

MINUTES

SPECIAL PUBLIC WORKS COMMITTEE MEETING OCTOBER 8, 2007

A special meeting of the Public Works Committee of the Council of the County of Kaua'i, State of Hawai'i, was called to order by Mel Rapozo, Chair, Public Works Committee, at the Historic County Building, Room 201, Lihu'e, Kaua'i, on Monday, October 8, 2007 at 8:10 a.m., after which the following members answered the call of the roll:

Honorable Tim Bynum
Honorable Shaylene Iseri-Carvalho
Honorable Mel Rapozo
Honorable JoAnn A. Yukimura (present at 8:11 a.m.)
Honorable Jay Furfaro (Ex-Officio member)
Honorable Bill "Kaipo" Asing (Ex-Officio member) (present at 11:40 a.m.)

Excused: Honorable Ronald Kouchi

APPROVAL OF AGENDA

Ms. Iseri-Carvalho moved for approval of the agenda as circulated, seconded by Mr. Furfaro, and unanimously carried.

WORKSHOP

The Kaua'i County Council's Public Works Committee will be holding a workshop to discuss the results of the Wastewater Revenue Requirements from the Wastewater Rate Study and Long Term Financial Plan that has been prepared by the consultant, R. W. Beck, Inc. for the County of Kaua'i. The Revenue Requirements analysis identifies the financial needs of the County's wastewater utility, projected over a twenty-year period.

The workshop proceeded as follows:

Mr. Rapozo: We have scheduled the workshop 'till Noon today. I'm not sure if that's going to be enough time or not, but let's just state that it will be enough time. We don't have a captioner today, so we don't need to take caption breaks, so we can run right through. If for whatever reason you folks need a break, just let me know...for committee members as well. If anybody needs to take a break for any reason, let me know, we'll go ahead and take a recess. If not, we're going to run straight through, and I think the less interruptions, the better. And with that, I will turn over...any...any... I'm sorry...

Mr. Furfaro: Excuse me, Mr. Chair. It was scheduled to 12, and I did make a medical appointment for one, so... If it goes much beyond there, I might have to submit a letter to leave at one.

Mr. Rapozo: Okay. We don't anticipate that. Yes, Councilmember Iseri-Carvalho?

Ms. Iseri-Carvalho: (inaudible)

Mr. Rapozo: Do we have members from the public here that wanted to testify on this matter today? Oh, we do. Okay. Thank you, Councilmember Iseri-Carvalho. Let's do that first. I'm sorry, can you folks go sit down? We'll take the public testimony first. No, we're going to take public testimony upfront, and then if you have any concerns or...the issues you wanted addressed in the workshop, then at least they'll know what it is upfront. Okay, so I'll suspend the rules.

There being no objections, the rules were suspended.

Mr. Rapozo: Go ahead, Mr. Taylor.

KEN TAYLOR: Chair, members of the commission, my name is Ken Taylor. I haven't had a chance to read the report, so it's a little hard to make comment. But one of the things that I think is very important as we move forward in the future is to make sure that we are charging adequately new construction for any new hook-ups. And I think in the past, we haven't been charging an adequate amount to cover some of the costs, so hopefully this is covered in the report, and if not, as we go along, we'll see some more of that activity. Thank you.

Mr. Rapozo: Thank you Mr. Taylor. Next speaker? And if you will just state your name for the record before you begin.

DAVID WARD: Yes. Good morning, my name is David Ward. And the reason I'm here is I'm concerned about two things. One is peak oil, and the other is global warming.

Mr. Rapozo: Uh, I'm sorry. What was the first item?

Mr. Ward: Peak oil...

Mr. Rapozo: Oh, okay.

Mr. Ward: ...and global warming, and global warming is going to result in the ocean levels rising, and I'm sure that the rising is a good deal faster than most scientists have been projecting, and we're going to see probably seven meter rises certainly before the end of the century, and maybe a lot sooner, and

potentially long term, if all the ice melts, we might see 200 foot sea level rises, which would of course be very hard. A lot of our infrastructure would be under water, and I hope that R.W. Beck's has taken some of this into consideration, but I doubt it, since I went to the water department and there's no discussion of this at the water department either. And also with peak oil happening, it's either happening now or it's going to happen very soon, the price of energy is going to skyrocket. Any petroleum-based energies are going to skyrocket the costs of... Infrastructure is going to skyrocket. The cost of building things is going to be really high. And so hopefully they've come up with some sort of low energy ways to treat the sewage, treat the wastewater, or use the wastewater. Also, with global warming, we can expect that our climate's not going to be quite the same as it was or has been, and that we'll probably have less frequent rain, and rain is heavier when it does rain. So that may impact our water availability, so we may need to be recycling some of our wastewater back into the aquifer so that we don't run out of water. That's all I have. Thank you.

Mr. Rapozo: Thank you very much.

Mr. Nakamura: Vice Chair, at this point, could I have the testifier state his last name for the record? I'm sorry, we didn't catch that.

Ms. Yukimura: Mr. Lord...L-O-

Mr. Rapozo: Sir?

Mr. Furfaro: It's Dave Lord?

Mr. Ward: Ward.

Mr. Rapozo: Ward...W-A-R-D. Thank you.

Mr. Nakamura: Thank you.

Mr. Rapozo: Anybody else wishing to testify? If not, thank you.
Okay, Mr. Tschupp?

Mr. Furfaro: Mr. Rapozo, may I make a comment...

Mr. Rapozo: Sure.

Mr. Furfaro: ...before the two speakers? First of all, Mr. Ward, thank you very much for putting that on the radar screen. I think some of the things, as we move forward here, you'll see that the dialogue is about use of ultraviolet rays for water treatment, which hopefully will get us to a point that the water becomes R-1 type water and then can be recycled accordingly. That's one of the goals. I think also along the line when we talk about the infrastructure and as

it relates to Ken's question about passing on costs to, you know, new developments, the reality is we have some challenges here with existing systems for existing users. In particular, as we look at collection lines that are concrete, over the years, and are mixing with groundwater from the ocean, they are associating themselves...they get septic, they create gases that deteriorate the existing system to the point that we will probably have to look at replacing concrete collection lines with clay, which may or may not have a little better life shelf. So I appreciate both of you bringing those particulars up on the recycle/re-use, as well as, you know, the current repair and maintenance versus just approaching it from charging new development. They should pay their fair share in assessments for, you know, aid in construction, I do concur, but I think our repair and maintenance problems are something we're going to see more of in Ed's presentation. Thank you, Mr. Tschupp, for letting me respond to the two gentlemen.

Mr. Rapozo: Ed, I noticed you have two sets of PowerPoints.

ED TSCHUPP, Wastewater Division Chief: Actually it's one PowerPoint and then a handout...a couple of handouts.

Mr. Rapozo: Oh, okay.

Mr. Tschupp: First off, I'd like to introduce myself and Art Griffith. My name is Ed Tschupp, I'm with Kaua'i County Wastewater. I'm the chief of the wastewater management division, and with me here is Art Griffith...I struggle on pronouncing your name correctly.

Mr. Rapozo: What was that? You may have to spell that. You may have to spell that for our staff.

ART GRIFFITH: That would be G-R-I-F-F-I-T-H.

Mr. Tschupp: And I have trouble spelling and pronouncing his name. Art is with R.W. Beck. They have been hired by the County to perform a wastewater rate study and long term financial plan. And Art is going to go through some of the methodology associated with the work, as well as present draft results. We, in formulating this workshop, we thought we would start out with some...basically utility information, just to kind of quickly touch base on what the status of the different wastewater system the county operates are. So I took the liberty of preparing a...sort of the one-page outline presentation, and that has basically three topic areas, and we'll go through them in order, and then probably at the end of each topic area might be a time for any questions before we launch into the next topic area.

The first topic area, summary of county of Kaua'i wastewater systems, is one that I thought I would take a stab at, and now we're...I'd like to focus attention to the PowerPoint that Peter is sitting right in front of. Thank you Peter.

Mr. Rapozo: Okay, so for committee members, hold all your questions until the end of the presentation, as suggested, and we'll write it down and we'll take up the questions after each topic. That will be the most efficient. Thank you.

Mr. Tschupp: The first slide here is just the introductory cover. So these are the three topic areas: summary of county of Kaua'i wastewater systems, wastewater utility revenue requirements analysis, and then possible revisions to the sewer ordinance. Our objectives here today: inform council on current wastewater management division issues, present anticipated revenue requirements of the utility, introduce policy issues that have financial implications, and this (as we'll see when we get into the revenue requirements piece, there's a couple of very important policy issues that we need feedback on before we can actually complete the study), introduce anticipated changes to sewer ordinance and ask for council feedback (we don't get an opportunity every day to come in front of you all to talk about let's update this, or gee, wouldn't it be good if we could do this into the ordinance), so we're hopefully taking this opportunity to also discuss some of those housekeeping items associated with the sewer ordinance. And then finally we'll end up on discussing the schedule.

Looking into the county's wastewater systems. The county operated four wastewater treatment plants—Waimea, Hanapēpē/‘Ele‘ele, Līhu‘e, and Wailua/Kapa‘a. Little demographics, there's a total of about 5200 customers (3600 single family residences, there's about a thousand multi-family, and some commercial connections). That's roughly...the utility, then, is serving about a quarter of the population that the water department, for example, serves. So we're a smaller utility. We are located in the larger urban areas. We do not provide service outside of those larger urban areas.

Our customer base is projected to grow—more customers hooking up, and I think a general observation is, you know, one of the things that comes up in this business is, what are the growth rates that are being projected. Within the sewered area is the urban areas where infrastructure is best suited to be available for growth. So when Art did the numbers, he came up with about 4.75% annual customer growth through 2012. I mean that's a pretty big number in terms of additional customers, and part of the reason for that is that we are serving the urban areas where any new subdivision is likely to be focused. One area we don't serve is the Po'ipū area, and all of that growth is being sewered too, but it's being sewered by a private entity. The developers are developing either their own wastewater systems, or they're hooking in to Ian Kagimoto's HOH plant in Po'ipū, which is a PUC regulated entity. We have a list here of some of the anticipated near and mid-term developments that are within our service area—the 82-unit affordable housing project in Wailua, Habitat—‘Ele‘ele A&B Properties that's under construction is actually probably being occupied at present, Hanamā'ulu Triangle in Līhu‘e, the Kaua'i Lagoons resort development in Līhu‘e, and then there have been

numerous proposals for resort developments in Wailua/Kapa'a. But when you add up all those units, there's roughly 2,000 units that are anticipated, and the Kaua'i Lagoons is certainly going to be something phased over time, and the Hanamā'ulu Triangle is certainly something that's going to be phased over time. The Wailua resorts development is actually probably the most iffy of all of these projects listed here.

Just a quick look at the plant... Let's see if I can find out how to use the button here for the... Waimea, the Waimea plant is situated right there, with Waimea town being over here. This plant serves only the Waimea community; it does not serve the Kekaha community, even though it's situated between Waimea and Kekaha. The capacity is 300,000 gallons per day; we're at 90% capacity and have been for quite some time. We are...we have initiated expansion of this plant. We've got an engineer currently working on preliminary design for that.

'Ele'ele plant—the plant itself is over there right above the power plants just down from the Big Save shopping center and the older 'Ele'ele subdivision. Most of the Hanapēpē/'Ele'ele community is sewerred. (I just did something wrong. Peter, help. I pressed the button that I shouldn't have, and I don't know how to get back. I guess I just paused.) So Hanapēpē Heights, that's sewerred. This area in here isn't. The valley isn't, but all of 'Ele'ele and the downtown Hanapēpē area is all sewerred. Capacity of that plant is 800,000 gallons a day. Average flow is in the vicinity of 550 or maybe actually spiking up towards 600,000 gallons a day as we start seeing some of the A&B property starting to be occupied.

Līhu'e—the Līhu'e plant is actually sitting right under the words Līhu'e Wastewater Treatment Plant. It's situated between Kaua'i Lagoons golf course and the airport. The capacity of that plant is 2.4 million gallons a day, and we're right around half of that capacity. So we actually have quite a bit of available capacity in Līhu'e. The Līhu'e service area extends all the way to Hanamā'ulu.

And finally, the Wailua wastewater treatment plant serves the coastal Wailua and Kapa'a areas. The plant is situated right above Lydgate Park, and that's...that's Leho Drive, and then that's the resort...the Wailua River is along there, and that's...what was that...Aloha Beach Resort. The Coco Palms resort area would be on the other side of the river. This plant has...we are classifying it as having a capacity of one million gallons a day. It's actually permitted at present for a million and a half, but one of the results of our recent facility plan assessments, which we've done for all four plants, is that this plant has some constraints and really should be considered a one million gallon a day plant, rather than a million and a half. The average flow is 700,000 gallons a day.

Before I get to this...to describe this slide, one of the things I'd like to refer you all to is this handout. This handout basically goes through the four plants that we were just looking at, and on the second page behind the cover slide for each of the plants is a table, and this table is sort of the one-page summary of what our

facility plan recommendations are in terms of the projects that we are looking at over the next 20 years, and their estimated cost, and sort of a thumbnail sketch of what the project is actually intended to do. You'll see in these tables, there's near term, which is in the next 5 years, mid-term in the 5 to 10 year range, and far term, which would be out from 10 years. That's in the column down the left. Also in the column down the left are some classifications of projects—repair/rehab of collection system versus repair/rehab of the wastewater treatment plant itself versus expand/upgrade of the collection system, and the fourth category is expand or upgrade the wastewater treatment plant. And those four categories are replicated in near-term, mid-term, and far-term on these tables. So each table kind of presents the picture of what we're anticipating needing over the next few years, by each plant. Looking at the first one, the Waimea plant, what you see there is a couple of fairly small O&M type projects in the repair and rehab areas, but in the near term, the big project is the expand/upgrade wastewater treatment plant, and that's the \$12 million project. And then just to close out the information provided in this handout, for each of the plants is a map...a map of the collection system. At the very end of this handout, I've also compiled a table that shows current work in project...in process, basically. So every time we go in for a loan through the State revolving fund program, we come to council and, you know, get authorization to take out that loan. And so I've referenced on the right in this table in the back the resolution numbers that apply to each of those SRF project loans, along with a summary of, you know, the cost, the funding source, the relative percent complete, again, a thumbnail description of what that study is, what that construction is, and you know... In the column on the left where there's a parenthesis and a number called C1500 whatever, that is actually the State's project number for the SRF projects. So when you look at this information that's provided as a handout, because I felt it was a good summary, but it wasn't something that we wanted to, you know, go project by project through this PowerPoint, although you all have graciously granted us 3 hours, I don't want to spend 6. Although if anybody does have questions, you know, either individually or a group, on any of these things, I'll take a stab at trying to answer them.

Part of the point here, one observation is, as I mentioned, the county has done facility plans. These are major planning studies at each of our 4 plants over the last couple of years. In fact, the investment by this county council in doing those facility plans is about \$1.4 million, and I assert that having done those analyses that we are actually in a very good condition to know what our needs are over the next 20 years, because the...each of the facility plans timing horizon was a 20-year kind of framework. So I think that the division has done its homework in identifying what each of the plants and each of the systems need, and that's captured in this summary handout. And then coming back to the PowerPoint, that sort of is captured by this bar chart that describes what we are anticipating having to spend on a year-by-year basis. You'll notice that in the fairly near term, there's some big bars there—Waimea, Lihu'e, Wailua plant improvements. One of them, as I mentioned, we're already starting the engineering on, and that's the Waimea expansion.

The 2012 chart there is...that big line is when we're anticipating we're going to need an 'Ele'ele expansion, so we do have a large amount of capital expenses that we're anticipating over the next 20 years.

One thing I'll share is that Art's first assignment when he came on to the job here was to go through the facility plans, he pulled up and put together a table of everything that the facility plan consultants had recommended, and the number was over 400 million. And I knew, and Public Works administration knew, that that wasn't going to fly. So we actually spent a fair amount of time going through and iterating on, well, what is this project that the consultant is saying costs \$40 million, and a lot of those were collection system expansion projects. And I made an executive call on behalf of the wastewater utility that we would not come to this council and ask for \$400 million based on things that included such things as collection system expansions that may or may not be...that the council may or may not be interested in funding. So most of those collection system expansion projects have been, in Art's table, kind of lined over and said "subject to the availability of funding." That is one of the topics that we actually need feedback on. Having done that and worked with Art to fine tune and try to really critically review the consultant's recommendations from the facility plans, we ended up getting a projected spending of around 150 million over the next 20 years. And the pattern under which that spending will occur is shown in this bar chart.

This is a breakpoint. We can either address any questions that you may have, or I'm more than happy to turn it over to Art at this point for the actual financial work.

Mr. Furfaro: Mr. Chair, can we go to some questions?

Mr. Rapozo: Sure, let's do that. Hang on. Councilmember Yukimura?

Ms. Yukimura: Thank you for a very substantive report. One of my questions is, with respect to 'Ele'ele, we know that there's not only some residential, but also some commercial growth that is expected just mauka of the KIUC plant.

Mr. Tschupp: Yes.

Ms. Yukimura: And was that taken into account also?

Mr. Tschupp: That subdivision is...has not hit tentative subdivision yet, and the simple answer is, we've been discussing with the developer that subdivision, but it isn't actually cranked in to this analysis.

Ms. Yukimura: So you crank things in only when they're at preliminary...when they've passed preliminary subdivision, or what's your...what is the...

Mr. Tschupp: Let me step back a moment. Our consultants have done the best job they could during the period of time they were doing their work, which is to say, in the last year to 2 years ago. So if there was not anything that they could clearly identify, then it wouldn't be in there. But they actually...I may have misspoke. In the 'Ele'ele facility plan, they do present a table of the anticipated developments that they can see, and they do have several that are A&B commercial, A&B residential, and I met with A&B last week, and we were kind of looking at that table, and...well, is this our project? Gee, I'm not sure. So the consultants gathered the information they could, including discussions with developers, and then they made their best call of what to, you know, what the projected growth is going to be. One of the things we have done with respect to that, A&B, that commercial subdivision, is next to the wastewater plant, and so I have begged with A&B that when you design and lay out that subdivision, please provide a parcel for expansion of the wastewater plant, and they're very willing to do that. So I'm not sure that that was responsive to your question.

Ms. Yukimura: Well, I mean I was just interested in how you included or excluded potential development, and because this issue was before us not that long ago and approved, I just was curious whether you were anticipating that or not in your...in the, you know, the 4.75% growth.

Mr. Griffith: I can speak to that some. The 4.75% growth is...if you look at your customer base, it doesn't take that many units to get 4.75% growth per year, so we did not include that development specifically. But looking out in the longer term, the financial projections to have room, and we've included some growth system-wide for commercial and residential development, but we don't know what the exact development...

Ms. Yukimura: Yeah.

Mr. Griffith: So we have space in it for growth that we know will...or that we anticipate will come.

Ms. Yukimura: Yeah, because I mean it is a hard...it's a hard job to predict the future.

Mr. Griffith: And it's constantly changing.

Ms. Yukimura: Right. I mean one of my other questions raised by Mr. Ward is, you know...I mean it's also been announced by First Hawaiian Bank, so I guess that makes it correct. But that there's going to be an economic slow down, and I mean we know that the housing market is slowing down. But I think

the issues of peak oil may also impact the growth rate too. So I was...that's my other question, how you include that.

Mr. Furfaro: Excuse me, let's clarify. The customer base that you're referring to is on schedule 2 in the book, and at the end of the 20 years, it gets to the 11,300. Is that what we're referencing? Table 2 here?

Mr. Griffith: In my financial projections, yes, there is...

Mr. Furfaro: In the financial projections, and there it is broken down by customer types, whether it's residential, resort, commercial, and so forth.

Mr. Griffith: Right.

Mr. Furfaro: And it is not only focused on new development, it is focused on connecting some customers that are not on the system at present, which will require more collection lines.

Mr. Griffith: There are some of that in there, yeah.

Mr. Furfaro: Just so we all know. So the number is 11,370 customers at the end of a 20-year period...that's your goal.

Mr. Tschupp: And that's the...that's basically an equivalent residential.

Mr. Griffith: That's actually customers at the end of 20 years.

Mr. Furfaro: That's total customers.

Ms. Yukimura: At the end of 10 years? What did you say?

Mr. Griffith: That was a 20 year.

Mr. Furfaro: To year 2027, JoAnn.

Ms. Yukimura: Twenty year, okay. So you aren't...you haven't taken into account the issues of global warming at this point?

Mr. Tschupp: It's hard to do. I'll let Art do that...do his comment on fuel prices, because energy costs are certainly a big element. As Mr. Ward identified, if we see 7-meter rise in sea level, that is going to put some areas under water. One of the good things in the near term that Kaua'i can actually say is that most of our biggest plants are a little above...

Ms. Yukimura: Yeah.

Mr. Tschupp: ...you know, we're not down on the coast in most places...

Ms. Yukimura: Except at Wailua.

Mr. Tschupp: Well, even Wailua is up a little bit, you know. It's not 20 feet up, but it's like 13 feet up or something, and really, the lowest plant that we have is Waimea, you know. It's down in...that whole Mānā plain could very well be subject to...I don't see how we'll continue to keep the Mānā plain dewatered. But that becomes a huge community issue, you know, for everyone out there.

Ms. Yukimura: Yeah.

Mr. Tschupp: The...Art can address the fuel oil prices assumptions.

Ms. Yukimura: Okay.

Mr. Griffith: We've incorporated some increase in energy prices into our financial forecasts, absolutely. I think it's also important to separate the technical analysis that went into the facility plans from the financial analysis that we were hired to do. And my review is primarily...it's focused on the financial analysis. I was trying to use the information in the various facility plans to support the financial analysis, and not have the financial analysis undo all of the good technical work that was done on the facility plans.

Ms. Yukimura: So what does that mean in terms of oil prices?

Mr. Griffith: I have oil prices... The... I'll have to go back and review the exact assumption I made for oil and electricity prices, but I have inflation built in to the financial forecast, and I think I have some oil prices going up a little bit faster than that inflation. I'll have to go back and get the exact number.

Ms. Yukimura: So you're saying that normally you would just do it with inflation index, but you might have increased it somewhat more. Are you following the oil prices, though?

Mr. Griffith: Oh yeah.

Ms. Yukimura; And so you're increasing it with that kind of exponential increase?

Mr. Griffith: I don't think I've taken the current trend and extrapolated that over 20 years. No, I haven't done that much.

Ms. Yukimura: Well, it probably is going to go that way.

Mr. Tschupp: One observation, and Art and I haven't really talked about this, but it is something that is done with some utilities, and I believe, for example at Water, they have this, and that is a splitting the billing into a...

Ms. Yukimura: Oil adjustment.

Mr. Tschupp: ...an oil adjustment kind of a clause. That...

Ms. Yukimura: It doesn't make KIUC's bill any easier to take.

Mr. Tschupp: No, it doesn't. But we have big KIUC bills, you know. That's...and Art will get to that in the next second.

Ms. Yukimura: And there's no opportunity for generating electricity out of our plants?

Mr. Tschupp: Limited. We do generate methane at the Lihu'e plant, because we have anaerobic digesters, but it's a small...it's a relatively small waste stream for doing any kind of significant electrical generation.

Ms. Yukimura: You know that... I think in Waimea valley, and this is a waterline, and it may be an irrigation waterline, but they have to do pressure reducers so that the pipe won't explode, because the head is so great. And you know, this could be a joint project with Water and sewers, but you could put a little hydro at the bottom of that pipe and actually generate electricity, probably enough to run the utilities on the west side.

Mr. Tschupp: We've also been talking with the folks in economic development about possibly doing a solar project, because we do...

Ms. Yukimura: Yeah, on the west side.

Mr. Tschupp: We do have some property that may be suitable for doing some kind of a solar...

Ms. Yukimura: Or wind at 'Ele'ele.

Mr. Rapozo: Hang on real quick. You know, this workshop is for the purpose to discuss the results of the study. We need to stick to that. There's great discussion maybe for another committee meeting, but for today, we need to stick to the workshop agenda, which is very specific to discuss the R.W. Beck study on the wastewater rate study and long term financial plan.

Ms. Yukimura: Well, see, that would cut the rates if you could generate (inaudible).

Mr. Rapozo: No, but we need to discuss the study, and then after they propose the...or discuss the study, if you have questions, that's fine. But we're only at the first summary of county wastewater systems, and we're talking about solar and wind, and that's not what we're here for today.

Ms. Yukimura: Oh, okay.

Mr. Rapozo: And I just want to respect the time of the consultants. We did say 'till noon. I'm not going sit here 'till three o'clock discussing wind and solar. We're going to discuss what's in the... Until the Chair gets back, which is probably at 10:30, and he can do what he wants. But as long as I'm here, we're going to stick to the agenda, which is the wastewater rate study, because I'm very interested in getting to the meat of the study. I think that's why we're here today. Thank you.

Ms. Yukimura: Okay, thank you. Well, I just want to make sure we don't miss any opportunities in the development of our facilities that might mitigate cost. So my other question is, do we show, or maybe it's...maybe you already know what would happen at different levels of global warming in terms of the integrity of our sewage systems.

Mr. Tschupp: No, we really haven't done any kind of detailed analysis. We do have low areas that potentially could be below sea level.

Ms. Yukimura: I mean because we're talking about putting in multi millions into expanding or upgrading the Wailua plant, right? And I mean it is a question about...and I mean I know we all don't want to think about it, but sometimes it'll just come into our face whether or not we want to think about it. And so it might just be interesting to do that exercise and to also... I don't know what if there's any alternatives, because I know how valuable that Līhu'e plant is, and I think your upgrades are trying to recognize the value of it, right?

Mr. Tschupp: If all the customers are under water, it's hard to run the plant if it's also under water too.

Mr. Furfaro: (inaudible)

Mr. Tschupp: Yeah.

Mr. Furfaro: So we're probably building a new plant, because we can't service the houses that are under water.

Mr. Tschupp: Right.

Mr. Furfaro: Okay. You know, we're here an hour. So far, what I got out...you got a minimum projection of \$150 million of capital improvements based on 11,720 customers. Okay, I'm just trying to understand the numbers. That's as far as we've come in an hour.

Ms. Yukimura: Thank you.

Mr. Rapozo: Yes, sir? Go ahead, Mr. Bynum.

Mr. Bynum: Just so I have an idea about 'Ele'ele real quick. Just to...I thought that was a good example, where you have 250,000 gallon capacity left, and you're adding, you know, 260 units. I mean how much is 250,000 gallons capacity? How many units does that equate to roughly?

Mr. Tschupp: 250 single family residences is about 100,000 gallons a day. 400,000...I'm sorry. 400 multi-family residences would also be about 100,000 gallons a day. So you know, a couple of...you get to 250 or 500 new residences, that eats up that available capacity.

Mr. Bynum: So half of it, just the things that are on your screen, are going to eat half your capacity.

Mr. Tschupp: That's one of the reasons we're looking at...

Mr. Bynum: The land.

Mr. Tschupp: ...and expansion being needed in roughly the 2010 to 2015 timeframe.

Mr. Bynum: That formula goes 250 out...

Mr. Tschupp: 250 single family homes, 100,000 gallons a day.

Mr. Bynum: Then you mentioned this initial analysis of 400 million, and it related to collection system expansions. That means bringing new customers...I mean current households that are not in the system into the system.

Mr. Tschupp: That's correct.

Mr. Bynum: And so Art, when you first looked at this, you said, hey, the best practice would be bring all the customers in, right?

Mr. Griffith: I look at several things at the same time, and one of them is...there are economies of scale to having more customers on your sewer

system, absolutely. But if the cost to get them is in the several hundred million dollars range, you have to look twice at that.

Mr. Bynum: I understand. So presumably in that analysis there might be some additional existing customers that are high value, because they're easier to connect. There's a little bit of that in your...

Mr. Tschupp: Yes, there is a little bit. For example, the Hanapēpē Heights, the portion of Hanapēpē Heights that is not sewerred is one of those low-lying fruit where you got fairly good density and it's close to the existing collection system, and doing that project is one of the better ones. A big factor in extensions of collection systems is what sort of density are you actually serving. If we're... I think that the very least density that the county should be looking at would be R-4.

Mr. Bynum: Okay.

Mr. Tschupp: You know, if we're...

Mr. Bynum: I hear that.

Mr. Tschupp: Serve the R-20 parcels, serve the R-6 parcels.

Mr. Bynum: Right.

Mr. Tschupp: R-4 is maybe questionable.

Mr. Bynum: So no plans to expand in the houselots or Kawaihau.

Mr. Tschupp: Actually, the houselots is R-6, and it would be the Wailua houselots is actually one of the areas that it may make sense.

Mr. Bynum: Right, but is it in this plan?

Mr. Tschupp: Plans were drawn.

Mr. Bynum: Is it in this plan?

Mr. Tschupp: That's one of the ones that I said subject to availability of funding.

Mr. Bynum: Okay. That answers my question. So I also think there might be some resistance from connecting existing neighborhoods because of construction, and they're not paying a bill now, and then they'd be paying a bill, right?

Mr. Tschupp: And it would cost every individual homeowner. Even if the connection fee were waived, it would cost every individual homeowner whatever it would cost on their property to re-route their plumbing. I was looking at my house the other day and thinking about what that would involve at my house. It would be painful.

Mr. Bynum: Is there a county policy that all new construction gets...in the urban area gets connected to the sewer system?

Ms. Yukimura: That's a law.

Mr. Tschupp: Not specifically stated that way. But there's a couple of things on the State level that drive that. One is the...any subdivision with more than 50 units must be sewerred per State wastewater...the health department's wastewater division rules. The other ...(inaudible, change side of tape)...thing that is in our ordinance is if sewerage is available to your lot, thou shall connect, basically.

Mr. Bynum: Right. Okay, thank you.

Mr. Rapozo: Councilmember Furfaro?

Mr. Furfaro: Yes. Gentlemen, I'm going to stick to the particulars that you presented in the first slide. What are the...you said the Wailua Lydgate plant has permitting constraints, but you didn't tell us. Is part of that is it too close to sea level? What... You said it was permitted for...

Ms. Yukimura: Capacity.

Mr. Furfaro: ...1,500,000 gallons, but there are physical constraints in that area. What are those, Ed?

Mr. Tschupp: Flow through the plant, basically. The permit that we have for that plant is one and a half million gallons a day. When we did the facility plan, the consultants took a look at it, and they talked to our operators, and so I really believe this is true that right now we have two circular clarifiers at that plant. We cannot readily take one of them offline for cleaning and maintenance. So you know, I believe that we have lack of redundancy issues big time at that plant right now, and if you cannot take a major piece of concrete out of service because you got to schedule it very carefully for changing a motor, then you know you got a problem.

Mr. Furfaro: Okay. So it is really the capital ability to contain maybe incoming collection in a separate system that would process all day, but it

would at least hold the effluent...I mean the collection material until peak demand in the morning and evening is pau?

Mr. Tschupp: Actually, at the Wailua plant, we do have a flow equalization basin which is kind of what you're talking about. So the influent comes into the basin and then it's pumped from that basin via couple of screw pumps into the treatment process. But it's sort of...there's enough chunks of concrete and treatment processes and pipes that have little hydraulic constraints on them that lead to, you know, that capacity issue. And I think that when that plant was last upgraded in the early 90s, one of the things that was actually deleted from the project, I don't know why, was addition of a third clarifier. So the consultant in that plan went through and said this is the capacity of this process, of this process, and they listed all the processes, and the limiting one was clarifier capacity. So addition of a third clarifier in concept could, you know, free up some of that capacity.

Mr. Furfaro: So that's the stage after it goes through aeration and so forth that it goes into this clarifier tank.

Mr. Tschupp: Liquid/solid separation.

Mr. Furfaro: Now also, you talked in your first presentation Waimea had the capacity to be increased, and it's being planned for now, but I didn't hear a number, Ed. What is that...

Mr. Tschupp: Dollar or capacity?

Mr. Furfaro: Gallons.

Mr. Tschupp: Gallons. We are having the plans drawn up for taking the plant from 300,000 gallons to .75 million. So it's a little bit more than doubling the capacity.

Mr. Furfaro: Almost double, and current...the flow average is about 270...

Mr. Tschupp: 270.

Mr. Furfaro: Okay. Mr. Chair, those are the only questions I have from the first slides.

Mr. Rapozo: Thank you. Councilmember Iseri-Carvalho?

Ms. Iseri-Carvalho: Ed, I got a question. When you had mentioned about the gallons per day, 100,000, that referred to 250 residences or 400 multi-family. What about resorts? Is there a comparable number?

Mr. Tschupp: The way that that is done is by reference to the standards, and our standards are actually kind of old. They're from the 70s, but there's a table in the standards that says, 100 gallons per day per capita, and then the assumption is that that single family resident has 4 (that's right in our standards), 4 capitas per household, and that a multi-family would be two and a half. That's the standard we apply. It's actually a little conservative, but we would consider a resort. We don't have a clean separate box for resort. It would show up as like a multi-family as a condo.

Ms. Iseri-Carvalho: Okay, but then you also mentioned that those are probably dated and need to be adjusted.

Mr. Tschupp: Our standards are rather old.

Ms. Iseri-Carvalho: And have you figured out how much change would that entail?

Mr. Tschupp: It's like updating any code. You know, it would be a fair amount of technical work to kind of go through, and you know, it will be... If we do that, it's looking at what type of pipes are allowable. Right now we call for clay pipes, and everybody's using plastic. And so there's some needed upgrades to the standards. Haven't gotten there yet.

Ms. Iseri-Carvalho: Is that part... Oh, that's not part of the proposal.

Mr. Tschupp: That's not part of...

Ms. Iseri-Carvalho: Okay. And then the other question I had was where did we obtain this list of anticipated near or mid-term developments?

Mr. Tschupp: By and large, that was developed by the consultants, and I summarized it for purposes of this slide. But for each one of those facility plans, the consultants have either been in discussion with planning department, hey, this is a live application, or with developers directly.

Ms. Iseri-Carvalho: Okay, and so maybe...I mean I don't see planning here, but maybe the consultant would know. I see over here Wailua affordable housing there's like 82 units. I would think...

Mr. Tschupp: That's the Kintaro project.

Ms. Iseri-Carvalho: Right, okay, and then there's DHHL...

Mr. Tschupp: Is that a parenthesis to DHHL?

Ms. Iseri-Carvalho: No.

Mr. Tschupp: Let me look at that.

Ms. Iseri-Carvalho: At slide 6.

Mr. Tschupp: Yeah, DHHL is...and the State parcels, you know, that's just... I don't have specific numbers on DHHL or the State parcels, but some of the Mahelona property, the State parcels along Mahelona probably would be part of...would be sewerred, I think. The Kaapuni may or may not be. There's actually been a recent discussion I've heard through the planning...deputy planning director about possibly the urban zoned area around the middle school might...and that would be sewerable. And then DHHL is kind of a big wildcard.

Ms. Iseri-Carvalho: Okay.

Mr. Tschupp: We did include from...the consultants did talk to DHHL and they gave them some initial projections, but I'm not sure that they, you know, that we know what their latest is. They have changed it a couple of times.

Ms. Iseri-Carvalho: So...and that's my question. It appears that that was utilized as a figure in projecting this 4.75% annual customer growth, right, unless it wouldn't be listed. And I'm trying to figure out, well, what number would you use, because it has been indefinite.

Mr. Tschupp: Yeah, and DHHL doesn't show up as one of the near term projects as...that line on that slide is just sort of listing...we know the 82 for Kintaro's, we know that the State projects are out there, we know that DHHL is out there, but we didn't factor in a number into the plan, per say, to try and anticipate DHHL schedule other than that it looked like they might have something for us mid-term or far-term.

Ms. Iseri-Carvalho: Okay, and mid-term would be approximate what year to year?

Mr. Tschupp: Five years from now.

Ms. Iseri-Carvalho: Okay, and near term is I guess one...zero to five?

Mr. Tschupp: Zero to five.

Ms. Iseri-Carvalho: Mid-term five to ten?

Mr. Tschupp: Mid-term would be five to ten.

Ms. Iseri-Carvalho: Okay. And then long term would be probably 10 to 20.

Mr. Tschupp: After ten.

Ms. Iseri-Carvalho: The other question that I had also was this resort developments, Kapa'a, 550 plus units, is that the Waipouli?

Mr. Tschupp: Waipouli is online. Waipouli Beach Resort is constructed, but that specifically includes... The 550 was looking at Coco Palms, which I guess is kind of on defer now. Coconut Beach Resort which I don't know what's happening with that one. And Coconut Plantation Holdings...the coconuts, I have no idea what's happening with the coconuts.

Ms. Iseri-Carvalho: Well, they're in court now.

Mr. Tschupp: Yes.

Ms. Iseri-Carvalho: I mean, so there hasn't really been a disposition on that, but that was also a number that you utilized as a near or mid-term development?

Mr. Tschupp: Actually with the coconuts guys, we were actually...that's one of the few areas where they were at least talking with us about committing to throw money at the project...at the Wailua plant, and they were, as of a year ago, they were saying, hey, we're ready to build. So you know, they kind of look at near term, and what we told them was, come build, because we don't have capacity.

Ms. Iseri-Carvalho: Okay, and I guess the concern would be that if these projects do not get built, for whatever reason, have we overestimated the necessity of the type of infrastructure we would need to accommodate this much development?

Mr. Tschupp: That's a very good question, and what that actually does is it speaks to the timing of an expansion. If this is happening right now, and you know, the coconuts are showing up and they're getting their building permits, then that Wailua plant needs work right away. If they don't show up, you know, this year, then it just pushes that back. But at some point in the...probably the next 10 years, regardless, because we're already at 70% of...

Ms. Iseri-Carvalho: The current existing.

Mr. Tschupp: ...the million gallons, we are going to need to do significant work.

Ms. Iseri-Carvalho: Okay, so it should not affect, at least in the near term, the capacity, because (inaudible).

Mr. Tschupp: It's a question of what year do we actually push the button.

Ms. Iseri-Carvalho: Okay, and then the other question I had is, currently do we have in the law, and I haven't reviewed the sewer section, that parties...that any hookups that we allow, the county, whatever projects that there are, have to be in compliance with our general plan and whatever laws are on the books? And the reference that I'm making is there has been a proposal to build a 600 unit hotel by DHHL to lease that property adjacent to Aloha Beach. That is in a non-VDA area. There's laws that are currently in the works to prohibit development of hotels in non-VDA areas. Should that be the case and that be the law, is the county going to not allow the hook-up?

Mr. Tschupp: We would not typically view that as being something governed by the sewer ordinance or subject to the, you know, an approval by the wastewater management division. That...I think the proper forum for that would be with the planning and, you know, all those kinds agencies. We have had discussions with DHHL. They have basically asked, can they use, you know, connect to the plant, and we have told them we don't have capacity, your developer partner, whoever you select, is going to need to come in and talk to us about what they need to do to make capacity available at the plant.

Ms. Iseri-Carvalho: Okay, so...

Mr. Tschupp: Same thing we would tell the coconuts.

Ms. Iseri-Carvalho: So currently right now, I guess the answer to my question would be that there isn't nothing that prohibits yourselves from allowing hook-ups to the sewer system.

Mr. Tschupp: I don't perceive that as being something that would be in the sewer ordinance.

Ms. Iseri-Carvalho: Okay. Well, I guess we'll just have to pass a law that says that. Thank you.

Mr. Rapozo: I have a follow-up question, and it's pertaining to slide 6. With that 4.75% annual customer growth, are those projects that you folks looked at or considered, I know the list may not be all inclusive, but was that 4.75 or... Whatever you used.

Mr. Griffith: Yes. What the facility plans...the way those are created is that they took these projects and generated flow projections at the

treatment plants, and that has the effect of averaging or making the development come online kind of smoothed out a little bit. So on average, if you take all of the flow projections of the treatment plant, on average, that's about 4.75% annual growth rate system-wide.

Mr. Rapozo: But you're projecting 4.75 annual throughout your 20 years?

Mr. Griffith: 4.75% for about the first six years, and then after that, I believe it's somewhere in between three and a half and four percent per year for the balance of the 20-year period.

Mr. Tschupp: The further out you are, the harder it is to see and to put that kind of growth value. And so for example, I mentioned before that I had, somewhat cavalierly perhaps, told Art no, this is subject to the availability of funding, we're not going to do that as part of our plan. There was...at one of the facility plans, I think it was 'Ele'ele, was looking and saying, well, you might need another plant expansion around 2025, and I think I went ehh, well, 2025, it could be just as easily 2030. Let's not try to fund that one here. So push that one off the end of the plan. So it's...you're starting to get into some art as well as some planning kind of a...

Mr. Furfaro: Crystal ball.

Mr. Tschupp: Crystal ball, yes.

Mr. Furfaro: Very good term.

Mr. Tschupp: That's why we hired Art.

Ms. Yukimura: A follow-up to Councilmember Iseri-Carvalho's question. I mean sewers are infrastructure, critical infrastructure. So generally speaking, we would like to have them follow the growth policies such that if we were say, for example, to have urban growth boundaries, we wouldn't want sewer collection systems to be...to go beyond that. And so I do see a connection between, you know, growth policies and sewer systems, and I think your counterparts on the mainland are beginning to make the connection too, literally, or not make the connection.

Mr. Tschupp: As a utility manager, I'm totally fine with that. The...we'll do whatever it is that council...

Ms. Yukimura: Whatever policies we set.

Mr. Tschupp: Whatever policies are set.

Ms. Yukimura: Yeah. Okay, because one of the issues is, like for Hanapēpē Valley, you were saying that it's not sewerred. And you know, it's low density right now, so to sewer it would be very costly per capita. But once you put in the river valley, which is really good soils for agriculture, you will promote growth there.

Mr. Tschupp: We're not projecting any system extensions in Hanapēpē Valley; that's a good example.

Ms. Yukimura: Or hopefully Waimea Valley?

Mr. Tschupp: Waimea Valley is partially sewerred up in the lower portion of the Waimea Valley.

Ms. Yukimura: Right.

Mr. Tschupp: There have been master plans developed when...in the 70s when that plant was built that showed extension, you know, quite a ways up the valley. We're not looking at doing that kind of thing. I think that what we'll see in Waimea specifically is the Kīkīaola Land Company Development, and they know that...they know that, you know, they need to carry their fair share.

Ms. Yukimura: Yeah, it's just the issue of global warming again. But I mean that is good, because related to our ag land planning, and I think we saw a lot of rural designations in the river valleys, but you know, the river valleys, besides being subject to flooding, are also really rich ag lands. So it doesn't really make sense to allow a lot of growth on those floors, and so I'm hoping we can establish the policy that way. Okay, thank you.

Mr. Rapozo: Okay, last question for section one, and we'll move on to the actual analysis. Go ahead, Mr. Furfaro.

Mr. Rapozo: Thank you Mr. Chair. When R.W. Beck looked at the mapping which you put in our brochure for these wastewater districts, is R.W. Beck going to document some of these boundaries for us, so that when we go forward and we recognize that we have to assess some impact fees or aid in construction and so forth that these boundaries are going to be well documented as the wastewater districts? And I think, Art, you do know that this is going to be a big requirement on us to document the boundaries of each of these wastewater districts so that we can make the appropriate impact assessments for the capital improvements. So is that the first...is that the first go-round, these maps? But ultimately we will have sewer districts?

Mr. Tschupp: First of all, that discussion is actually outside of R.W. Beck's scope. The maps that you've been provided were provided by the utility, and they show the existing collection system. Putting a boundary line

around them and making formal boundary type districts is certainly a policy thing that could be done quite readily at this point with this utility, and I don't think we need Beck's involvement.

Mr. Furfaro: Okay, but you know where I'm going with this...

Mr. Tschupp: Yes.

Mr. Furfaro: ...because clearly, 150 million right now, it basically adds up to a \$25,000 assessment for each of those 11,000 users. But we will have to document it by district, and R.W. Beck has provided us, or...some very good assumptions that creates the nexus for the assessment. Okay, so that's not in their scope?

Mr. Tschupp: No. And a more general comment is that any developer connecting to the existing system is certainly going to be responsible for any collection system extensions to meet their property, to serve their property, as well as the internal extensions. So for example, the Molokoa/Ahukini properties of Grove Farm, they're going to build all that as part of their requirements, and the County isn't going to front any money to building a collection system.

Mr. Furfaro: Right, and I understand that Ed, but right now, those are based on conditions that come through planning. The reality is though, for us to legislate a aid in construction to improve capital items that exist, as well as impact fees for, you know, the maintenance of equipment and materials, we will have to develop an ordinance. But I'll wait until we go into that at a later time.

Mr. Tschupp: We do have...actually have the aid in construction in our ordinance already, and it is part of R.W. Beck's scope to evaluate that.

Mr. Furfaro: I think it's like \$3900 a unit or something like that.

Mr. Tschupp: That's correct.

Mr. Furfaro: But compared to what we need in the way of moneys so far, that's a pretty low number.

Mr. Tschupp: We'll get there.

Mr. Furfaro: Okay. Pretty manini. Thank you.

Mr. Rapozo: Thank you. Okay, next item is the actual analysis. I guess before we go there, I just wanted to say, you know, we are so far behind, yeah, in the wastewater, I think, in where we need to go as far as money, and I just hope we not...one of the things that I think bothers me or concerns me is when we start looking at the developers as a way out of our hole, and we, hey yeah, come

build so we can get money out of you, so we can upgrade our sewer. But then you just put more capacity or more burden on the sewer system. It's like these low rate credit cards, you know, they pass them all out, and you're in debt, but we can help you, yeah, we'll give you a low interest credit card so you can consolidate your debt. At the end of the day, you haven't really done anything but added more debt to your system, and that's what I'm concerned of, and I've seen that happen the short time I'm here, is we're encouraging development not just for wastewater, for infrastructure in general, and I think that's really not the way to go. We need to figure out a way to catch up without incurring more that will task the entire infrastructure of the island, not just sewer, but water, roads, and so forth. So anyway, I just wanted to put that in. Next up is Art, and I guess you're going to tell us how to do it without...

Mr. Griffith: What I'd like to do first is talk about the rate study that we've been asked to do, and talk about where we are in the process right now. What I'm showing you is a 3-step process to get to a rate study, and the first step is a revenue requirement analysis, the second is a cost of service analysis, and the third is rate design. The revenue requirement answers the question, how much money do you need to collect, does the division need to collect, to pay its bills, to do the operation and maintenance, and to build the capital facilities. That's the focus of today's discussion. Next, at a future discussion, we'll talk about the cost of service analysis, and that's where we take the revenue requirement and we split it into how much money from each customer class, how much from single family residences, how much from resorts, how much from multi-unit residential, how much from restaurants, and your other types of commercial customer classes that you have. Third is what are the rates that you need to collect the revenue requirements. So how much per month per house, or how much per thousand gallons for commercial customers. So today we're talking about the revenue requirement analysis. Later, at a separate meeting in the future, we'll discuss the cost of service and the rate design.

To set up the revenue requirement analysis, I want to talk first about two important policy issues that have financial implications. Some of the financial assumptions we went...that have been made to date, some draft results, and then next steps, and then of course leaving some time to discuss and to answer your questions.

The policy issues...one of the largest policy issues is how are the capital improvements going to be funded. And so you see 4 large bullets, and the first 3 all speak to that first question—how is the capital improvements going to be funded. The EPA as a condition of some grant funding they gave you in years back to build some of these treatment plants, they require you to have a system of user charges to cover your operations, your maintenance, and your replace and expenses, and you're able to do that right now. It does not speak to how you fund upgrades in service to existing or future customers, and it does not speak on how you fund capital expansions. The capital improvement plan that Ed just presented, you have the

option of setting how you want that to be paid for. You can fund it from cash on a pay as you go basis, you can borrow money if you would like, there...utilities are always on the lookout to find grant funding, it's very competitive and very hard to get, borrowing money through a general obligation or a revenue bond is possible, and using State revolving funds which are lower interest rates are also possible.

I think the big question is do you use and continue to use general fund payments for debt service, or do you want the wastewater management division to be financially self-sufficient, so its revenues pay all of its costs for capital improvements.

The second policy issue is should the county fund collection system expansion. So it was some of the discussion we were having earlier.

I just want to give you a little bit of background to your utility right now. The fiscal year 08 estimate was approximately \$8 million per year, and about a quarter of that is for wages and benefits, another quarter...little less than a quarter, between 20 and 25% is for electricity, another quarter is for other O&M expenses, you contract out some repairs, you pay some money to the...I believe that's to the general fund for central services, and then there are other O&M expenses, equipments, vehicle fuel, vehicle, minor parts, and then there's about \$2 million a year of debt service for past capital projects. And some of that debt service is for recent projects that you're just beginning to start repaying.

What we have done is created a financial projection over a 20-year period. So year by year through 2027 we've projected revenues and expenses, and we have most expenses increasing with inflation, electricity and treatment plant chemicals, and inflation and growth. We have an extra annual percent increase in personnel benefits and retirement contribution costs, because our experience is that all over the country and in Hawai'i, your benefits costs are increasing faster than inflation, and retirement contributions are something that are...your expenses for retirement contributions are increasing faster than inflation. And then we've also built in some anticipated staffing increases. These are things...positions that are desired and needed at treatment plants right now. I can speak to these if you have more questions, but an additional chemist position, additional electrician position. I think after the expansions occur, we built in some extra staff if needed to operate the larger facilities. And then for capital improvements, we've taken the costs that are in today's dollars and escalated them forward with construction inflation costs, and if there are developer contributions, developer-funded improvements, we have not included them in the financial projections. This is a projection of the division's expenses, and not developer expenses, and what I've done here is just repeated that chart that was shown earlier of the timing of some of these capital expenditures.

This is showing the amount of debt service if you borrowed money to pay for all of these projects. It doesn't specify who pays for the debt service at this point, but it shows that you have existing about \$2 million worth of debt each year,

and \$150 million approximately of capital improvements, adjusted for inflation, and then the borrowing of money to pay for that results in an increasing amount of debt service over time.

What you see in your handouts is a bunch of numbers. I put together some spreadsheets that have a detailed analysis of this revenue requirement projection. In this PowerPoint I'm showing you a brief overview without a whole bunch of really detailed numbers and tables supporting it. It's in your handout. And we wanted to bookend the scenarios and also show you the magnitude of one of these policy decisions, and that is, do you want the wastewater utility to be financially self-sufficient in terms of repaying all this debt. For the first alternative, it's financially self-sufficient. The wastewater management division pays for all of the new debt with its revenues, and for the second alternative, wastewater management pays only the replacement debt. So this is what you would, at a minimum, need to pay in order to meet the EPA requirements associated with the grant funding of your past plants. And I do...we've touched on this a little bit in the past. Part of our scope is to update your wastewater treatment capacity assessment to make sure that new development is paying a proportionate share of the cost of system capacity. That is something we're still doing. We don't have numbers for you at this point. That would be in a later presentation, and we're doing that consistently with State law. The State of Hawai'i has a description of how to make these calculations. So we want to do that consistently with State law, and the revenue requirement analysis that I'm about to show you is a little bit conservative in that I don't...I did not build in a large increase in capacity assessment revenues into these calculations, in part because I...we discussed...for financial projections, sometimes councils and elected officials want to make sure that they can still pay for this if the growth doesn't occur as fast. So I don't want to show...I did not show a huge increase in the capacity assessment fee revenues from historical levels, but that is certainly some additional data I could provide.

Before I show the projections, I wanted to show you what your monthly wastewater bills have been since 1996. In 1996, they were a little bit over \$30. There was an increase in 1997 to just under 35. From 2000 to 2004, they increase it approximately 7% per year to get your...to your current value of \$45. Your last increase was in 2004. And this is the results of the 20 year projections really book-ending this policy decision. For the first alternative, the high line, that's where is...the wastewater fund is financially self-sufficient and the division pays for all O&M and all of the capital, so the general fund doesn't pay anything for new wastewater debt service. And if...as another alternative, the division paying the O&M and replacement capital, but not the capital for expansions and upgrades to the system. Your utility has room in its rates to do that for at least the next 10 years with the projections I've made today, but that comes out of cost to your general fund. So that's the bookends of a policy decision on how much general fund support, if any, to provide for wastewater projects. And this is the financial impact if rates for all customers go up the same percentage.

I talked to you at the beginning of my presentation about the cost of service analysis and the rate design, and that's where we divvy up the cost between different customer classes. What that means is over the next 4 years, and actually for a fifth year, if the wastewater utility is financially self-sufficient, it's annual 8.8% increases; this is a system-wide average. If the general fund pays the debt service for new improvements that aren't replacement projects, then you have some small increases in a couple years. But generally, it's much closer to being flat for the next 4 to 5 years.

This is a monthly bill comparison for single family residences with other islands. Kaua'i right now, your current is \$45 a month. I haven't put any projected dollars in there, because that is subject to policy decisions that you may make at a later date. Honolulu has just recently adopted its schedule for rates, and Honolulu is financially self-sufficient—its wastewater utility. Maui's current rate is \$47 for a single family residence. Their rate and Honolulu's is based on water usage after a certain point, but for 300 gallons a day, 9,000 gallons per month, it's \$47. They are financially self-sufficient. Their wastewater utility pays all of its expenses, at least right now. And then on the Big Island, their rates are \$27.50 per month, and on the Big Island, the County Council has chosen to contribute general fund revenues for some wastewater projects, and that's the subject of this next slide where on the Big Island, there has been some support for past collection system projects, as has there on Kaua'i, but for Honolulu and Maui, there has not been in the recent past.

Another policy discussion is should collection system extensions be funded, and just some thoughts here are that the cost per customer can be very high for collection system expansion...extensions, particularly as Ed was talking about, in areas that aren't dense. But it can be \$20,000 or more. And so given other capital needs, is this where the division's dollar should be spent, and is this where general fund dollars should be spent. A question, should the wastewater treatment capacity assessment be increased? It is part of our scope to revise that based on the data in the facility plan, so we will be coming back to you in the future with some revised wastewater treatment plant capacity assessment numbers, and then, should developers be allowed to offset some of the fees by contributions of offsite or onsite infrastructure. And so I think that is...

Oh, next steps. So the next step after we have this discussion today is we incorporate your feedback, and the next presentation we would make is the cost of service analysis and the rate design—how much money from each customer class and what are the rates to collect the revenue requirement.

Mr. Rapozo: Thank you. Any questions? Councilmember Yukimura then Bynum.

Ms. Yukimura: The increase that you show on slide 24, monthly wastewater bills since 1996, has there been an analysis of what caused this

increase...these increases? Like, to what extent has energy costs been part of the increase?

Mr. Griffith: I haven't done that. Ed, do you have any comments?

Mr. Tschupp: The last rate increase package was done in roughly 2000...

Ms. Yukimura: Yeah.

Mr. Tschupp: ...and I haven't reviewed that very carefully, so I don't know.

Ms. Yukimura: So I'm just wondering, because I think that energy is going to be an increasing proportion, and you show by your pie chart on slide 19 that it's already a little under a quarter.

Mr. Tschupp: Right.

Ms. Yukimura: Whether there are designs of sewage systems that are less energy intensive, and I know we saw some presentations of biological systems. I don't know if they are less energy intensive, but in planning them, it seems to me if energy costs...future rise in energy costs are a concern that that might be one of the design factors to look at.

Mr. Tschupp: Well, clearly there are energy...wastewater designs that are more energy efficient than others, and some...you get to a certain point of trading off land versus energy costs. Some of the very low energy cost systems take a lot of land. Using pond systems that the water moves through slowly, you know, is relying upon the growth of vegetation to, you know, clean up the sewage in the ponds. That's all pretty low energy cost, but it takes a lot of land. Actually, Art pointed out to me one of the first things he also collected was the...their summary of monthly bills for our existing plants, and I think he concluded that the Lihu'e plant is like twice as efficient in an energy sense as our Wailua plant, because it's using a more energy efficient set of biological processes. Is that correct, Art? I don't...I may have overstated that, but...

Mr. Griffith: I did look at the energy bills per unit of flow coming to the plant, and I know that I believe it was Lihu'e, I can't remember which plant was more efficient, but there was a range of energy efficiency among your plants.

Ms. Yukimura: So, I mean, I'm just thinking, actually in all our buildings we need to do this, but you know, that in the design and construction of sewage treatment plants, energy efficiency needs to be a really important

specification, just because...I mean we're looking at how we're going to handle all these costs.

Mr. Tschupp: Right.

Ms. Yukimura: And I mean I'm aware the costs you're asking for are mainly infrastructure...or capital costs, not operating. But still, when I look at your pie chart...

Mr. Tschupp: Energy is a big part.

Ms. Yukimura: Yeah, and then your thought that we would do a energy adjustment clause, which we may come to, but that's just from a consumer standpoint. I'm thinking to really focus on that in the design process would be important.

Mr. Tschupp: Your point is well taken, and that looking at our energy cost as part of the decision between different alternative technologies, because there are several different alternative technologies that can be used...

Ms. Yukimura: Right.

Mr. Tschupp: ...it's one of the factors that needs to be in there. Another factor is land area.

Ms. Yukimura: Well, I mean arguably on the west side in Waimea you probably have more and cheaper land than around Lihu'e or Kapa'a. So you know, you could go with that design. You're already starting your design, and I don't know that it's a biological design. But anyway...and then you have...I mean if you think it's going to be under water, it gets a little bit more difficult. My other question, and then I'm done on this phase, is have you thought about dovetailing gray water policies, such that it would lessen the loan on sewage treatment plants?

Mr. Tschupp: Gray water matters on the...and that's really kind of at the...to perhaps define that term, that would be within the household where the homeowner would be, instead of using their...sending their shower water down the drain, that they're maybe putting it on to the property.

Ms. Yukimura: On to their lawn or into their gardens.

Mr. Tschupp: The utility does not have a whole lot of say-so about what happens on somebody's property. The people who do are the health department, and my understanding is that the health department kind of looks at gray water type matters somewhat askance, and that they aren't necessarily going to be very supportive if the county were to turn around and say we want to encourage gray water. They'd probably be there saying no.

Ms. Yukimura: Yeah, and that's the old paradigm. I mean as you look at smart growth and sustainable growth, there's a whole shift, and because water's going to be more of a premium from the water department, by using gray water systems, you're cutting down on water use. So it's almost like the sewage utility becoming like KUIC...KIUC, excuse me, and actually making some requests in terms of compact...what people do on their property to lessen the draw on the utility. And I don't know all the...I don't know this issue that well. I just know that in some communities, this is critical, and I think it'll lessen your draw, and then it dovetails with the water conservation policies of the water utility, which you would both think about if you were together.

And then the last thing is I know that in Honolulu, storm water inflow (I guess) is a big problem too, and I don't know if that factors into planning.

Mr. Tschupp: It does, and actually, our standards speak to that in design, and basically, there's a per acre assumed inflow, depending upon whether you're above the water table or below the water table, and that's written into our standards. So that when somebody is designing the system, if it's a low system and they know that the sewer is going to be underwater, under groundwater, that they would then use the higher value as an assumed inflow amount. We happen to be fortunate that much of our sewered area is in fact high and above the water table. I mean we do have areas, specific areas, where we are below the water table, but in the big picture, it's less of a problem for us than it is, I think, for Honolulu.

Ms. Yukimura: Okay, thank you.

Mr. Bynum: When you look at the pie chart on page 19, I assume, Art, that you are familiar with utilities around the country, and I just wonder if this is a typical pie chart in terms of cost, or is there something in here where you go, wow, look how high that cost is, or you know, gee, that's a problem, or...because I don't have that overview.

Mr. Griffith: I think it's pretty typical. What is missing from here that some utilities do is paying for capital expenditures on a pay-as-you-go basis with cash, and that is something that is a worthy financial goal, but it comes at a price—your rates are higher now, as opposed to borrowing some money and using your debt service and you're paying it back with debt service. So other than that, it's fairly comparable.

Mr. Bynum: So not having capital in the bills in essence is...

Mr. Griffith: Right.

Mr. Bynum: ...is difficult, but it's part of our system, right? I mean, particularly... Am I wrong? I look at the Kapa'a system and it's all along the

coast, and it doesn't pick up the mauka neighborhoods and, you know, was that a mistake in the long ago that we didn't pick up a bigger user base, or seems like a lot of... Anyway, that's not an important question. I want to move on quickly. The debt service chart is scary, right? It's a...this is what you're recommending we do, and you've already whittled it down from 400 million to 150, and then you come over to the projected financial, the bookends chart, and you know, you're giving us an idea of if we lay it all out, fund the right players versus you know, and...but I didn't hear a recommendation from you. I was waiting for the recommendation slide. Is that coming later, or is that something you just lay off on the council, or...

Mr. Tschupp: Well, we are... In essence, we've identified the bookends, you know, which implies that there can be some value in-between...

Mr. Bynum: Right.

Mr. Tschupp: But the issue or the question of...the fundamental question of is there going to be general fund support for the wastewater utility is an overriding policy decision that, quite frankly, I think that the policy makers of the county need to be engaged in.

Mr. Bynum: So that means you're not going to give us a recommendation.

Mr. Tschupp: Yes, I'm not going to give you a recommendation. My personal recommendation? Do you want my personal recommendation?

Mr. Bynum: Sure.

Mr. Tschupp: My personal recommendation, as a utility manager, is the financial independence route is much easier for me and my successors to administer. We would not be coming back to council every year begging for money.

Mr. Bynum: Right.

Mr. Tschupp: It is...

Mr. Bynum: Of course that's your utility manager's hat.

Mr. Tschupp: That's my utility manager's hat.

Mr. Bynum: That's not your citizen of Kaua'i hat.

Mr. Tschupp: That's not my citizen of Kaua'i hat.

Mr. Bynum: Okay. You mentioned the developer payments recovery that there's a system in Hawai'i State Law to determine that?

Mr. Griffith: Hawai'i State Law, there's an impact fee provision in the State Statutes, and so we...

Mr. Bynum: And are we using that now?

Mr. Griffith: It was adopted in the law in 2001, and so for fees that were adopted before that weren't subject to its requirements. So any updates to the fees need to be consistent with that. So that's what we're using.

Mr. Bynum: Need to be consistent meaning we may or may not be charging that. I mean do we have to...

Mr. Furfaro: We have to go back and create districts, establish cost assessments, all of the things we talked about in the impact fees. We, the council, would have to establish that.

Mr. Griffith: Right, and there have been utilities that under this fee have created an island wide district. So there, I think, is some flexibility.

Mr. Tschupp: (Inaudible) has done that.

Mr. Bynum: So the Hawai'i law was an enabling legislation that allows us to do this, but we haven't done it.

Mr. Tschupp: No. Those impact fees were pre-existing the law, so they were already, you know, already (inaudible) said here's how to do it.

Mr. Bynum: And is that set minimums, maximums, does it say, County this is what...here's a formula you can use...

Mr. Tschupp: No, it's based on needs.

Mr. Bynum: (Inaudible) a bill that has a up to 300 gallons a day, and then it goes above. I assume the bill would go higher if people use more than that.

Mr. Griffith: No, it's capped, so it's... In Maui, the...your wastewater bill depends on water usage up to 9,000 gallons per month, and if your water usage is...all water usage above 9,000 gallons per month pays the same fee.

Mr. Bynum: Oh, it's capped.

Mr. Griffith: For a single family residences.

Mr. Bynum: Oh, I thought it might be the other way around to encourage conservation, right? You...here's a typical family's water usage, and you pay the bill for a typical family, but hey, if you're going to exploit your water resource, then you have to pay a higher amount.

Mr. Tschupp: That should probably be done on the water side rather than on the wastewater side. It's an imperfect nexus, and we'll actually discuss this in the next section.

Mr. Bynum: Right. Okay.

Mr. Tschupp: It's a pretty imperfect nexus to wastewater generation how much water goes through that water meter.

Mr. Bynum: And then on the debt service considerations for the other islands, City & County hasn't done anything since 1993, but they're going to real soon, right? Isn't their wastewater system a huge mess?

Mr. Griffith: They have a large capital improvement plan for their wastewater utility, and that table was referring to was the amount of general fund support. So they have continued since 1993 to build wastewater improvements, but they've paid for them with wastewater revenues.

Mr. Bynum: I see.

Mr. Rapozo: And the revolving fund.

Mr. Griffith: Correct, yes.

Mr. Rapozo: They've tapped out the State's revolving fund pretty much. So the other islands, like us, don't have money, because they have kind of used it up on O'ahu.

Ms. Yukimura: As they did with H-3 and road money.

Mr. Griffith: And then when they get State revolving funds, they pay for them with their wastewater revenues.

Mr. Rapozo: Right, and not general fund.

Mr. Bynum: I have other questions, but if we have time later I'll get to them.

Mr. Rapozo: Okay. I know Mr. Furfaro...did you have a question?

Mr. Furfaro: Yeah, I have a few questions.

Mr. Rapozo: I just wanted to ask one as a follow-up on, I think Councilwoman Yukimura, regarding the electricity. You're saying that that's pretty standard throughout the country even though our electric rates are...I know at some places we're five times higher than some other jurisdictions; I know that. We were at a conference, and I know I was kind of embarrassed when we voiced out our rates, and everybody was saying, oh, four and a half center per kilowatt hour, and eight cents, and I'm thinking, well must be wrong, so I text message Ron Kouchi who's...who used to be with KIUC, and he tells me it's thirty-seven cents, and I say, can't be, everybody else is at three and four and eight. In fact, I think the highest at the time was maybe 12. Actually, we're higher than that. So if ours is in line with the other jurisdictions throughout the country, then it means our equipment must be really cost prohibitive or really so old that we're burning more than we should. I don't know.

Mr. Griffith: I think that, you know, how big the slice of the pie is, is it's a chunk of everybody's pie, and maybe the chunk is a little fatter on Kaua'i than in some other places. One of the things I've noticed with your system that other systems don't have...or...other systems...many other systems pump a lot more than you do. You don't...you have pump stations, you have a lot of gravity, and so pumping... I've noticed the pumping expenses in some other utilities are higher. So that may offset some of that a little bit.

Mr. Rapozo: Thank you. Mr. Furfaro?

Mr. Furfaro: Yeah, I'm going to continue to talk on the pie chart, and I'll get up to the energy portion. But first of all, I was rather surprised to see you talking about increasing staffing in particular, because all of our plants are running under capacity right now, and quite frankly, the whole idea to get better economy of scale is to do more volume with the existing staff. And so I'm sitting here and I'm looking at a pie chart that says our biggest cost in staffing and operational issues is going to grow even more, and I want to just comment on the fact that, you know, when we have a plant that's running two-thirds of its capacity, seems to me it could take a lot more in its collection system without adding a large amount of staff. Now, I don't know the particulars, Ed. I just want to say, you know, there's...if anything, there's where some economics of scale are for us.

Secondly, this plan eventually takes us all to a UV type treatments, I would hope, over the next 20 years. So I actually thought I would see energy growing more, because as you know, this water has to be channeled over these lighting systems which actually, you know, will consume a bunch of power to treat the water for, you know, with ultraviolet rays and get it to an R-1 classification. And then I was asking Art, if we get the encouragement to get our water to R-1, at what point is there some recovery for that water to be used? Where are we showing a credit on recovery for R-1 water, and I didn't see that in here. So those three pieces that I

just talked about are related to the pie chart. I just ask you to think about it, Ed. I don't need answers. I just...

Mr. Tschupp: Well, can I respond to a couple of them?

Mr. Furfaro: Oh, sure. Sure.

Mr. Tschupp: The...first on the staffing, we are to a certain extent in a situation where the health department is telling us, you know, you need...this is the classification of the plant, it's a grade 4 operator, you need two of them plus however many assistants. So staffing ends up being something that for the plants has some kind of rules...

Mr. Furfaro: Some outside agency telling us how we're going to do our business.

Mr. Tschupp: And it's actually...it's pretty...we're actually pretty minimally staffed in a lot of respects with respect to we're running a plant 7 days a week and have people there 7 days a week. We're not on a 24-hour shift, however, so you know, it's a one shift 7 days a week. The...some of the staffing that we're looking at now is more specialty kind of guys, and we'll talk about it a little bit later, but things like the grease trap, we have no grease trap enforcement, and that is a way to get some of the hardest stuff to treat out of the system upfront. And so I think I'd like to be an advocate for having a technician with our office who can run a grease trap enforcement program.

Mr. Furfaro: Okay. But I do have to say, on the enforcement, when it comes to restaurants and the recent episode with Foodland in Waipouli where they had their parking lot closed for so long because they had to upgrade their grease trap, that enforcement was coming from the health department, not the wastewater department. So I don't want to find us, you know, you know, taking on responsibilities. For what my comments are worth, I was hoping for a little more economy of a scale when we look at increasing volume. On the energy, I think you're low. I know as we get to our goal of maybe getting some R-1, it's going to be a big increase on the treatment of that R-1 water.

Mr. Tschupp: Yeah, the UV system is more energy intensive, there's no doubt about it. There may be some trade-offs that go along with upgrading plants, putting in high efficiency blowers. So yes, I think the energy costs are going to continue to go up. UV doesn't help in that respect, but it is a better way to make the resource available.

Mr. Furfaro: Yes, and I will yield the floor to Councilwoman Yukimura when I finish with my questions, unless it's specifically related to UV? Go right ahead.

Ms. Yukimura: Thank you. Is there...I mean I'm thinking now that...the UV...or the systems that we conventionally look at are less expensive upfront, but more expensive from a lifecycle costing, and my question is, can you combine a biological system using more land, but then a UV system to finish it off that would require less UV and less energy intensity?

Mr. Tschupp: I don't think so specific to the UV. I think once you've made a commitment to UV, you're buying a chunk of hardware and you're using that, you know, running those lights to kill residual bugs.

Ms. Yukimura: But you might not have to run it as long as it's...

Mr. Tschupp: Well, that ends up being governed by the definition of R-1. The health department has criteria that they say, you know, need to have this much disinfection.

Ms. Yukimura: Yeah, but I don't think you heard what I'm saying. If you use biological systems to clean it, you know, primarily, and then UV it at the end, would that be less energy and less UV time. Because I'm thinking you have to expose it to UV, and I'm just totally a babe in the woods on this, but...on this technology. But I'm just...I'm realizing that there is this lifecycle costing and there's, you know, there's the upfront costing when you looking at capital.

Mr. Tschupp: Right.

Ms. Yukimura: So I just wondered if there were any tradeoffs that...

Mr. Tschupp: I think the tradeoffs fall in areas other than UV specifically. They fall in how much air do you blow, because the blowers are a big part of the plant. And other areas of process equipment, we are using biological. That's what we do. And...

Mr. Furfaro: That's all that live stuff in there.

Mr. Tschupp: That's basically how the plants operate.

Ms. Yukimura: But it's... Okay. I mean but what I'm talking about is stuff that you raise plants from and you let them do most of the work, and it might be slower.

Mr. Furfaro: But there's nothing in this plan that talks about a constructed wetland.

Mr. Tschupp: That's correct.

Mr. Furfaro: There's nothing in here, JoAnn.

Mr. Tschupp: Yeah, we don't have any constructed wetland plants.

Mr. Furfaro: There's no land acquisition, constructed wetland, or anything...

Ms. Yukimura: I'm just wanting to make sure that that's not a more viable option from a lifecycle costing standpoint.

Mr. Rapozo: And that would be for another discussion. I want to get back to this, because we are going far...

Mr. Furfaro: If I can continue...

Mr. Rapozo: Thank you. Because we still got the...which I think will be the most energizing debate is when we talk about the ordinance and what we can do. So go ahead, Mr. Furfaro.

Mr. Furfaro: Yes. And the bookends of \$45 to \$92, you know guys, you have to give us a better assumption than this. You have to. I mean you should be saying to us, okay, at the \$42 rate and a cost index of 2% a year, by the year 2027 you're going to be at...your current dollars are going to be at this rate anyway. You should be able to tell us what kind of money we're going to be able to take in under the current regulations for aid and construction in impact fees. Leaving us a decision that says what the balance is, so we can determine if we want to put it in the rate or we want to eat it in the general fund. You know, I think you need to tell us, you know, what are the books in-between the two bookends. Thank you Mr. Chair.

Mr. Rapozo: Thank you. And I would concur with you that, you know, I would hope that the recommendation would come from the experts, because we are not experts here. Well, I cannot speak for the rest of them, but I know I'm not.

Mr. Furfaro: We're not experts here.

Mr. Rapozo: So...and leave it to the hands of a political group in an election year is crazy. Seriously...with no technical justification to do one thing or the other. So anyway...

Mr. Furfaro: Give us some books in-between.

Mr. Rapozo: I think that way, then we can get it done. Alrighty. Finally, the possible revisions to the sewer ordinance. I believe you have the continuation of your presentation. Is that correct?

Mr. Tschupp: Yes.

Mr. Rapozo: Okay, let's do that. You know what, let's take a real short stretch...five minutes. Five minute stretch break just for everyone, especially the people in the audience.

There being no objections, the Chair recessed the meeting at 11:01 a.m. The meeting reconvened at 11:14 a.m., and proceeded as follows:

Mr. Rapozo: We're back to order, and you can proceed.

Mr. Tschupp: Taking the opportunity to talk to county council, we...first of all, if I haven't already said so, I really want to express my appreciation for your time, and we're not starting to really get a little bit away from the actual R.W. Beck scope, although there is some discussion here that we need to have for clarification. But we don't get in front of the council all that often to talk about things that we would recommend doing with the ordinance, and so I made the kind of executive call that let's talk about some of those things now while we got your attention. So with your indulgence...

We've identified a few things that I would like to see consideration of in changes into the ordinance. And any rate increase will end up being an ordinance change, because the ordinance does capture the rates. So if we're going to be in front of you, you know, in a couple of months with a rate proposal, then we're opening up the ordinance. One of the first things that I think is fairly easily done is to complete the piece of authorizing water service termination for non-payment of sewer charges. Basically, that would be something like adding a sentence in the ordinance that says the finance director is hereby authorized to direct the water department to shut off water for nonpayment of sewer charges. I know that water department has already done their piece of doing...of allowing this by adopting rules a couple years back. And basically, it would become a tool that the finance department could use to really assist with sewer collections. The current toolbox that we have to assist with collection for nonpayment of sewer fees is somewhat limited, and it's also quite cumbersome, quite frankly. We can go and put a lien on the property. For us, that's like an attorney process, which is very cumbersome. So when I was over at water department I didn't like this, but now that I'm over at wastewater department, I'm advocating for it.

I mentioned before...the second item, I mentioned that the grease trap program that I would like to advocate for strengthening the grease trap program. That may seem a little esoteric, but grease is very hard on a wastewater system. It's hard to treat. It requires a lot more energy out of our bugs to break down

grease, and so everything associated with feeding those bugs and letting them do their job by blowing air at them, the more grease in the system, the more energy use the plant uses, the more it looks like it's acting more at capacity. I've heard it characterized that the...taking grease out of the system is like doing a free expansion of a wastewater plant. So it is actually quite important to us. The program that I see evolving would be essentially having the grease trap people, those people with grease traps, being required to register with the utility and be required to make their records of their cleaning activities available to us for...we would come out and be able to inspect and say, who's your contractor that is routinely cleaning your grease trap, and I just think that that is a good use of a technician's time to be able to do that, and that it, you know, in a capital sense, that will save us energy costs and hassle down the road. You know, grease is also nasty in the collection system, and anything we can do to get the oil and grease out of the system I think is well worth doing.

Rate structure and mandatory hookup requirements for reclaimed water systems. We currently...three of the four plants are purveyors of reclaimed water as we sit here today. The only one that isn't is 'Ele'ele. Wailua, we have a customer...a very good customer that takes most of our Wailua wastewater treatment plant effluent, and that is the Wailua golf course, for which we...we actually do them the honor of pumping the effluent to the wastewater plant, so they're getting free irrigation water, to the golf course, so we're actually subsidizing golf course operations to the extent to which we're providing the energy...the wastewater division is paying the energy bill to provide them water.

(Inaudible)

Mr. Tschupp: Well, and they're going us a favor too in that they're taking the effluent. Now, how much of a favor, we could debate all day long, because we've got a perfectly fine ocean outfall that likes to have effluent run through it also, so that it doesn't sand up. And we actually had a situation this last year where we had to hire a contractor to come move the sand off the effluent line off the ocean outfall line because we weren't flowing enough effluent out to the ocean regularly enough to keep the ocean outfall clear. So it's a dual-edged sword.

But as a matter of, you know, using that water as a resource, there's a very good public policy nexus there. And I would like to and I basically have told Art, we need to establish a rate per thousand gallons for R-1 or R-2 effluent, and that that probably logically comes to something like the deferred cost of pumping. The Kaua'i Lagoons, we have a long term contract with them. They currently are the primary disposal for the Lihu'e wastewater treatment plant, and they are obligated under the long term contract, to take up to one and a half million gallons a day, which is more than the plant produces currently for a 30-year contract that was initiated around 2000. Now there is actually a provision in that contract that says, after so many years, and I think it's either 15 or possibly 20 years, that we could start charging. But we would not be able to charge Kaua'i Lagoons until that would be

Mr. Griffith: One of the questions that we expect to come up in the future when we talk about rate design (giving you a preview today) is for residential water use – flat rate versus water use. Your current ordinance has a provision in it, and this isn't a quotation from it, but the essence is that... It says you need to start billing for sewer based on water use when your billing system is upgraded and you can accommodate the change, and it specifies water use billings for the first 9,000 gallons per month. So I just wanted to introduce some thoughts about that provision for future discussion. For most year-round residents, and we haven't...I haven't gone through your...the water department's billing data to get exact percentages, but it could be hard to limit your water use below 9,000 gallons per month given that there's outdoor use year-round, so most of your customers will end up paying a flat rate anyway. And having water use billing for...that is dependent on water use up to 9,000 gallons a month would reduce your sewer bill for people who are able to have a low water consumption, and that would include part-time residents. So in thinking about this policy that's in your current ordinance, realizing who it might...you know, what the trade-offs are, who might be affected I think is good to do at this point. We're not...we don't have a proposed ordinance for you right now, but it's something to think about for later on. Right now your bills are flat—everybody pays the same amount, and for commercial customers, yes, your sewer bill is based on water use, and there is a...it is often a policy that the utilities choose is to make the bills you pay directly dependent to the amount of impact you have on the system. Maybe the question is whether or not this gets you where you want to be to that regard.

Mr. Tschupp: That ordinance provision is under...the sewer ordinance is chapter 25, and it's under section 25-13.4. The title of that is schedule of rates. The language reads "residential users shall continue to be billed at the flat rate until such time that the [sewer...that the] service charges plus volume based billing process is implemented in the county's computerized billing system." So if we upgrade our billing system and... This language presently says go to a volume based billing, and it does...volume charged for residential users apply only to the first 9,000 gallons of meter water per month per dwelling unit. So I don't think we have a strong opinion one way or another about this, but you know, there are a couple of implications. It is an imperfect nexus. The guy who's...the couple, the elderly couple that has very low water use, they would benefit, unless they're growing food in their backyard and their water use bumped above 9,000 gallons a month, then they would get no benefit. And the cap, basically, doesn't begin to capture the house with three families and 18 teenagers taking 4 showers a day. So it's a very imperfect mechanism.

Mr. Bynum: This is just sewer bills you're talking; they're not water bills.

Mr. Griffith: Right, that is correct.

Mr. Rapozo: Is that it for your presentation?

Mr. Tschupp: Yeah. We have one other ordinance provision that...I think that's... Let me back up. Update of old provisions. Specifically, there's an ordinance provision about sewer extensions. It's under article 9 of the...excuse me, article 8. Article 8 of the sewer ordinance, extensions, administration, management and construction. I think this is obsolete language. It predates things like environmental assessment law and so on. But it reads "upon receipt of a written application for a sewer extension, the county engineer shall make an estimate of the cost and submit it to the applicant. If the applicant then deposits with the county a sum equal to 50% of the cost specified, the matter will be referred to the county council and, subject to their approval and the appropriation of the county's share of the 50% of the cost, the extension will be made as soon as conveniently possible." That's a requirement for the public works department to go design and build that extension when applicant comes in, puts up 50% of the money, and council agrees and funds the other 50%. And it goes on to say "the county shall make the extension, including any lateral, to serve the applicant's property. The county shall determine the alignment, the materials to be used, and the manner of construction. Owner shall not have any title to the extension." Etcetera. If the applicant prefers, he may pay the full cost for the extension... I consider that language to be somewhat dangerous, and I have had people come in and say, hey, I see in your ordinance that all I have to do is put up half the money and you'll build it for me. Well, no. Good thing the ordinance says we have to come to you all.

Mr. Bynum: We might say no.

Mr. Tschupp: When I have had people make that inquiry, I have said, you know, we'll go in there if you want to ask for funding of the county council, but I can't in good faith support this. So I think there's...and there may very well be other provisions as we, you know, open up the ordinance that we want to take a look at and see if we can really kind of fine-tune some of those things. I don't know that it made it on this slide, but one of the things that I do think we should look very seriously at as an ordinance revision is to come out with a clear policy for offsets when a developer comes in and says yes, I am willing to do a pump station to allow my property to be connected to the...or I'm willing to come in and do some improvements at the plant. I think that it is something worthy of consideration to look at. Okay, you're going to...your fees would be a million dollars, you're going to spend \$3 million of making improvements for the county, can we at least scrub that million dollars worth of fees that we would otherwise charge you, against the \$3 million that you're spending, as an example. And that's what's referred to as an offset against our WTCA, the wastewater treatment capacity assessment. I think that's it on policy... Yes.

Mr. Rapozo: That's it? Okay.

Mr. Tschupp; So getting back to our original outline, the fourth item on our original outline was sort of schedule and next steps.

Mr. Rapozo: But Ed, let's take any questions on the previous segment, which would be the ordinance changes...if anybody has any questions? Councilmember Furfaro.

Mr. Furfaro: So Ed, are you...I guess are you planning to draft some of these suggested ordinance changes, put them perhaps in Councilmember Rapozo's committee for introduction by request, and I assume you're going to have some dialogue with the county attorney to do that? I mean is that your next step?

Mr. Tschupp: I think that would be our next step with respect to these items. Yes. I'm certainly open to, you know, if that is... I have to profess being a novice at things like ordinance processes.

Mr. Furfaro: That's what I would suggest that you take these ideas, have a meeting with the county engineer, the county attorney, and then come before Mr. Rapozo as chair of the committee and ask him if he would be willing to be, you know, the introducer at your request.

Mr. Tschupp: Okay.

Mr. Furfaro: If that's okay with you?

Mr. Rapozo: That is, Mr. Furfaro, and thank you, because that's normally the process. And at the request of the administration, the committee chair would normally get it on the floor for discussion, and at that point the fun begins.

Mr. Tschupp: Okay.

Mr. Rapozo: So thank you. Councilmember Yukimura?

Ms. Yukimura: First of all, thank you for this briefing. We don't always get as an extensive briefing before we get a bill for an ordinance. So that helps a lot. And then I wanted to say that I support your grease trap program. I heard from Pacific Biodiesel, the people who are doing biodiesel on Maui, that it really helped them to have an aggressive grease trap enforcement. And so you begin to see how... It's useful in both ways. One to clear up the sewage treatment plant operations, and I like your analogy that taking grease out is like doing a free expansion. But on the other side of it...well, and maybe it's harder here, but where they have an alternative for people to take their grease and oil to, and then turn it into a really usable renewable fuel. That's...you know, that just closes the cycle, which is what we're trying to do, and maybe the solid waste division can start working on getting them over here to do a biodiesel plant, so that we can really have that cycle.

Mr. Tschupp: A few months back I saw like building permit type documents or possibly zoning approval documents for somebody coming in with a biodiesel project, and I think it was on a property in Puhi industrial park.

Ms. Yukimura: Well, then so to have the carrot and the stick, have the enforcement, and then have a place where they can take it alternatively in a way that's going to do good for the public.

Mr. Tschupp: Rather than shipping it off-island.

(Council Chair Asing was noted present at 11:40 a.m.)

Ms. Yukimura: Yeah, is going to be really good. And then on your rate structure and mandatory hookup requirement for reclaimed water, I really commend you for having the foresight to look at this, because before you talked about the Kihei mandatory requirement, I was going to suggest that in 'Ele'ele where A&B is going to put in a new development that they might want to consider a gray water system, because you're so close to the plant...they're going to be so...just mauka of the plant, it may take some pumping. But the thing is that theoretically, their charges for reclaimed water will be less, so they should be able to lower their water bill, especially if...if for watering lawns and even washing cars maybe. I'm not sure...depends on the quality of the reclaimed water.

Mr. Tschupp: Right. For that, we would definitely need R-1.

Ms. Yukimura: Okay, but I just know that in the future, water is going to be more of a scarcity, and so to be able...potable water is going...I mean, you know, look at how much water it takes to clean and then pump potable water, and that's all electricity based. So to have alternatives is going to be, I think, like a win-win, especially if you have the systems to carry it.

Mr. Tschupp: Right.

Mr. Rapozo: Councilmember Iseri-Carvalho?

Ms. Iseri-Carvalho: Yes. Ed, we had talked about authorizing the water service termination for non-payment of sewer charges. At this point in time, how much loss of revenues are we getting because they're not paying? I mean how much of a percentage ...(inaudible, change side of tape)... Is it a small percentage?

Mr. Tschupp: I think it's a relatively small percentage of customers, but the accrued back, you know, uncollectibles or receivables has been an issue in the past. I believe it was even identified in the audit, in the annual audit, as being an issue that needed correction. Whether it was a reportable condition or not, I don't know.

Ms. Iseri-Carvalho: But you don't have like a...

Mr. Tschupp: At one point it was like a million bucks back-charged or back-due, and I think that has come down, but I don't actually have those numbers. The finance department is the folks who actually are the keepers of that kind of information and you know, I would like to help them have a tool.

Ms. Iseri-Carvalho: And while you were at water was when we instituted this ability for them to turn off the water, or was it after?

Mr. Tschupp: While I was at water, the water board took up the rule change and did that

Ms. Iseri-Carvalho: Okay. So were you able to see the difference by having that tool available to the water department as to how much we had decreased or gained in revenue?

Mr. Tschupp: No, because it was never fully implemented. Because that particular rule change that I referred to, the water department has always had the ability to shut off water for water non-payment. What they did a couple years back was to implement a rule that basically said if asked by the finance director to shut off water for non-payment of sewer bills that the water department would be authorized to do that. For that actually to be fully implemented required actions by two bodies—the board of water supply to adopt their rules, and this council to put it into our ordinance. It has not made it into our ordinance as of yet.

Ms. Iseri-Carvalho: And what year was that that it was brought before the board?

Mr. Tschupp: Well, I've been with the wastewater division for almost two years...

Ms. Iseri-Carvalho: At least.

Mr. Tschupp: ...so would have been like 2005 or possibly 2004.

Ms. Iseri-Carvalho: Okay. I guess we'll follow-up to figure out at what stage it's at at this point, or it may be they had decided a change of mind. I don't know, but...

Mr. Tschupp: Well, it's totally within, you know, the purview of council and, you know, finance department and public works department to bring it to closure.

Ms. Iseri-Carvalho: Okay. And I guess you don't know how much it'll cost to start up something like this.

Mr. Tschupp: There would be some cost, but it would be more along the lines of the cost that it would be for making a separate trip out by the meter reader.

Ms. Iseri-Carvalho: How much effort...

Mr. Tschupp: Administrative cost would be fairly inexpensive.

Ms. Iseri-Carvalho: How much effort do we do to try to get back this loss of revenue?

Mr. Tschupp: We send them nasty letters. We have in the past attempted to do things like liening properties, but that, as I indicated, is something of a legal process, and it's been frustrated by lack of legal support, and you know, everybody's got all the stuff that they need to do, and putting extra work on somebody, you know, without necessarily a...this is not my job kind of situation, it's hard. It gets really hard. I think that our billing people do a really good job, but our billing people are Chester, you know, one guy, and he's kind of all by himself with respect to, you know, he gets all the customer calls, we... We don't have a big bureaucracy behind this billing.

Ms. Iseri-Carvalho: Alright. Well, we'll follow-up. Thank you.

Mr. Rapozo: So do you know if we've done any liens? I mean that...

Mr. Tagupa: I don't specifically know.

Mr. Rapozo: And it is their job, whether the county attorneys want to agree or not, it is their job. It is not...you know, the lack of attorney support, I'm hearing a lot of that lately, and it's not right. I mean it's...I know it's seven figures. I'm sure it's still seven figures, what we're owed, and you know, you put a lien on a property that...yeah, it may not be...we may not see the fruits of that right away, but we will one day. It's just what needs to be done until we can change the ordinance to shut off the water. So we'll follow-up on that. Mr. Bynum?

Mr. Bynum: I just want to echo Councilmember Yukimura's encouragement regarding the grease trap and the...particularly the reclaimed water. Ed, you get excited about that, I can see that. It's like, let's find good uses for that. You know, we're putting in sports fields at Lydgate park that are going to be irrigated with reclaimed water, and you know, I'm excited about that. Because one of the reasons we don't have good sports turf is because of the parks department, or public works in the past, didn't want to pay the water bills to

irrigate the fields, right? 'Cause we charge ourselves, right? We pay that water bill. The county pays big water bills. I did...years ago we had a project at Lydgate park where volunteers were going to put in irrigation in a big section of the park...all free—materials, labor, everything, and the county said no, because we don't want to pay the water bill. So I really encourage you to, you know, follow-up with that and look at the county as an end user whenever possible, so we can save the money on the bills and service that...and just we currently have grease trap rules, right? The people have to do it. This is a matter of enforcement.

Mr. Tschupp: Yeah, it's more of a...in the building code, you know, if you're coming in with a building permit application, under the plumbing code you have, you know, to comply with their grease trap provisions.

Mr. Bynum: Right, and do we have an ordinance that requires maintenance of those, or that's what you're asking for?

Mr. Tschupp: That's basically what I'm asking for.

Mr. Bynum: Okay, I would support that as well. Thank you.

Mr. Rapozo: Councilmember Yukimura?

Ms. Yukimura: So you are going to propose an ordinance that does authorize water service termination, right?

Mr. Tschupp: Yeah.

Ms. Yukimura: Okay. And...

Mr. Tschupp: That may go through the finance committee, rather than public works.

Ms. Yukimura: I don't know.

Mr. Furfaro: The receivable is definitely scheduled to come up in my audit, so we'll be talking about that relatively soon. But I would prefer as we value with the big picture that it stays with Mr. Rapozo. That would be my take. Certainly on the collections in the accounts receivable, it is an audit item. So if that's alright with you, Mr. Rapozo?

Mr. Rapozo: That is fine. In fact, I just wrote down the questions that I'm going to have staff send over to finance and ask that it be put in your committee, which is specific to the amount of delinquent sewer fees, all the attempts to collect on them, as well as the status on all liens that were placed on those accounts.

Mr. Furfaro: I just want you to know I just wrote the same notes.

Mr. Rapozo: Okay, well you can... Use yours. It's your committee. I can throw mine away. Thank you. Any other questions?

Council Chair Asing: Yeah, I just came on the end that we had some discussion on the council many years ago. In fact, it was going back and forth between the council, the administration, and we never got together and came up with a final decision. And while it may seem easy and simple to do, it is not that easy and simple. It is quite complicated in the sense that you talking about people's lives, livelihood...it's not that simple. You might think it's simple, it sounds simple, but you turn off somebody's water, you know, that's it. It's not like electric or TV or telephone. You can't survive without water. So you know, it's major in nature and you know, it's going to take some thought, and thinking, and putting together and making sure that that's the right way to do it, because we went through that discussion many times.

Mr. Rapozo: Yeah, and that's why I bring up the question about the liens, because I think the impact of a lien is not as critical as shutting off the water, and if we're not even doing that but we willing to pull the trigger on somebody's water, I think...because it is easier. You just go out and turn off the water, and on the lien, it's as simple as filing a lien, but we...

Council Chair Asing: That's a livelihood, you know.

Mr. Rapozo: I mean it's...and that's why I ask the question, and I'm sure Mr. Furfaro will follow up.

Council Chair Asing: You live and die with water.

Mr. Rapozo: I'm hoping that we see some attempt by the finance department that...in the past, since the last time we had this...we had this discussion. I cannot remember. I remember...I do remember the discussion, and I remember Mr. Parks here trying to get the administration to release all the names of the people that... You remember that? That was a few years ago, yeah. And so I'll be interested to see how many attempts we've made to actually go after these people. Any other questions? Councilmember Yukimura?

Ms. Yukimura: Yes. You know, you sought some input regarding the fee schedule with respect to new debt, and I want to say that as much as possible, I feel like these utilities need to pay for themselves. And I would think that second homes, resort, commercial, industrial should pay their share of the new debt. I think if there's to be any leeway, it might be...well, it should surely be the affordable housing projects. I think market housing should pay the new debt or at

least a good portion of it...maybe a slight discount, but I think there needs to be some variant...variation based on those public policy considerations.

DONALD FUJIMOTO, County Engineer: Thank you for your suggestion. I echo Council Chair Asing's position. This is not a simple thing. I mean you have people on fixed income, they do not have a choice, they are hooked up and they will be required to pay it. So it's not as simple as we say that we just like to be self-sufficient and charge everything to the users. I think there is a...we're going to have to come to some compromise, because some of it will have to be funded by the general fund. Because again, in all fairness, you know, a lot of people did not ask to be here. The history behind this is that the reason why all of these improvements are in, there was a big push on the clean water act. The federal government actually gave away money. It was 80/20 grant, and they gave the counties the money to put in the improvements so that we would address this issue about groundwater. And so at that time it was almost like free money, and now that money is no longer there; there's no grants. But they've extended that to the SRF, which is the State revolving fund, which is practically interest-free loans, but we have to pay those loans back. I just wanted to say, first of all, thank you for making the time to hear this issue. The whole essence of this...two years ago when I started office, I had nightmares about three years just before I came in. A single...one...a single manhole costs the county \$250,000 to fix. Our system is aged. We have all these problems. So the essence, really, of this is the financial study, to put everybody on notice that we have these issues, that it is going to cost us 150, and I commend Ed for doing a terrific job, because he paired it out on what is really essential. What...and we trying to be proactive. Over the life, over the next 10 years, we going to have to do it whether we pay it now or be forced to do it on the emergency program, which is probably going to cost us 10 times. And so I think you're all trying to do the right thing. I appreciate all the suggestions and the input, but more importantly is really addressing this immediate issue—fixing our aged infrastructure, trying to do it on a proactive basis, and somehow try to come to some consensus on how we're going to pay for this, because that's really what it comes down to. How do we pay for this? It is not an easy solution. It's really a tough one, but I would have to, again...I feel very encouraged that everybody is very progressive. We talk about sustainability. I have no doubts that our reclaimed water is a resource. In the future, it is going to be worth money, and we're moving towards that end. We talk about, you know, several progressive topics like constructive wetlands. But on an island, we have to be realistic. Our land is (inaudible) value. I cannot see it, you know, setting aside acres to do this when the land is worth a lot more than that. So I think we going have to make decisions. We going have to address these issues, and hopefully by putting everything on the table, at least we can make some very intelligent decisions on where we go and how we do this. So again, I'd like to thank the council for hearing us. We're going to have the tough job of making the recommendation. The final recommendation, we're going to have to make and submit to council. You're going to either agree or disagree. We're probably going to come to some compromise through massaging, but hopefully we will get there.

Mr. Rapozo: Thank you Donald, and we're looking at January as being the target for the recommendations?

Mr. Tschupp: I think that...the sooner the better.

Mr. Rapozo: Well, I'm just looking at your presentation, and it says January. Is that something we can look forward to?

Mr. Tschupp: When Art and I were huddling and saying, well, when can we get back with a rate proposal, it seemed like...you know, because we have to obviously work through the administration and make sure that, you know, everybody's on the same page. But I would like to target January to come back to you with a rate proposal.

Mr. Rapozo: Okay, and we may do it in this same format as opposed to a committee, because I think it will be time consuming and it will spark quite a bit of debate. Mr. Furfaro, Ms. Yukimura, then Mr. Bynum.

Mr. Furfaro: Donald, I take it from your comments that you too believe that there has to be more than the two bookends, that we are going to have a number of books written on options about cost, and that is something I'm very glad to hear from you and you know, you encouraged the presentation that's been made so far by both Ed and Art. We need to have some other options as it looks towards capitalization of some of these projects. Thank you Mr. Chairman, and gentlemen, thank you very much for today's presentation.

Ms. Yukimura: I just want to say that I understand when you say that land is more valuable, but I really encourage you folks to do a lifecycle costing to really be sure that...that it is the best decision, because when you do the lifecycle costing, this is what we're talking about. We're talking about rates, and you know, if it does turn out that you can really get off of electricity, and I encourage you to look for some of those energy generating projects too that might come about. That's all I want to say.

Mr. Fujimoto: Thank you. Yeah, I guess when we look at sustainability and the whole issue of global warming, and the fact that we actually losing land over time, it's hard to imagine, you know, covering your mass with more water.

Mr. Rapozo: Mr. Bynum?

Mr. Bynum: Thanks for this presentation today, and Donald, I'm glad you got to speak, 'cause you know, I also thought the weak part here was giving us bookends without some analysis of what the thing is or what the options might be. And then, Donald, you know, I also had heard, you know, for several

years that there were big problems at wastewater in terms of capital needs, and you know, I look at this chart and it's 42...\$45 million between now and 2012. That's a heavy, heavy hit. And...but when I look at these bookends, I maybe have a different view than Councilmember Yukimura. In the best of all worlds, users pay the fees, but the way our system was set up, and I may be wrong about this, but I just want to throw these thoughts out, you know, wasn't real equitable about who were users and who weren't, and we all have the social benefit of dealing with our wastewater appropriately and those folks who currently are on cesspools and septic systems, they aren't paying any fees, are benefiting in terms of the island wide view of things from having an appropriate wastewater system and should bear some of that cost, I think, even though they may not be direct users. I look at these fees to go, you know, they came up substantially over the last few years, from 34 to \$45, to have them go to 90 or 100, you know, seems uncomfortable to me. So I hope there's some kind of a compromise in here, and I don't know if this is totally crazy, but that maybe the fee gets included into water bills, because everybody pays water bills. There's some...that might be a fee structure that we could look at for some debt service or something, or some mechanism that kind of spreads the pain beyond just users. So anyway, thanks for this, thanks for being proactive, and you're right. Since I've been on council, sometimes this big packet of paper comes over my shoulder and we're going to discuss it right now, and that's the first time I've seen it. So this is way better.

Mr. Rapozo: Any other questions, comments? Mr. Furfaro?

Mr. Furfaro: So I want to say this with the gentlemen present. The next move is, on some of these ordinance proposals and so forth, they're going to work with the county attorney and they will in fact come up with a request through your committee. Secondly, that we're going to look at these other options in the bookends, but also, something more from R.W. Beck in the way of recovery or revenues if there are some options from R-1 water usage and so forth. We're going to have those financial pictures probably to look at in January. I just want to summarize those two big items.

Mr. Rapozo: That's what I heard.

Mr. Furfaro: Yeah, but the bottom line here is we're forecasting 11,800 customers in the year 2027, but we're also forecasting \$150 million worth of capital cost, which any way you cut the mustard, it's \$28,000 per user.

Mr. Rapozo: We actually looking at \$400 million that have been value engineered down to 150. So I think the real number...

Mr. Furfaro: Yeah, it's valued at \$400 million.

Mr. Rapozo: Yeah, 20 years from now, you know, that money is still going to have to come from someplace, so yeah, it's really...it's a \$400 million gorilla...I think you used that term, and we're trying to make it palatable. But the bottom line is those expenses...that cost is still there. It's still there whether we put it somewhere else or defer it for later. The bottom line is that is still what is...that's where we need to be, you know, and I don't know how we get there. It's impossible, I think, to get to \$400 million. It is. But that is the reality of it, and however we get there, I think is going to be a challenge. Yes?

Ms. Yukimura: Actually, there is an alternative to this centralized system. I mean the primitive form is the compost toilet. The less primitive...I mean you don't know what new technology will bring in terms of a...a household, or even more localized system, I don't know. But if things get really bad and peak oil predictors say it may, that's what we'll go to; we'll go back to household level systems.

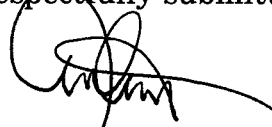
Mr. Rapozo: It's what they do in Alaska—25 grand, and you get your own self-contained sewage plant in your backyard, and you water your yard with... It's incredible what they do up there.

Mr. Furfaro: Yeah. They used to call it an outhouse.

Mr. Rapozo: Any other questions, comments? If not, thank you gentlemen, and we're looking forward to seeing you folks soon.

There being no other business, the workshop adjourned at 12:05 p.m.

Respectfully submitted,



Aida Okasaki
Legislative Services Supervisor

APPROVED at the October 24, 2007 Public Works Committee Meeting:



MEL RAPOZO, Chair
Public Works Committee

