mechanical 15 and electrical components in and around that facility. 16 The benefits of this work is it's going to significantly improve the removal of screenings and grit that come 17 through the waste water and it's going to provide for 18 19 improved long-term system reliability and greatly simplify operations and maintenance at this unit 20 The total estimated project cost at this time 21 process. is \$98 million. Next slide. 2.2

23 So the final project is the SFE pump station 24 project and this recommended alternative is going to 25 replace the existing SFE pump station to provide for



1 secondary final effluent water to all of the systems that are needed out there onsite. The benefits of this 2 3 work is it's going to meet requirement by EGLE to provide for a backup source of water out there and it's 4 5 going to improve the reliability in the event you have a 6 power outage or you have an issue with the water main that currently feeds the plant and this project is also 7 going to improve electrical efficiency and save on cost 8 there as well. The total estimated project cost at the 9 time we prepared this and submitted the draft plan is 10 \$80.1 million. Next slide. 11

12 So to summarize all of the improvements at 13 the WRRF, the cost and the schedule when you add up all 14 of that it comes to a total cost of \$347.8 million. The 15 user cost that is spread out over all the residents 16 within the service areas is \$2.16 per household per 17 month. And these are numerous independent projects so they all have durations of anywhere from three to six 18 19 years. They won't all occur at the same time. And there are actually four separate engineering teams that 20 are leading this work. We are the engineer of record on 21 pump station one. AECOM has done the work to date on 2.2 23 the aeration decks project. Hazen is leading the pump station two project and Noresco is working on the SFE 24 project. Next slide. 25

> HANSON RENAISSANCE COURT REPORTERS & VIDEO 313.567.8100

	05/25/2022 Page 2
1	The other thing I wanted to note, and this
2	is similar for all these projects but we also assess
3	under the SRF process the environmental and social
4	impacts of the proposed improvements and so relative to
5	the environment we have conducted all the required
6	studies needed on the existing WRRF facility site.
7	We've not identified any species of concern with any of
8	the project areas but we do want to note that if at any
9	time during the construction a threatened or endangered
10	species is encountered, we for sure will stop work and
11	take the appropriate steps to address what we've
12	discovered.
13	In terms of social impacts we have also sent
14	out letters to all the required stakeholders. To date
15	we have received no responses and we have also submitted
16	the draft project plan to the state and the state
17	historic preservation office for review. Next slide.
18	So at this time I guess I'd like to open it
19	up for board and public comments and I do want to point
20	out that Chris Wilson who is one of the GLWA project
21	managers is here as well to help assist with answering
22	questions.
23	CHAIRPERSON QUADROZZI: Are there any
24	questions on these projects from the board? Is there



anyone either present or on the line that would like to

25

Page 29

1 comment on these projects?

COMMISSIONER WOLFSON: I do not see any,
 Madam Chair.

4 CHAIRPERSON QUADROZZI: All right. I don't 5 see anybody here in person either, so I guess we can 6 move on to -- out of the public hearing and into new 7 business number 10.

8 COMMISSIONER WOLFSON: That's correct and 9 the next steps are up there, if you want that summarized 10 for you or?

11 CHAIRPERSON QUADROZZI: Yeah. Why doesn't 12 somebody just go ahead and do the next steps for us? 13 COMMISSIONER WOLFSON: Okay. So what will 14 happen is that there'll be a motion to approve the 15 project plan which Ms. Bateson can speak to and then the 16 documents will be referred to the state of Michigan. 17 They need to be filed by June 1st and then we would expect a determination as to award typically it happens 18 19 around mid September, so that's where it is and that will close the public hearing. And assuming that you 20 21 take action today we'll be ready. Ms. Bateson? Oh excuse me, Madam Chair, if you're ready to move into new 2.2 23 business?

CHAIRPERSON QUADROZZI: Yes. We will moveto new business and hear from Ms. Bateson.



Page 30

1	MS. BATESON: Good afternoon Nicolette
2	Bateson, chief financial officer and treasurer. In your
3	binder on page number 80 begins the board letter related
4	to the resolution to adopt the project plans. As
5	Ms. Garland addressed earlier, this is the really the
6	first formal step that the board takes for us to be able
7	to pursue low cost financing through the state's Clean
8	Water Revolving Fund loan program. At this point in the
9	process the action is for the board would be for the
10	board to adopt a resolution acknowledging these project
11	plans. Then these documents may be submitted by the
12	June 1st deadline so that we could secure this low cost
13	financing. The state reviews all of the project plans
14	received, so it's not necessarily a guarantee that we
15	will receive this and we typically find that out, I
16	believe have feedback typically around September/October
17	time frame. This matter and this resolution was
18	presented to the Great Lakes Water Authority's audit
19	committee and the audit committee did refer this to the
20	board of directors with the unanimous recommendation for
21	adoption of the resolution.
22	CHAIRPERSON QUADROZZI: Okay. At this point
23	do I have are there any questions or I would
24	entertain a motion?
25	DIRECTOR BAKER: One question.



Page 31

1 MS. BATESON: Yes. 2 So Nickie, this also allows DIRECTOR BAKER: 3 then GLWA to seek potential loan forgiveness, right, 4 (inaudible) program or are we not eligible for that only DWSD? 5 6 MS. BATESON: GLWA is not eligible only DWSD 7 projects. Okay. And this also is the 8 DIRECTOR BAKER: 9 first step also in order to apply either for state or federal ARP and/or infrastructure funds, correct? 10 MS. BATESON: Bill, do you want to address 11 12 that process? 13 COMMISSIONER WOLFSON: Well we're still waiting for a final determination from the state but 14 15 that would be -- that would be the assumption that the 16 dollars could be used for that and there may be -- there may be some forgiveness associated with those dollars. 17 That's also a possibility that we're not sure of at this 18 19 time. Okay thanks. 20 DIRECTOR BAKER: 21 CHAIRPERSON QUADROZZI: Yes sir? 2.2 COMMISSIONER ZECH: Madam Chair, is there a 23 possibility that one of these projects could be one or more of these could not be approved by EGLE? Are you 24 25 working with them pretty carefully at this point so they



Page 32

1 -- this won't be a surprise to them?

No. Our team works very 2 MS. BATESON: 3 closely on a daily basis with staff from EGLE but I will tell you there's probably a higher level of competition 4 5 that than there has been in the past. Particularly, you heard Mr. Mehram reference the cost increase that we're 6 experiencing, every municipality is experiencing that. 7 So there is the possibility of increased competition 8 that we may be haven't seen in the past. It looks like 9 Ms. Coffey was also ready to make a comment related to 10 that. 11

12 MS. COFFEY: Yes so the state does go 13 through a prioritization process and they select 14 projects to get funded through the program, so as 15 Ms. Bateson indicated many communities are putting 16 together these packages and so we'll find out later in 17 the year. It doesn't mean that we won't do the projects, it means that the loan -- we wouldn't get the 18 19 loan from the state, so it's certainly favorable to get the loans as Director Baker also indicated and 20 Mr. Wolfson said too we've had this inference from the 21 state that this is the best way for us to ensure that if 2.2 23 there are federal dollars or ARRA dollars that come through that this process might be looked at as they 24 prioritize those types of funds. So there's all kinds 25



1	of good reasons why we should apply.
2	COMMISSIONER ZECH: Mm-hmm. What led me to
3	asking this is the Mr. White covered four projects,
4	all in the same area; they all seem to be tied together.
5	If one of those projects wasn't approved, would that
6	jeopardize the other three from being done and,
7	apparently, it would just be from a different funding
8	source we'd be looking to, correct?
9	MS. COFFEY: They're tied together only for
10	the purposes of presenting them to you. They'll be
11	individually submitted, so it won't mean that they can
12	all rise and fall together.
13	COMMISSIONER ZECH: But you could do three
14	of the four projects?
15	MS. COFFEY: Correct.
16	COMMISSIONER ZECH: And not get to the
17	fourth one or two of the four or something that would
18	not it would not knock things out in terms of the
19	chronology of things?
20	MS. COFFEY: Yeah. Yes that's true so each
21	of the projects has their kind of construction schedule.
22	We'll apply for all four of those projects for loans.
23	If one or two or three get loans and the others don't,
24	the construction schedule will stay the same unless we
25	re-prioritize it in our CIP, so this is really about



Page 34

getting a very good low interest rate loan for the project. COMMISSIONER ZECH: Sure. Okay. Yep. I understand. I just hope we go four for four or six for six. Thank you. DIRECTOR HENDRIX: Madam Chair, I'd make a motion to approve the resolution for the six projects. COMMISSIONER ZECH: I support that. CHAIRPERSON QUADROZZI: All in favor? ALL: Aye. CHAIRPERSON QUADROZZI: Any opposed? It carries. Thank you. (Conclusion of requested portion.)



1	STATE	OF	MICHIGAN)
2)
3	COUNTY	<i>C</i> OF	WASHTENAW)

4

5 CERTIFICATE OF NOTARY PUBLIC AND COURT REPORTER

6 I, Caitlyn Hartley, do hereby certify that the 7 foregoing requested portion of the meeting was duly 8 recorded by me stenographically and by me later reduced 9 to typewritten form by means of computer-aided transcription; and I certify that this is a true and 10 11 correct transcript of my stenographic notes so taken. I further certify that I am neither of counsel to 12 13 either party nor interested in the event of this cause.

- 14
- 15
- 16

17

19

20

21

22

23

24

25

18 Notary Public,

Washtenaw County, Michigan

Caitlyn Hartley, RPR, CSR-8887

My Commission expires: August 15, 2028

HANSON RENAISSANCE COURT REPORTERS & VIDEO 313.567.8100

2:00 2:3

\$	
\$0.33 17:13	
\$0.36 11:15	
\$2.16 27:16	
\$2.7 7:4	
\$347.8 27:14	
\$74.1 26:5	
\$75 11:4	
\$80.1 27:11	
\$82.1 11:5	
\$95.6 25:14	
\$98 26:22	
1	
1, 200 22:2	
1,400 22:2	
10 29:7	
100 6:1 17:9 18:4	
127 7:25	
1A 25:2	
1B 25:15	
1st 3:16 29:17 30:12	
2	
2,500 10:20	
_,	

20 25:9

2020 11:6

2021 17:8

2022 2:2 3:16

2027 4:5,16

25 2:2

2023 2:6 3:11,13 4:5,16 11:9

3
3 17:2
3,600 15:11 16:3
3.5 11:3
3.6 11:3
30 6:8 10:14 17:3,17,19,25 18:4
36 10:21
4
40 6:8 7:3,10
5
5 7:25
50 10:17
6
60 17:8 18:4
69 17:17 18:2
69.4 17:4
7
75 17:5
8
80 30:3
88 7:17
Α
ability 9:17 22:17 25:19 26:1
absolutely 21:2
accurate 6:5

acknowledging 30:10 Act 2:11 action 29:21 30:9 add 22:1 27:13 added 15:24 adding 6:11 addition 20:5,7 additional 19:21 26:11 address 14:19 24:3 28:11 31:11 addressed 30:5 adjacent 24:20 admin 13:9 administration 12:23 administrator 2:9 adopt 30:4,10 adoption 30:21 advance 4:2 advantage 15:17 **AECOM** 13:24 27:22 aeration 22:16 24:16 25:16 27:23 afternoon 3:8 22:7 30:1 ahead 29:12 aligns 4:5 alleviate 15:13 allocate 21:1,5 allocated 20:25 allocation 20:17 alternative 25:3,17 26:7,24 alternatives 16:9 amount 5:22 19:13 amounts 4:16,23 6:19

and/or 31:10

annually 5:8

HANSON RENAISSANCE COURT REPORTERS & VIDEO 313.567.8100

answering 28:21 anticipated 7:10 25:23 apologize 12:4 18:19 22:3 apparently 33:7 applications 13:13 Applied 17:6 apply 3:12,15 31:9 33:1,22 applying 3:14 approach 2:18 approval 4:6 approve 29:14 34:7 approved 4:16 31:24 33:5 approving 13:14 approximate 11:14 apps 13:14 April 11:10 **Arcadis** 11:13 area 3:9 9:2,3,5 10:5 14:2,15, 20 25:21 33:4 areas 27:16 28:8 **ARP** 31:10 **ARRA** 32:23 arrive 9:19 art 17:23 **assess** 28:2 assets 19:7 21:9 assist 28:21 assuming 29:20 assumption 31:15 attention 7:13 audit 30:18,19 Authority's 30:18 **Avenue** 24:20 award 29:18

05/25/2022

Aye 34:10

В

back 21:2,15 23:13,20,24 24:1 backup 15:22 20:7 27:4 Baker 12:7,19 20:11,15,20 21:7,12 30:25 31:2,8,20 32:20 Ballpark 13:4 **based** 5:16 7:9 12:18 14:12 basically 9:4 basin 15:11 basis 12:17 32:3 Bateson 29:15,21,25 30:1,2 31:1,6,11 32:2,15 **bed** 16:6 begins 30:3 believes 21:3 benefit 15:24 benefits 10:22 16:20 20:4,7,8, 23 25:7,22 26:16 27:2 **bid** 5:18 7:6 13:3 bids 6:4 11:8 17:10 **big** 4:2 **Bill** 31:11 **billion** 9:20 14:14 binder 30:3 biological 25:23 Biren 16:25 22:1,4 bit 2:24 9:6 blocks 10:4 **board** 4:1,6,9,15 8:13 11:9 12:1,5 17:15 18:12 21:16 23:18 28:19,24 30:3,6,9,10,20 **bond** 6:6 **bottom** 10:2 bought 7:18

boy 18:17

Brian 12:6 20:10

briefly 3:21,23

Brown 11:13 12:22,25 13:6,8, 18,21 14:21 18:14,20 19:16 20:9 21:13 22:4

Brown's 22:1

buckets 21:1

building 4:3 10:5 23:19 25:5 26:13

built 9:13 20:3

bullet 6:16

business 29:7,23,25

С

Caitlyn 23:6 Caldwell 11:13 call 7:5,6 11:19 18:18 called 15:1 capacity 9:21 12:10,16 14:10, 16,20 15:8,17 16:22 18:15,23, 25 19:11,18 20:3,6 22:3 26:1 capital 3:22 captured 4:22 carefully 31:25 carries 34:12 cases 12:15 catastrophic 15:20 **CDM** 17:6 **CFSS** 22:2 chain 5:11 chair 2:9,23 3:5 4:1 8:19 11:18,24 21:22 29:3,22 31:22 34:6 **CHAIRPERSON** 2:5 8:18 11:21,25 12:6,20 13:19 14:22 17:16,25 18:8,12 20:10 21:15,



23 22:5 24:6 28:23 29:4,11,24 30:22 31:21 34:9,11 challenge 16:8 Chalmers 9:5 change 7:21 checks 5:8 chief 2:9 3:9,20 30:2 Chris 28:20 chronology 33:19 **CIP** 4:14 5:8 6:21 7:2 21:8 33:25 circumstances 19:23 clarifications 13:16 **Clark** 17:7 **Clean** 2:7,11 3:11 30:7 close 8:9 15:12 29:20 closely 32:3 **closes** 14:24 closing 6:6 **Coffey** 19:2,19 20:14,17,22 21:11 32:10,12 33:9,15,20 **column** 4:14,17 combined 9:11 comment 2:16,17,18 3:3,4 11:17,19,22 12:4 14:25 17:15 21:19 29:1 32:10 comments 19:10 21:16 28:19 **COMMISSIONER** 2:8 11:18,24 12:3 21:21 24:1 29:2,8,13 31:13,22 33:2,13,16 34:3,8 committee 30:19 common 20:15.19 communications 8:9 communities 18:22,24 32:15 competition 32:4,8 complete 17:3,20 18:16 25:4

26:13

05/25/2022 completed 18:11 completion 18:1 compliance 2:10 component 7:22 9:9 **components** 9:14 26:15 concern 28:7 concerns 19:10 conclusion 34:13 conditions 9:19 13:16 conducted 28:5 confused 21:7 connecting 20:2 Conner 10:20 12:12 14:12,17 construction 5:12,18 6:17 7:18,23 11:4,5,10 12:22 13:1, 9 17:2,11,12,17 18:2 21:9 28:9 33:21.24 consultant 22:9 24:10 consulting 6:10 consumption 26:3 contingencies 5:24 continued 6:13 contract 15:8 16:22 18:24 19:11 20:6 contracted 18:22 contractor 11:9 13:15 19:17 contractors 7:19 **control** 16:16 controlled 16:16 conversation 19:5,8,22 conveyance 16:14 **corner** 16:19 correct 12:10,11 29:8 31:10 33:8,15 corrosive 8:5 **cost** 5:2,3 6:17 7:9,10 8:3,15

ENAISSANCE hansonreporting.com

313.567.8100

11:2,5,14 13:1 17:4,13,17 18:6 20:17 21:1,5 25:13 26:21 27:8,9,13,14,15 30:7,12 32:6 costs 18:2 26:4 COUNSEL 12:22,25 13:6,8,18 **County** 9:6 19:9,19 **couple** 10:4,6 12:1 13:22,23 16:7 18:14 19:24 **court** 23:4 **cover** 4:3,11,12 covered 33:3 creating 8:5 creep 6:11 critical 9:8 22:15 25:1,6,11 crosswalk 4:3 crosswalks 5:22 **CSO** 15:11 20:2.3.6 **CSOS** 15:15 16:21 current 4:4 **curve** 16:2 **custom** 2:25 customers 21:5 cycle 17:12 cyclone-classifiers 26:11

D

daily 32:3
date 27:22 28:14
Dave 22:20 23:10,14 24:8
David 22:8
day 9:21 10:15 14:14
days 10:10,12
deadline 3:14 30:12
Dearborn 19:9
decks 22:16 24:16 25:16

27:23 deliver 22:14 departure 2:24 depend 7:23 8:7 depending 19:20 design 4:20,25 6:1,18 11:3,7 12:13,17 13:16 14:13 17:1,3, 7,8,9,20,23 18:1,5,10,18 designer's 5:4 designs 12:18 desire 14:19 detail 4:10 details 17:22 18:10 determination 29:18 31:14 determined 21:6 Detroit 9:5 10:9 development 5:1 diameter 16:4 differences 6:7 differently 2:13 direct 10:18 direction 9:7 14:16 directly 10:9,22 director 8:23 12:7,19 13:21 14:21 18:14,20 19:16 20:9,11, 15,20 21:7,12,13 22:1,4 30:25 31:2,8,20 32:20 34:6 directors 30:20 discharge 10:9 15:22 discharging 9:10 discovered 28:12 discrepancy 4:6 discuss 8:13 discussion 20:18,20 District 15:1 document 4:13

05/25/2022 documents 29:16 30:11 dollar 4:23 5:21,23 6:19 dollars 31:16,17 32:23 double 10:1,20 draft 27:10 28:16 drawing 13:13 DRI 10:22 DRIS 10:18 dry 9:10 10:10,12 25:10 durations 7:18 27:18 duty 10:1 DWC 21:13 DWSD 31:5,6

Е

earlier 5:21 6:21 30:5 easily 23:23 east 10:3 efficiency 25:25 26:4 27:8 effluent 27:1 EGLE 27:3 31:24 32:3 eighth 25:3 electrical 25:6 26:15 27:8 elements 10:16 **eligible** 4:21 31:4,6 eliminate 10:21 eliminates 15:14.15.16 email 22:2 encountered 28:10 endangered 28:9 energy 26:3,4 engineer 5:16 13:11 18:5 27:21 engineer's 17:3 18:6

NAISSANCE hansonreporting.com

313.567.8100

engineering 17:2,5 22:9 24:10 27:20 **ensure** 32:22 entertain 30:24 entire 4:19 environment 28:5 environmental 28:3 equipment 10:24 established 6:17,20 estimate 5:4,16 17:4 18:6,9 estimated 11:2 25:13 26:21 27:9 evaluating 16:8 event 19:21 27:5 events 25:11 Ever(green) 20:12 exact 19:23 examples 6:15 7:11 exceeding 19:17 **excuse** 29:22 executing 6:13 existing 9:24 10:16 12:16 19:7 24:22 25:4 26:8,25 28:6 expand 14:15 **expect** 29:18 expected 6:2 experienced 7:3 experiences 6:23 experiencing 5:10,13 6:13,22, 23 7:21 8:16 32:7 expert 14:9 explain 17:18 extend 25:8 extent 3:1

F facilities 4:11 7:23 facility 7:1 8:7 9:8,14,16,22 10:2,4,25 12:8 14:14,17 20:2, 3,8 22:11,13,19 24:11,22 25:7,10 26:15 28:6 fall 33:12 Farm 20:12 farther 12:13 faster 12:15 favor 34:9 favorable 32:19 federal 31:10 32:23 feed 10:7 25:20 feedback 30:16 feeds 27:7 feet 10:21 15:11 16:3 field 8:23,24 13:11,16 filed 29:17 final 5:17 6:1 26:23 27:1 31:14 financial 3:9 30:2 financing 30:7,13 find 30:15 32:16 finer 26:9 finished 7:15 firm 9:21 12:16 24:8 fiscal 2:6 3:11,13 FK 17:5 flooding 9:8 14:1 15:17 flow 10:3,8,19 12:10 16:16 18:17 22:15,17 25:19 Flowserve 6:24 Flyght 7:13 focus 15:23

focused 15:3 **foot** 16:4 forgiveness 31:3,17 formal 30:6 formative 17:22 fortunately 7:15 forward 12:15 21:4 foundation 16:5 fourth 33:17 frame 30:17 **Freeway** 15:17 Freud 4:12 9:2,3,13 10:5,7,12, 19 11:22 12:13 14:2 Freud's 8:25 fruition 6:3 full 18:22 Fund 2:7,12 3:12 30:8 funded 32:14 funding 4:18 25:1 33:7 funds 31:10 32:25 funny 16:2 **FY** 3:13

05/25/2022

G

gallon 9:20 14:14
gallons 10:15
game 8:8
Garland 3:6,8,9 23:10,11,23 30:5
Gary 13:19
generally 12:25
generated 9:11
give 2:15 4:8 6:15,22
giving 4:10
GLWA 3:22 15:5 16:23 18:25

28:20 31:3,6 goal 9:20 goals 9:12 good 3:8 16:12 17:21 19:6 21:3,13,14 22:7 30:1 33:1 34:1 grade 15:7,13 16:15,21 20:5 grand 11:5 17:4 great 19:4 30:18 greatly 26:19 grit 26:7,11,17 **Grosse** 9:5 group 13:24 guarantee 30:14 guess 14:23 18:23 21:24 23:22 28:18 29:5 guys 24:4

Н

hand 2:20,22 handed 17:8 handle 17:21 22:6 26:11 handling 13:14 hands 21:22 handset 2:21 happen 29:14 happening 18:24 Hazen 27:23 head 22:14 24:14 hear 23:5,7,10 29:25 heard 32:6 hearing 2:6,14 3:10,17 8:17 22:25 29:6,20 heavily 7:24 8:7 heavy 7:22

COURT REPORTERS & VIDEO 313.567.8100

helping 20:5 HENDRIX 34:6 hey 18:21 high 4:9 8:13 higher 32:4 historic 28:17 hold 3:17 11:25 holding 7:19,20 hope 11:8 14:6 17:10 34:4 household 11:15,16 17:14 27:16 Hubbell 17:7 hydraulic 15:7,13 16:15,21 20:5 22:2

Т

I-75 16:4 identified 28:7 identify 5:21 8:11 identifying 5:5 impacts 28:4,13 importantly 4:15 impression 19:17 improve 10:23 25:9,19 26:3, 17 27:5,8 improved 26:19 improvement 3:23 improvements 9:1 22:14,16 24:16 26:5,7 27:12 28:4 inaudible 31:4 inch 10:21 incident 15:20 include 24:14 incorporated 6:21

increase 7:4,25 8:1 14:19 25:25 32:6

05/25/2022 increased 7:9 32:8 increases 6:10 8:15 increasing 12:9 increment 13:7 independent 27:17 individual 3:19 individually 33:11 industry 5:12 inference 32:21 inflation 5:12 information 4:10,15 13:15 infrastructure 31:10 initially 12:12 initiated 4:20 input 2:11 inspector 13:11 installed 7:14,16 12:16 integrity 10:24 intended 6:12 intent 3:12,15,17 5:20 intercepter 10:9 15:4,6,10,14 16:15,18,23 intercepters 10:7 Intercommunity 15:2 interest 34:1 interesting 7:12 intermediate 25:20 interrupt 19:3 intersects 16:19 introducing 3:6 issue 20:1 23:19 27:6 issued 5:20 item 2:5 25:24 items 13:9

iterations 16:7

J January 11:6,9 Jeff 23:17 Jefferson 9:4 24:20 jeopardize 33:6 July 17:9 jump 8:14 June 3:15 29:17 30:12

Κ

keeping 5:6,15 key 7:21 9:9 14:7 kick 24:3 kicking 3:10 Kim 3:6,7,9,25 23:11,21 kind 6:18 7:8 33:21 kinds 32:25 King 8:22 12:11,24 13:3,7,10 14:6,24 17:19 18:3,9,17 21:25 knock 33:18

L

Lakes 30:18 large 25:3,18 layout 17:21 leading 27:21,23 led 33:2 left 11:3 16:10 left-hand 16:18 length 15:10 letter 30:3 letters 28:14

HANSON RENAISSANCE

letting 23:15 level 4:9 8:13 32:4 life 4:19 6:23 10:25 25:8 lift 25:20 light 8:3 lineal 10:21 15:11 loan 30:8 31:3 32:18,19 34:1 loans 3:13,14,15 32:20 33:22, 23 location 24:19 locations 24:21 long 5:7 16:3 long-range 13:25 long-term 26:19 looked 14:12 32:24 lose 22:22 loss 23:2 lot 5:13,20,24 lots 19:5 low 30:7,12 34:1 lower 16:10,14 lowering 20:5

Μ

Macomb 9:6 Madam 2:8,23 3:5,25 11:18,24 21:22 29:3,22 31:22 34:6 main 10:21 16:18 27:6 maintain 9:20 15:7 maintainability 10:25 maintenance 14:3 26:20 majority 6:6 8:10 make 2:18 4:7,22 8:12 9:18 25:17 32:10 34:6 making 10:17 19:6

05/25/2022 managed 11:12 16:25 managers 6:9 28:21 managing 13:12 manufacturer 6:25 7:7 manufacturers 7:20 **map** 24:19 marathon 16:10,11 market 6:14.22 **master** 19:5 matching 5:23 material 7:19 8:4,6 matter 30:17 maximizing 19:7 means 32:18 mechanical 25:6 26:14 meet 25:23 26:1 27:3 meeting 2:1 25:11 Mehram 3:24,25 8:20 32:6 Melvindale 19:10 member 2:23 12:5 members 2:15 18:13 memorized 18:19 Michigan 29:16 mid 29:19 mid-range 13:25 milestone 18:4 milestones 18:7 million 7:4 10:15 11:3,4,6 17:1,2,4,5 25:14 26:5,22 27:11,14 **mind** 5:6,15 Mini 11:12 **minute** 9:17 minutes 2:24 mistake 12:5

misunderstanding 4:23 Mm-hmm 12:24 33:2 modeling 19:13,25 modification 15:2 modifications 25:16 month 11:8,15,16 17:14 27:17 months 5:9 motion 29:14 30:24 34:7 motors 25:4 move 3:19 21:4,24 23:23 29:6, 22,24 moving 12:15 multi-pronged 20:8 multiple 21:1 municipality 32:7 muted 3:7

Ν

nature 13:17 14:13 Navid 3:24 8:22 necessarily 6:11 30:14 Nederveld 11:14 needed 27:2 28:6 neighborhood 13:5 Nickie 31:2 nickle 8:4 Nicolette 30:1 Noresco 27:24 normal 2:25 northwest 15:3,10,14 16:15, 17,23 note 28:1,8 **notice** 5:20 11:6 17:7,11 November 17:8,10 NPDES 25:12,24



NTH 11:13 number 4:14 7:2 13:4 18:19 22:14 25:8 29:7 30:3 numbers 4:7 6:4 17:18 numerous 27:17

0

Oakwood 4:12 15:1,11,18 20:2 object 14:9 occur 27:19 office 28:17 officer 2:10 3:20 30:2 online 3:18 onsite 24:18 25:4 27:2 **Oops** 21:25 **open** 11:8,16 17:14 28:18 opening 12:2 operability 10:24 operate 7:1 operates 25:10 operating 3:7,20,21 9:19 operations 26:20 opinion 6:17 **opportunity** 2:10,16 3:2 opposed 34:11 options 2:17 order 14:18 31:9 original 9:13 outage 27:6 outlets 19:20 overhaul 26:13

Ρ

p.m. 2:3

05/25/2022 packages 32:16 Panicker 11:12 part 3:16 14:12,13 19:11,21 20:11 partial 15:22 participating 2:20 parts 14:7 past 32:5,9 **path** 16:12 pause 2:15 23:3 pay 13:13,14 **PEA** 11:13 people 12:1 percent 6:1,8 7:4,10,17,25 8:1 13:5 17:3,8,9,17,19,20 18:1,4, 5 percentage 13:1 permit 25:12 person 29:5 **phase** 4:20 5:25 6:1 12:14 phone 7:5 phosphorous 25:23 **photo** 9:25 phrases 5:17,19 **picture** 16:10 **piece** 20:1 **piles** 16:5 **piping** 15:21 place 14:1 plan 3:23 6:21 19:6 22:10 24:11 27:10 28:16 29:15 plans 2:7 3:11 30:4,11,13 plant 22:15 25:21 27:7 play 15:20 plays 8:8

plenty 19:25 podium 2:18 point 11:19 28:19 30:8,22 31:25 Pointe 9:5 points 7:21 portion 9:12,15 10:4 15:15 17:24 34:13 portions 6:11 possibility 31:18,23 32:8 potential 31:3 potentially 23:22 power 22:22 23:1,20 27:6 preliminary 5:19 premises 9:9 prepared 27:10 preparing 22:10 24:10 present 2:19 28:25 presented 30:18 presenting 33:10 preservation 28:17 president 22:8 24:9 pressing 2:21 pretty 17:21 31:25 prevent 9:8 **previous** 4:17,24 prices 7:19,20,22 primary 15:23 prior 7:3 15:22 prioritization 32:13 prioritize 32:25 prioritized 24:25 priority 25:2,15 probable 18:6 **problem** 19:15



proceed 8:16 11:6 17:7,11 24:5

- process 3:16 6:6 16:9 22:18 24:16 25:19 26:12,21 28:3 30:9 31:12 32:13,24
- program 3:12 5:20 30:8 31:4 32:14

progress 5:24

- project 2:7,15 3:2,3,11,18,19 4:4,15,18 5:2,3,16,23,25 6:9, 12 7:2,5,7,15 8:25 9:2,7,13, 15,23 10:23 11:2,11,12,22 12:13 13:10 14:7,12,13,23,25 15:1,3,9,24 16:1,20,25 17:5, 13 18:10 19:6 20:12,13,16,23 21:3,4,17,20 22:3,10 24:2,10 25:2,7,13,15 26:4,6,21,23,24 27:7,9,23,24,25 28:8,16,20 29:15 30:4,10,13 34:2
- projects 2:12,14 3:20,22 4:11, 19,24 5:6,7,14,17 6:18,24 8:10,11,14 12:14 22:10,12 24:11,13,21,24 27:17 28:2,24 29:1 31:7,23 32:14,18 33:3,5, 14,21,22 34:7
- proposed 2:6 16:2 22:13 28:4

proposing 2:12

- provide 10:2 22:18 25:22,25 26:18,25 27:4
- providing 4:22 16:14 25:12
- **public** 2:6,11,16,23 3:10,17 8:17 11:17,19,21 12:2,4 14:25 17:15 21:18 28:19 29:6,20

pulled 26:12

pump 4:12 7:2,14 9:2,3,13 10:6,7,14 12:11,17 24:15 25:2,8,20 26:6,23,25 27:22,23

pumped 10:19

- **pumping** 9:1,14,21 10:12,20, 22 11:22 14:17
- **pumps** 6:24,25 7:4,9,13,16,17 9:18,24 10:2,17 12:8,10 25:4

05/25/2022 purple 9:3

purposes 33:10

pursue 30:7

put 15:9 21:9 26:9

putting 32:15

Q

- **QUADROZZI** 2:5 8:18 11:21, 25 12:6,20 13:19 14:22 17:16, 25 18:8,12 20:10 21:15,23 22:5 24:6 28:23 29:4,11,24 30:22 31:21 34:9,11
- **question** 12:7,21 18:23 19:4,8 20:25 22:1 23:21 30:25
- **questions** 8:13,19 12:2,5 13:22 14:22 18:13 28:22,24 30:23

R

rack 26:7 raise 2:22 raised 8:3 raising 2:20

- Randal 12:20
- ranging 6:7
- rate 34:1
- rates 5:12

re-prioritize 33:25

reach 15:8

- ready 3:18 24:5 29:21,22 32:10
- real 6:23
- realignment 5:8
- reasons 33:1
- receive 6:4 30:15
- received 7:6,15 28:15 30:14

recent 4:5 recently 7:14 recommendation 13:24 30:20 recommendations 14:5 recommended 25:3,17 26:24 recommending 14:3 record 27:21 recovery 7:1 8:6 22:11 reduce 15:16 16:21 26:3 reducing 20:6 **refer** 30:19 reference 32:6 referred 29:16 referring 6:20 refers 17:19 refineries 16:10 rehab 25:3 relate 3:22 related 6:10 24:17 30:3 32:10 relates 8:15 11:22 relative 6:19 28:4 reliability 10:24 25:9 26:19 27:5 reliable 25:12 Relief 15:2 relieving 14:1 Remote 2:1 removal 25:23 26:10,17 renovation 25:5 repeat 3:4 replace 7:17 9:24 25:20 26:8, 25 report 13:23 14:5,16 reporter 23:5,7 reports 14:9



representative 13:11 request 13:14 25:1 requested 34:13 requests 4:4 required 3:16 28:5,14 requirement 27:3 requirements 25:12,24 rerouting 10:4 resident 13:10 residents 27:15 resiliency 10:23 resolution 30:4,10,17,21 34:7 resource 7:1 8:6 22:11 respect 13:15 14:9 respective 14:11 respond 3:1 responses 28:15 rest 8:16 23:19 **reuse** 14:17 review 4:9 28:17 reviewing 5:5 13:13 **reviews** 30:13 **Revolving** 2:7,12 3:12 30:8 rezoning 10:5 rise 33:12 river 10:9 15:23 24:21 **rock** 16:6 **room** 2:18 11:20,23 21:16,18, 19 23:18 rotating 10:16 **Roth** 17:7 Rouge 15:23 19:9 24:20 routing 10:18 16:6

S sanitary 9:15 10:3,6,8,14,19 14:8 Saparia 17:1 save 27:8 scenario 15:19 schedule 27:13 33:21,24 Scientist 17:6 **scope** 5:5 6:11 9:23 16:1 screening 26:8 screenings 26:17 screens 26:9 season 11:10 17:11 **sec** 11:25 secondary 22:16 26:2 27:1 **secure** 30:12 seek 20:3 31:3 select 32:13 **separate** 9:15,16 27:20 separated 12:14 September 29:19 September/october 30:16 serves 24:17 service 8:23 9:3 22:18 25:13 27:16 services 3:9,21 8:23,24 11:4 25:21 session 24:2 set 12:25 sewer 15:2 19:12 20:21 21:1 SFE 26:23,25 27:24 shares 20:21 21:1 **shop** 13:13 **short** 15:10 19:7

short-term 13:25 shortage 5:11 shot 22:1 should've 12:4 shown 24:21 **shows** 9:3 24:19 **sic** 17:6 side 15:5,8,15 significant 7:20 19:13 significantly 26:16 similar 28:2 Similarly 7:11 simplify 26:20 single 2:14 sir 31:21 site 25:5 28:6 situated 9:2 sized 10:14 **sizing** 14:10 **slide** 4:2 6:16 9:1,22 11:1 15:2,24 16:24 22:12,19 24:12, 18,23 25:14 26:5,22 27:11,25 28:17 slides 23:23 Small 23:17 smaller 10:1 social 28:3,13 **sole** 6:25 7:7 source 6:25 27:4 33:8 sourced 7:7 Southfield 15:16 speak 3:18,21 5:14 19:2 29:15 speakers 3:7 species 28:7,10 specific 20:23



specifically 5:14 specifications 17:22 **spend** 4:17 spends 4:24 splitting 14:7 spread 27:15 SRF 4:4,18,21 5:19 8:10 22:10 24:10 28:3 **SSO** 20:6 **SSOS** 15:15 16:21 staff 3:9 32:3 **stages** 17:23 stainless 8:5,7 stakeholder 9:8 stakeholders 28:14 stale 5:8 6:19 standing 5:9 star 2:21 start 14:25 17:10 23:22,24 24:7 started 5:7 state 2:7,11 3:12 5:16 28:16 29:16 30:13 31:9,14 32:12,19, 22 state's 3:13 30:7 station 7:2,14 9:1,2,4,13,25 10:6,7,12,14,19,20 11:22 12:17 14:8,18 24:15 25:2,8,21 26:6,23,25 27:22,24 stations 4:12 12:12 14:11 stay 33:24 steel 7:22 8:5,7 step 25:20 30:6 31:9 steps 28:11 29:9,12 stirred 26:10 stop 28:10

05/25/2022 storm 9:11,14,18,21,24 19:21 25:11 stream 22:17 **Street** 10:5 structure 16:17 structures 26:14 studies 28:6 study 4:20 5:25 17:1 stupidity 17:17 submittals 13:14 submitted 11:8 27:10 28:15 30:11 33:11 submitting 3:15 sufficient 14:14 suggesting 19:23 summarize 27:12 summarized 29:9 supply 5:11 support 11:13 17:6 34:8 surcharges 15:6 surprise 32:1 Suzanne 20:11 **SWARTZ** 22:20,22 23:1,4,14 system 9:12 10:23 14:20 15:5, 9 16:23 19:1,9 26:19 system's 26:3 systems 25:6 26:2 27:1 Т table 4:14 7:3 takes 30:6 talk 9:16 12:12 23:1

talked 6:8,9 talking 8:25 24:14

tanks 16:11 25:18

team 4:9 6:9,10,18 11:12 17:5 32:2 team's 5:4 18:18 teams 3:18 27:20 telephone 2:21 ten 16:4 term 13:12 17:23 terms 11:15 14:10 16:8,13 18:17 20:4 24:25 25:1 28:13 33:18 there'll 29:14 thing 4:2 11:10 16:6 22:1 28:1 things 4:8,21 6:20 8:2 13:17 14:18 19:24 33:18,19 thought 7:12 threatened 28:9 tied 33:4,9 time 4:25 5:3,7 6:5 8:19 25:10, 14 26:21 27:10,19 28:9,18 30:17 31:19 today 2:19 3:10,17 5:15 8:25 14:3 24:14 29:21 **Todd** 8:21,22 12:7,22 13:22 18:14,21 19:2 20:1 top 7:3 total 5:2 11:5,14 17:5,13 25:13 26:4,21 27:9,14 treasurer 30:2 treatment 15:22 22:15,17 26:1,12 Trim 22:9 24:9 true 19:18 33:20 tunnel 15:10 16:3,13 18:15,21, 23 19:1,7

turn 3:5,23 8:20

Turning 2:5

types 32:25



typically 18:4 29:18 30:15,16

U

unit 26:20

updates 4:4

utility 2:12

utilized 8:4

V

05/25/2022

Ukraine 5:11 8:3 unanimous 30:20 understand 4:8 18:21 34:4 **Unequivocally** 21:3 units 22:18 24:17 26:8,10 upcoming 3:13 25:24 update 13:22 18:5 upgrades 24:14,15 upgrading 10:15 22:17 25:18 **upper** 9:25 16:11,18 user 11:14 17:13 27:15

Valley 19:9 variability 6:2 varies 13:3 vary 13:2 varying 13:5 versus 5:25 vice 22:8 24:9 virtually 11:23 21:19 volatile 6:14 volatility 5:13 vortex 26:10 vulnerability 8:8

w

Wade 22:8 24:8 wait 23:12 waiting 24:2 31:14 walk 4:13 wanted 4:1,3,7,21 8:12 28:1 war 5:10 8:3 waste 3:20 9:10 19:5 20:7 22:11 26:18 water 2:7,11 3:11,20 7:1 8:6, 23 9:10,11,14,21,25 19:5 20:8 22:11,18 24:17 25:18 26:18 27:1,4,6 30:8,18 Wayne 9:6 19:8,19 weather 9:10,11,19 10:10,12 15:6 25:10 26:1 weeks 13:23 weir 25:18 **west** 15:8 western 15:4 wet 9:11,19 10:11,13 15:6 26:1

white 16:19 22:7,8,21,24 23:3, 6,9,12,15,21,25 24:4,7,8 33:3

William 2:9

Wilson 28:20

Wolfson 2:8,9 11:18,24 12:3 21:21 24:1 29:2,8,13 31:13 32:21

work 7:8 10:11 24:8 25:22 26:16 27:3,21,22 28:10

worked 13:24

working 8:10 16:9 19:12 24:22 27:24 31:25

works 22:14 24:14 32:2

WRF 4:11



WRRF 15:21 22:11 24:11,15, 20 27:13 28:6

Υ year 2:6 3:11,14 7:24,25 17:9, 12 32:17 years 10:17 11:11 25:9 27:19 yellow 16:1,19

Ζ

ZECH 31:22 33:2,13,16 34:3,8 **Zoom** 2:20