TRANSCRIPT OF THE MEETING OF THE
COLLIER COUNTY PLANNING COMMISSION
Naples, Florida, November 7, 2013

LET IT BE REMEMBERED, that the Collier County Planning Commission, in and for the County of Collier, having conducted business herein, met on this date at 9:00 a.m., in REGULAR SESSION in Building "F" of the Government Complex, East Naples, Florida, with the following members present:

CHAIRMAN: Mark Strain
Stan Chrzanowski
Mike Rosen
Diane Ebert
Karen Homiak
Brian Doyle
ABSENT: Charlette Roman

ALSO PRESENT:

Mike Bosi, Director of Planning and Zoning
Heidi Ashton-Cicko, County Attorney's Office
Tom Eastman, School District Representative

PROCEEDINGS

MR. BOSI: Mr. Chairman, you have a live mike.

CHAIRMAN STRAIN: Thanks, Mike. Good morning.

Good morning, everyone. Welcome to the November 7th meeting of the Collier County Planning Commission.

If you'll all please rise for Pledge of Allegiance.

(The Pledge of Allegiance was recited in unison.)

CHAIRMAN STRAIN: Thank you.

Will the secretary please do the roll call.

COMMISSIONER EBERT: Yes. Good morning.

Mr. Eastman?

MR. EASTMAN: Here.

COMMISSIONER EBERT: Mr. Chrzanowski?

COMMISSIONER CHRZANOWSKI: Here.

COMMISSIONER EBERT: Mr. Rosen?

COMMISSIONER ROSEN: Here.

COMMISSIONER EBERT: Ms. Ebert's here.

Mr. Strain?

CHAIRMAN STRAIN: Here.

COMMISSIONER EBERT: Ms. Homiak?

COMMISSIONER HOMIAK: Here.

COMMISSIONER EBERT: And, Mr. Doyle. And it is Doyle.

COMMISSIONER DOYLE: Here.

COMMISSIONER EBERT: Ms. Roman is absent.

CHAIRMAN STRAIN: Right.

Okay. Addenda to the agenda. We've got one consent and one regular item. Is there anything else that anybody knows needs to be added?

(No response.)

CHAIRMAN STRAIN: Planning Commission absences?

I was called by Ray, and I believe we do not have a meeting on 11/21?

MR. BOSI: Correct.

CHAIRMAN STRAIN: So this is the only meeting this month. We do have a meeting on December 5th. Does anybody know if they're not going to make it on December 5th?

(No response.)

CHAIRMAN STRAIN: Okay. I know there are some issues scheduled for that one, so we definitely will go forward with that.

We had two sets of minutes sent to us for approval. I'll ask both of them individually. Is there a motion or any concerns with the September 7, 2013, minutes?

COMMISSIONER HOMIAK: Motion to approve.

CHAIRMAN STRAIN: Made by Ms. Homiak.

COMMISSIONER EBERT: Second.

CHAIRMAN STRAIN: Seconded by Ms. Ebert.

Discussion?

(No response.)

CHAIRMAN STRAIN: All in favor, signify by saying aye.

COMMISSIONER CHRZANOWSKI: Aye.

COMMISSIONER ROSEN: Aye.

COMMISSIONER EBERT: Aye.

CHAIRMAN STRAIN: Aye.

COMMISSIONER HOMIAK: Aye.

COMMISSIONER DOYLE: Aye.

CHAIRMAN STRAIN: Anybody opposed?
(No response.)
CHAIRMAN STRAIN: Motion carries 6-0.
Second set was October 3, 2013, same --
COMMISSIONER HOMIAK: I'll make a motion, but on Page 13 it referenced Commissioner Lefebvre again; it should be Commissioner Strain.
CHAIRMAN STRAIN: Ah-uh?
COMMISSIONER HOMIAK: It must be a --
CHAIRMAN STRAIN: I don't know how that happened. Different spelling completely.
COMMISSIONER HOMIAK: It happens often. Yeah. Maybe -- I wonder if it's the same page.
CHAIRMAN STRAIN: Thank you for catching that. With that one correction, is there any other changes? If not, is there a motion?
COMMISSIONER HOMIAK: I made a motion to approve with that change.
COMMISSIONER EBERT: I'll second.
CHAIRMAN STRAIN: Okay. All in favor, signify by saying aye.
COMMISSIONER CHRZANOWSKI: Aye.
COMMISSIONER ROSEN: Aye.
COMMISSIONER EBERT: Aye.
CHAIRMAN STRAIN: Aye.
COMMISSIONER HOMIAK: Aye.
COMMISSIONER DOYLE: Aye.
CHAIRMAN STRAIN: Anybody opposed?
(No response.)
CHAIRMAN STRAIN: Motion carries 6-0.
Ray's not here, and I'm not going to ask Mike for a BCC report. Oh, you got it? You were briefed?
MR. BOSI: Real brief. The Planning Commission -- the Living World Family Church was recommended unanimously by the Planning Commission, was approved on the board's summary agenda. And just for an informational piece, on the -- for the November meeting, the AUIR/CIE will be heard by the Board of County Commissioners as well as the three Growth Management Plan amendments that were heard and reviewed/modified by the Planning Commission. Those are all set for the November 12th BCC meeting.
CHAIRMAN STRAIN: Great, thank you. Are those all on summary, or -- is that how they --
MR. BOSI: No, no. The Growth Management Plan amendments and the CIE are regular agenda starting at one clock, I believe, and the Growth Management Plan amendments are scheduled to be up first, and then the AUIR/CIE following.
CHAIRMAN STRAIN: Thanks, Mike.
Chairman's report, there's nothing new today, so we'll move right into the consent-agenda item.
***We have one consent-agenda item, and it's RZ-PL20120002095. It's the Landings at Bears Paw. That was from our last meeting.
The corrections were all sent to everybody, the conditions. Does anybody have any changes, comments?
(No response.)
CHAIRMAN STRAIN: Hearing none, is there a motion to approve the item on consent?
COMMISSIONER ROSEN: Mr. Chairman, I propose a motion to approve Item RZ-PL20120002095, the Landings at Bears Paw, as presented.
CHAIRMAN STRAIN: Is there a second?
COMMISSIONER HOMIAK: Second.
CHAIRMAN STRAIN: Second by Ms. Homiak. Motion made by Mr. Rosen.
Discussion?
(No response.)
CHAIRMAN STRAIN: All in favor, signify by saying aye.
COMMISSIONER CHRZANOWSKI: Aye.

COMMISSIONER ROSEN: Aye.
COMMISSIONER EBERT: Aye.
CHAIRMAN STRAIN: Aye.
COMMISSIONER HOMIAK: Aye.
COMMISSIONER DOYLE: Aye.
CHAIRMAN STRAIN: Anybody opposed?
(No response.)
CHAIRMAN STRAIN: Motion carries 6-0.

***And that brings us to our only advertised public hearing for today. It's PL-20130001132 and CPCP2013-7.

It's the amendment to the potable water sub-element and the public facilities element of the GMP, and I'll let Carolina start the presentation.

MS. VALERA: Good morning. Carolina Valera. I'm a principal planner with the comprehensive planning section/Growth Management Division.

Today, before you, you have the update to the county's 10-year water supply plan. The plan was adopted -- recommended by you just a few years ago and adopted by the Board of County Commissioners and is referenced in our Growth Management Plan.

Now, the state requires every district within the state of Florida to have a plan. We are, as a county, part of the South Florida Water Management District boundaries, and they do have their own plan by which we need to follow.

Their plan was adopted just last fall, last year, November 2012. And then they gave us -- by Florida Statutes, they gave us 18 months to adopt ours. It needs to be based on that lower west coast water supply plan. And that's what we're doing today. We're going to present to you the update to our county's water supply plan.

Because it is a Growth Management Plan amendment, every amendment to our plan has a three-step process. We are part -- this portion that we're doing today is the transmittal portion of the amendment to the plan. And we'll have a resolution to the board with your recommendation. And once the Board of County Commission hopefully approves the resolution, we'll send it to the state. We'll send it to Tallahassee, to the Department of Economic Opportunity for their review.

They'll send us their review comments. They'll have 30 days by statute to send us back their comments. We'll take a look at, you know, whatever comments they may have from the plan, and we'll have to update or not the plan that you have before you.

And then we'll do it all over again. We'll come back to you for any revisions that we may have had based on the state's review, and we'll come for the adoption portion of the amendment to the Growth Management Plan. And we'll prepare an ordinance for the board and your recommendation for final approval.

And, again, as I said, the plan that you have, it is adopted in our Growth Management Plan by reference. It's not part of the actual book, but it's adopted by reference.

And so the amendment to the actual plan that we're doing is pretty simple. It's just a change in the date -- that's all it is -- to the Growth Management Plan. The big part of it is the referenced document, which is the 10-year water supply plan, the county's water supply plan.

You have in the staff report the key points of what we have updated as part of these revisions to the plan. Obviously, we are revising the population for the 10-year plan and with the 20-year horizon and a five-year capital improvement update.

Of course, we'll -- part of the plan tells you, you know, what we are planning as part of our facilities for -- to meet demand, demand projections for population, sources for water, obviously, for the following time horizon projections.

The steps that we'll have to take in order -- in terms of capital improvement in order to meet demand. You know -- obviously, you know, the types of permits we will need to meet those demands and the conservation practices as one of the key components of our plan and one that our public utilities really is very proud of on how the county meets our conservation practices, how efficiently we do manage the resource, the

water resource.

Staff recommendation is to have you, please, recommend approval to the board for transmittal of this document to the Department of Economic Opportunity.

Today, I think, is the very first time that this board will be recommending both as the Environment Advisory Council and the local planning board. So if you can please, when you make your recommendation, acknowledge both.

I will have Chris VanLengen come up and go over the specifics of the plan and, you know, what we have updated in the plan, and he will present to you who's here for backup if needed to answer any questions you may have.

Here's Chris.

MR. VanLENGEN: Thank you, Carolina, and thank you for queuing me. Chris VanLengen, principal planner with the public utilities division. I'm happy to be here this morning.

I'd like to introduce our cast of characters here today, because I think it's important for you as a board -- and some of you are new -- to meet some of our folks.

From our consulting group, Jason Sciandra from CDM Smith. They provided the bulk of the work on the plan itself. We also have directors all the way in the back. And if they would stand up one at a time just so that each of you could understand who is who in our division.

On the far left is Steve Messner, director of our water department; next to him is Tom Chmelik, the director of the planning and project management department; and then on the right is Beth Johnssen, director of our water department.

I think, to me, one of the important aspects of this opportunity is to provide some fairly higher-level view of what we're actually doing here and what this plan really means.

To start out, I'm just giving you a visual of the South Florida Water Management District and the four basins -- excuse me -- the four regions within that. They're basically contoured around basins in general and basin analysis, but there are four regions.

We're in the lower west coast region. Each of these regions has its own plan, and those plans are 20-year water supply plans.

It gets a little confusing because we talked about five, 10, and 20 years. The regions provide 20-year plans. The response from each municipality, counties, cities, are 10-year water supply plans. All of those, both the regional and the local plans, are done every five years in a certain sequence. So we're talking about five-year, 10-year, 20-year sequences.

The lower west coast area includes the counties of Collier and Lee and parts of Charlotte, Hendry, Glades, and Monroe.

So the scope of the lower west coast water supply plan, which prompts our initiative here today, includes -- it basically runs along a broader scope than what our response is.

So that scope really includes stormwater attenuation from flooding, environmental preservation that deals with stormwater quantity and quality, where it goes, how it gets there, direct effects on wetlands, estuaries, and aquifer recharge.

It also deals with water resources for human needs, both municipal systems, which is what we're here to talk about; it also deals with agricultural and self-supply.

And I just want to cut to the conclusion of the lower west coast water supply plan for your context, which is that -- they're talking about over a 20-year period. The future needs can continue to be met with appropriate management and diversification of water supply sources. To meet the region's future water needs, this plan advocates continued development of alternative water supplies, including increased use of a Floridan aquifer system -- and we'll talk about what Floridan means -- reclaimed water, appropriate water conservation practices, and water storage for dry season use.

So our conforming 10-year plan can really be illustrated using the scope and the principles enunciated in the lower west coast water supply plan.

And so our organization of just giving you the overview is basically along those lines. Facility planning to provide assured capacity for future growth, alternative water supplies, including brackish sources, and we talk -- they talk about Floridan. To us it means the same thing as brackish. There may be some

difference in terms of what specific names are used for different levels of aquifer, and we can get into aquifers at some point, if you wish.

But the idea of an alternative water supply is anything that's not a traditional freshwater supply. So it's not within, let's say, 150 feet, which would include the lower Tamiami; it would include the water table.

The other alternative water supply, which is another pillar in the lower west coast plan, is reclaimed and IQ water, which are becoming viewed as a valuable resource. They also talk about water storage for the dry season, so we'll talk about that, and conservation practices.

So just for context, the plan itself covers not only the Collier County Water/Sewer District but also the independent private utilities within the county because we're required to cover those as a county by statute.

What we did was we obtained information, baseline information, on those utilities and solicited their comment and simply reflected those without any of our own analysis.

So -- and just so that you know, my comments going forward are really about the Collier County Water/Sewer District and not about the independent districts.

Just for order of magnitude, our district is about five times larger than all of the private districts put together. That would be both from a capacity and a permitting standpoint.

Facility planning. An important thing to talk about here is population and level-of-service standard. The population basis here follows the discipline of board approved and accepted planning and concurrency documents, and what I'm talking about there is that we base this on the 2012 AUIR because that's the last board-approved AUIR that we have. What does that mean? Well, from a population standpoint, it's not quite as up to date but, more significantly, as you recall in our AUIR discussion, the 2013 AUIR carved out certain served and unserved areas in its analysis and based its concurrency on those served areas. So there was a deduction of roughly 8 percent in population counted toward that.

What does that mean? It means that when we talk about the northeast regional water treatment plant schedule, here it shows 2023. In the AUIR it showed 2030. That's quite a difference, but it's based on a population difference.

The other important point to talk about is the level-of-service standard. We have a level-of-service standard of 170 gallons per capita per day, and that reflects a standard that derives from our 2008 master plan.

We're undergoing a master plan study at this time, and sometime in 2014 we'll be ready to provide that for board approval.

We don't anticipate that it will be the exact same level-of-service standard. So that may also, ultimately, affect the timing of capital improvements, and those would include your northeast regional water treatment plant, the associated wellfields with that water treatment plant; probably would not affect timing of the ASR program, which we'll talk about in a second.

So the first pillar of the lower west coast alternative water supply plan, alternative sources, brackish sources. We do have a history of use here in Collier County. The west coast in general tends to rely more on brackish sources than the east coast. The east coast has probably a little bit of catching up to do as far as that goes.

But our emphasis for many years has been on alternative water supply sources and particular use of brackish sources. Our methodology is through a low pressure reverse osmosis system, which we have at both the north and south water treatment plants. And those systems, in terms of our total capacity, make up slightly more than half of our system capacity.

So in fulfilling that objective of the lower west coast water supply plan, we feel like we are in very good shape and, in fact, we anticipate that, as a result of our past practices, our direction in the future will be to obtain more in the way of freshwater only because the analysis for that has been updated since the '90s when the South Florida Water Management District first enunciated its philosophy on that particular conservation effort.

COMMISSIONER ROSEN: Mr. Chairman?

CHAIRMAN STRAIN: Yes, sir.

COMMISSIONER ROSEN: Could I ask a question on that one item; is that possible?

CHAIRMAN STRAIN: Sure. Is that okay to interrupt?

MR. VanLENGEN: Absolutely.

COMMISSIONER ROSEN: Just a very quick point. Are you saying that -- I mean, South Florida at one point was saying that they only want RO, you know, from developers for years. Are you saying that's being reversed now?

MR. VanLENGEN: Well, I think we're saying that from a permitting standpoint we are pursuing permits that will include some degree of freshwater along with it, and we have done a lot of studies, modeling, and I think our consultant can speak more eloquently to that. But we find that those aquifers, unlike what was predicted many years ago, are still in pretty good shape.

COMMISSIONER ROSEN: Thank you. Appreciate it.

MR. VanLENGEN: The reclaimed water -- I guess, by way of definition, what's reclaimed water? What do we mean by IQ? IQ stands for irrigation-quality water. And irrigation-quality water is probably a broader category. Reclaimed water comes from our water reclamation plant, i.e, the sewer plants, and which -- that treated effluent produces a 95 percent efficiency; in other words, 95 percent of the material going in comes back out as reclaimed water available for irrigation quality.

But irrigation quality may also include supplementary sources. So we do have supplementary wells that we use, and we'll be talking more that supplementary sources in a second.

Currently, the IQ water distribution system, if we look at all water distributed, IQ plus finished potable water, the IQ system provides about 40 percent of the total water distribution. And our goal over the next 20 years is to produce probably 60 percent IQ and 40 percent.

And the reason for that is to -- it really recognizes that IQ water really is a resource. It's a valuable resource, and we need to look at it in an integrated way. And we can maximize the use of potable water for future growth while reducing its use for irrigation. The idea would be to provide a more cost-effective and sustainable solution.

And this takes us to a supply issue, which is another lower west coast water supply plan element, water storage for the dry season.

We do have an aquifer storage and recovery system. We're developing more as we speak. We look at the second line there, the wells on Livingston Road. The first one is -- has been constructed. It's in a testing phase at the moment. But we anticipate that during the next wet season and the following dry season it can become operational.

We have five scheduled in total, so those would accumulate to five million gallons per day of withdrawal during the dry season. And that, hopefully -- I shouldn't say hopefully. Our plans at this point and our CIP indicate that this will occur by 2017.

I think it's important to recognize that the South Florida Water Management District has been a close partner of ours in this effort of ASR development and have provided grant monies for the ASRs so far, and we hope that they'll continue to do so and believe that they will.

On the conceptual front is what's called stormwater ASR, and this is an idea, and it's in the idea stage where surface waters can be used for irrigation-quality water distribution. And there are many advantages to doing that.

Right now -- I guess going back a little bit. When we talk about the IQ wells that we're using, we're using the excess effluent that is disposed of in deep injection wells during the wet season because it has nowhere to go. There's no demand for it at that point in time. So we want to recover that lost reclaimed water.

But when we talk about stormwater ASRs, it's a slightly different concept. We can take water from a canal, for example, during the wet season, put it in an ASR, draw it during the dry season, and that has dual advantages, obviously. It has a great advantage for our system, but also advantages ecologically for estuaries and so forth, helping the district manage its flow to Naples Bay or wherever the end point would be.

So that's an idea that I think has merit, and we're going to be looking at that through our master planning process.

The next slide is simply a photograph of what the wellheads look like at the ASR. This was taken a few years ago. We've had to redrill or extend the length of that particular ASR due to federal regulations, so that's why it's taken a bit longer to get online. But that's the Livingston Road location.

Conservation is the last identified element of the lower west coast plan. There was a Mark Elsner from the district, who I believe is a policy analyst with them, spoke before the board last October, and his quote was, "The cheapest gallon of water is the gallon we don't use." And we, as a utility, certainly agree with that and want to talk just a little bit about the fact that this body and the BCC have recognized the importance of conservation through a number of initiatives.

Irrigation ordinance. Three times a week, limited hours, rain sensors required, building code requiring low-flow fixtures, Florida friendly landscapes, flood, and drought-tolerant plants are encouraged; the right plant in the right place.

Rate structure. We have block rates that jump in terms of price per gallon when you get over certain thresholds, and we believe that acts as an incentive for businesses and individuals alike to conserve water.

We also have an education program like the South Florida Water Management District, which has an extensive program. We also engage in compliance assistance as well as providing brochures and other types of information through regular billing mailers and such.

The other part of our conservation effort really deals with our own system efficiencies.

Plant maintenance. We've made, for example, advances in filter backwashing that saves water and other similar advances.

We have a meter replacement program that was approved this year, scheduled to replace over a five-year period residential-size meters that have really reached their useful life. The idea there is accuracy, no water loss.

Meter testing program, again, assure accuracy.

Water main and component replacements. We have valve and connection replacements that are scheduled and will continue.

Increased sampling. Line flushing is necessary in certain places in the system in order to keep the water fresh, and so the increased sampling allows us to do it only when its necessary. In a similar way, we talk about automatic flushing occurs, let's say, typically in a cul-de-sac type of situation. And with the automatic flushing system, we can minimize the amount of water used to keep those lines fresh.

The result of those efforts you can see in the unaccounted water, or this is -- another way to say it is unbilled water. These would be losses of water to the system.

Over the past five years, we've enjoyed quite a downward trend in the amount of total water loss. The industry standard here is about 10 percent, according to the American Waterworks Association. So I think we've done very well in recent years, and we'll continue to work on that.

We have other things planned, including not just new meters, but new meter readers, automatic meter readers. Ultimately we'll have, I think it's called, AMI, but I think it's going to be an online real-time meter reading system so people can actually keep track of their own use and know, even from a remote northern location, whether they have an issue or a problem.

So the conclusion -- and, again, this is a high-level view, not trying to go through the plan in any specific detail. But we find that we are consistent with the lower west coast water supply plan.

The plant infrastructure capacity is demonstrated by concurrency in the timing of the new northeast water treatment plant, including associated wellfields.

Alternative water supplies. We've demonstrated that we have in place a high percentage of brackish water production for potable production as well as a robust reclaimed water IQ system with plans to expand, particularly through the storage for the dry season through the ASR system, pursuit of IQ storage with the study of additional surface water uses.

And then, finally, conservation. We have a multifaceted program through education, regulation, incentive, and system components.

So together these lead to a sufficient and suitable water supply plan for the planning period consistent with the recommendations made by the lower west coast water supply plan.

So our recommendation -- and I think this was already made by Carolina -- is to forward to the BCC a recommendation for approval of transmittal to DEO in the nature that she indicated in your dual capacity.

So from there, we'll open it up for questions.

CHAIRMAN STRAIN: Okay. And typically we take reports like this in chunks so we're not

skipping all over. So if it's okay with the panel, we'll continue that, and we'll just take the first 10 pages, which is the staff report.

Does anybody have any questions from the staff report section, which is the very beginning of your packet?

While they're looking, Chris, I'll throw in a couple.

MR. VanLENGEN: Okay.

CHAIRMAN STRAIN: We use a lot of brackish water, apparently more so than the other counties. What do they use? What, generally, are they using for their water sources? Have they got better sources than we have, or is brackish something they've stayed away from because it's more costly?

MR. VanLENGEN: Well, I think what we talked about a liter, we were probably looking at maybe our use of technology but more so the fact that this region, compared to the state in general, really has done a great job in using alternative sources for a while.

So I wouldn't say that we're way ahead of Lee County, for example, but we -- and I don't have for you today any benchmarking. But I don't think that we're way ahead of them in our use. But if -- maybe I could defer to our director of the water department in case --

CHAIRMAN STRAIN: Well, I was just curious if we use more brackish water than others, why aren't they using as much? I mean -- and I guess that may lead to where I was going with the IQ water.

We're going to be converting from 40/60 now to 60/40; that's the intention by 2023, I think it was. I always thought we were trying to reduce the amount of irrigation-quality water in the county through conservation of Florida friendly and the way we irrigate and the restrictions, and it looks like we're going to do just the opposite, because if it was relying on the amount of reclaimed water, that you're going to just produce more reclaimed water, that's good. But your IQ sources go far beyond reclaimed.

How much of your total IQ is reclaimed and how much is the wells that are pumping for IQ? Do you know?

MR. VanLENGEN: Beth Johnssen can help answer that question. I think the lion's share certainly is reclaimed at this point in time. We do have supplemental wells, but she'll be able to fill you in on the exact percentage.

MS. JOHNSSEN: I don't -- hi, I'm Beth Johnssen. I don't have the exact percentage, but --

CHAIRMAN STRAIN: He said you do, so we're going to have to have it.

MS. JOHNSSEN: Chris is correct, the majority of the irrigation-quality water that goes out is reclaimed. We have made a practice of only using the wellfields when it was absolutely necessary.

CHAIRMAN STRAIN: Okay. Is there -- so the reclaimed -- the 60/40 switch that you're going to have is basically due to the fact you're going to have more reclaimed water that goes online? Is that what your intentions are?

MS. JOHNSSEN: Well, the intention is to make better use of the reclaimed that we have. As Chris indicated earlier, much of that water's deep injected during the wet season, so the ASRs will help us capture that water and be able to pull it back out again later.

CHAIRMAN STRAIN: And, of course, also -- using it rather than putting it in ASRs would be also beneficial, but you can't use it because your backbone piping system doesn't reach some of the communities that are on your waiting list, if I'm not mistaken.

MS. JOHNSSEN: Well, our master plan will help us determine how to expand that system after we've developed the quantity to do so.

CHAIRMAN STRAIN: So the waiting list for people to use reclaimed water will -- I mean, I know your deep-well injecting some reclaimed water now.

MS. JOHNSSEN: Yes, we are.

CHAIRMAN STRAIN: But that waiting list -- how will you improve and get more people off that waiting list to use reclaimed water?

MS. JOHNSSEN: Well, we have already identified the communities that have dual piping.

CHAIRMAN STRAIN: Right.

MS. JOHNSSEN: And, again, as we go forward with our master plan, the hydraulic model will help us determine which one of those communities will be most accessible or feasible to extend the system to.

CHAIRMAN STRAIN: Okay. That's -- the only other thing, if -- I know that we encourage the Florida friendly landscaping principles. Maybe between now and the time it comes back at adoption, you could get with the county staff to see if there's something we can do that's stronger than encourage. Encourage just means do it if you want to. If you don't want to, so what. I mean, it would be nice if we could have some kind of indication there's a certain level we can demand. That might be a better way to approach it, so --

MR. VanLENGEN: Yeah. I think it's a great area of inquiry and something that we can work with the Growth Management Division on crafting.

CHAIRMAN STRAIN: Mike?

COMMISSIONER ROSEN: Yeah. On that same point, Mr. Chairman, following your point -- and I think we talked about this when you appeared before us during the AUIR process, the distribution was a concern of myself; distribution and the priority of who gets the distribution was a concern that I expressed.

And also throughout the United States there have been other communities that have made use, you know, of reuse water such as -- what was it? There was a community in Georgia, Southern Georgia, that pipes in reuse water for toilet flushing and things like that. And that -- on Mr. Chairman's point, that's where you get a little progressive. You know, you step out, you know, to use it instead of pumping it back down in the ground through $8 million deep-well injection sites. Have you given that any thought?

MR. VanLENGEN: I'm not aware that we have studied that specifically, but I think that's an area that we can certainly take a look at and, at the appropriate time, get back to this body and the Board of County Commissioners with recommendations.

COMMISSIONER ROSEN: Yeah. The issue was always, you know, everybody's always fearful of cross-piping, you know, and so that's where purple pipe came in, I guess. But there are some very successful communities that have done that.

So -- and for the rest of the board, what they're doing is they're just piping into a home, you know, irrigation-quality water, which supposedly is tertiary treatment. You could probably, supposedly, drink it. I wouldn't. But, you know.

But they pipe it right to the bathrooms. So you flush your, you know, toilet with IQ water instead of using freshwater.

And so if the issue is an abundance of it in the rainy season, it seems like that's something you ought to give some thought. It's not going to happen overnight, obviously; it's going to take years for that to be implemented. But it just takes one community to be able to -- you know, to use that.

I think that your consultant sitting out there -- I understand that. Is that CDM -- is that CDM, Camp, Dresser & McKee? Is that all you guys? You guys look familiar.

MR. SCIANDRA: Yes.

COMMISSIONER ROSEN: You guys look familiar. Was that CDM that worked on Town of Big Cypress for me years ago?

MR. SCIANDRA: Yes.

COMMISSIONER ROSEN: Yeah. You look familiar. I thought so.

MR. SCIANDRA: We met before.

COMMISSIONER ROSEN: Yeah, yeah. I mean, we talked about issues, you know, years ago for that new town. And I still think that you need to, you know, look forward towards that because, again, I think that pumping that water back into the ground through those very costly deep-well injection sites is ridiculous, you know.

You're producing the water, it's being used, it's being processed, then you're pumping it back into the ground again. It's kind of crazy.

So I would hope that, you know, your department gives that some thought in the future.

MR. VanLENGEN: I appreciate that. Our goal is exactly the same, and that would be something that we can put on the table.

COMMISSIONER ROSEN: Thank you.

CHAIRMAN STRAIN: Okay. Stan?

COMMISSIONER CHRZANOWSKI: Chris, can you give us a little summary of exactly how a

brackish water well is produced? Like, what kind of salinity do you look for? Do you do a test down into an aquifer? Do you stop at a certain salinity when you start -- if you start pumping the well and it goes, say, above 9,000 parts per million or something, do you stop and go to another one? Have you ever had that problem? Have you had to shut any wells down? Just, you know, a little summary of any problems you might have with these.

MR. VanLENGEN: Sure. And as Mr. Messner comes up here, I'm going to put something on the overhead here just so that the board can see the aquifer layers themselves just by reference. That may be helpful.

And I think to answer your last question first, we have not shut down any wells because of water quality. We do have some -- we have not closed or capped any wells for that reason. We do have wells that we don't produce water from right now because of water quality. Sometimes that water quality migrates. So it's a little bit of an art form.

But I prefer that the expert in the operations side handle the question, because I think your questions are very technical and specific.

MR. MESSNER: Good morning. For the record, my name is Steve Messner, director of the Collier County Water Department.

To answer your question, sir, typically we -- the typical wells, the total dissolved solids or chlorides which makes up the total dissolved solids basically stays the same throughout the wellfield. We're in the upper Hawthorne wellfield, and the lower Hawthorne serves the low pressure RO plants.

We have had some saltwater migration into the westernmost wells of our north water plant which, essentially, the chloride level or TDS level has risen -- has increased substantially to where the facility cannot treat that amount of water.

We have not plugged or abandoned those wells, because we're in the process of mitigating to see how we can enhance the treatment process in order to treat that extra-strength water and the amount of chlorides that will be coming into the plant. But, generally, well water supplies remain constant and consistent throughout the years.

Does that answer your question, sir?

COMMISSIONER CHRZANOWSKI: Yeah, it does. I was curious whether the salinity does migrate through the wellfield as you're pumping.

MR. MESSNER: Once again, we have seen some of that at our north plant wellfield, the westernmost wells. Actually, the first four of the westernmost wells have seen an increase in salinity or chlorides to a point, once again, where the plant can't treat that under the way it was designed.

Membrane treatment plants are designed -- I don't want to say specifically -- but for a sort of a small range of chloride levels. So it's important to know what the well water quality is when you design these facilities.

There is some -- there's some flexibility in order to treat a little bit higher, but not to where these wells are. But we're looking at enhancements and improvements to be able to -- in order to use those wells that we have.

COMMISSIONER CHRZANOWSKI: And you use chlorides instead of total salinity?

MR. MESSNER: Yeah.

COMMISSIONER CHRZANOWSKI: I don't -- I remember, like, salinity is somewhere -- like, for seawater, it's like 30 to 35 parts per million.

MR. MESSNER: Exactly, 30- to 35,000.

COMMISSIONER CHRZANOWSKI: And, you know, 15 is, like, chlorides and 17 is, like --

MR. MESSNER: Yes, excuse me.

COMMISSIONER CHRZANOWSKI: -- sodium.

MR. MESSNER: We tend to use the term "total dissolved solids," or TDS, which encompasses all those things, chlorides, salinity, and everything else that makes up the salty taste in water. It's not just chlorides. So we look at total dissolved solids in that respect when we talk about --

COMMISSIONER CHRZANOWSKI: And what level do you stop using the water at? Because it -- I know like, in Saudi Arabia they take pure seawater and treat it, but it's expensive.

MR. MESSNER: Certainly.

COMMISSIONER CHRZANOWSKI: And you generate a lot of salt when you do that.

MR. MESSNER: Yeah. In Tampa Bay -- you may have heard about the Tampa Bay de-sal plant that takes straight water from the bay. Generally down here, we're about 5,000 parts of total dissolved solids.

COMMISSIONER CHRZANOWSKI: Okay. And 1,000 is where, like, irrigation -- it's safe to irrigate with 1,000; is that about right?

MR. MESSNER: Drinking water standards are 250.

COMMISSIONER CHRZANOWSKI: Two hundred, yeah.

MR. MESSNER: Two hundred fifty. Anywhere past 250, or maybe even right around 250, you would taste that. Some plants are more salt tolerant than others. So some of the landscaping you'll see around here, especially on the coastal areas, the golf courses on the coastal areas should take that into their plan. But, generally, 250 is the maximum contaminate level for drinking water.

COMMISSIONER CHRZANOWSKI: I was just wondering what plants will tolerate. I've heard it was 1,000, but --

MR. MESSNER: Some will, and some grasses will tolerate higher salt content much better than others.

COMMISSIONER CHRZANOWSKI: Okay. I'm satisfied. Thanks.

MR. MESSNER: Thank you.

CHAIRMAN STRAIN: Okay. We're still on the first 10 pages of the staff report. Does anybody have anything else?

(No response.)

CHAIRMAN STRAIN: I've got a couple. With that diagram you have on there, that's interesting. The IQ reuse and storage wells go down to about 1,500 feet, and the deep-well injection goes down to about 3,000. Is that the same water? Is that the same -- is that treated -- equally treated?

MS. JOHNSSEN: Yes, it is. The reclaimed water is treated to a reclaimed standard when it leaves the wastewater plant. We treat it to that standard because we want to be able to send it out for irrigation. If we cannot send it out for irrigation, then it does get deep injected.

CHAIRMAN STRAIN: Right. And I assumed that would be your answer.

So the two wells handle the same amount -- same types of water. Why do you have to go so deep with your deep-well injections? Why don't you just turn them -- put it into the same confining layer that you have for your ASR and make it a giant ASR?

MS. JOHNSSEN: Well, that's the intention. The ASRs are being developed currently. And hopefully, going forward, we won't be utilizing the deep injection well for reclaimed water.

CHAIRMAN STRAIN: No. But are you required to put a deep injection well -- even though it's the same material that you're using at the ASR level in a shallower well, are you required, when you do deep injection, to put it deeper just -- even though it's the same material?

MS. JOHNSSEN: Yes.

CHAIRMAN STRAIN: Okay. Then that brings in the next question of the casings that you have. Your deep injection well has multiple casings, three on each side. It looks like your ASR wells have one -- till you get -- well, you go down about 10 feet -- 100 feet, and you've got two, and then you go to one the rest of the way. Why are your casing changes based on the fact it's the same water?

MS. JOHNSSEN: I'm going to let our consultant answer that.

CHAIRMAN STRAIN: Okay.

MR. SCIANDRA: Jason Sciandra, senior project manager with CDM Smith.

A couple things to note. I'm going to get back to your original question, Mark, regarding why we go deep with the deep injection wells. The ASR well -- the intention of the ASR well is to store and recover that water. You want a relatively loose permeability in there. You want it to be able to inject into it, be able to get into, not too loose so you lose everything, but loose enough that you can get into in there.

With your deep injection wells, those are internally designed in an aquifer that I've heard you could literally drive a Volkswagen through, and we're talking giant boulder, cavernous -- it's called the boulder zone for a reason.

It's cavernous. The intention is to basically be able to push as much water as you want to in there or need to in there. That's the intention of the deep injection wells.

Deep injection wells are sized anywhere up to maybe eight million gallons a day at capacity. Your ASR wells are really a million to two million gallons a day capacity. So different capacities, different sizing on them, and different intention of what you're trying to accomplish.

Now, the idea of using an ASR well for IQ storage is a, I'd say, relatively new idea. I mean, the ASR -- or the injection wells go back to the 1990s when we first started using the RO process and had to get rid of RO concentrate.

Getting to the question on the casings, it really -- my understanding is that really has to do with the depth we're going to. If you were going to a shallower depth with the injection well, you wouldn't need as many outer casings. It just has to do with how you construct that well.

CHAIRMAN STRAIN: Okay. The reason I asked about the casing is you have casings similar to what the oil casings are from the diagrams of the -- from Hughes Company in which they're having that issue with the oil well out in -- out east.

And there seems to be some concern over their casing methodology, but it doesn't seem that much different than yours. I mean, if it's safe for you, it would be -- I mean, if you don't think there's going to be contamination or problems through your casing. I'm assuming your casings are built to take the pressure that you're pumping under.

MR. SCIANDRA: Correct.

CHAIRMAN STRAIN: Do you know what those pressures are?

MR. SCIANDRA: We, typically for an injection well, will range anywhere from 15 to 35 PSI. They actually have to monitor that, and that's usually just -- that's the injection pressure, the pressure at the wellhead itself. The pressure down at the bottom of the casing is a lot less. You get frictional loses as you go down. But, basically, we're looking 15 to 35 PSI going into the well.

On the outside of the casing, basically -- the way those are set up for everyone who isn't maybe familiar with wells on the commission here, you have the -- so you have a tube, which can either be -- in the case of an ASR well, they're Fiberglass reinforced pipe. The injection wells are either the Fiberglass pipe or steel pipe.

So you put a casing in, and then around that casing you're going to grout. So you're putting in a very thick cement bentonite compound that's basically impermeable. The idea is that you're blocking anything that maybe could come out the bottom of the well and going back up the side, including up into the zones above.

So as you go in, you could do the first casing, you could do your surface casing, which maybe is, like, your widest casing. And as you go down, you install more casings and you do additional grouting around those casings as you telescope down into the hole.

Now, with regard to the question on the oil wells, I think we are operating under different pressures. But, I mean, if you have a specific question, I'll try to answer it.

CHAIRMAN STRAIN: No. I was just -- now that I know your pressure, I'll try to find theirs out. So do you -- you don't have any concerns over contamination of the upper layers, then, through the system that you've installed to use the deep-well injection?

MR. SCIANDRA: Personally I don't. FDEP has concerns. It's part of their job. Florida Department of Environmental Protection, it's their job to make sure there isn't upward migration.

Each of the injection wells has module walls associated with it. They have to be monitored on a regular basis what you're -- the way it's set up is you'll have a storage zone monitor well, meaning that the zone you inject into, you're monitoring that zone to see -- basically, if you have the well here, somewhere further away you're monitoring to see if that's, you know, kind of a migration across the aquifer, within the aquifer itself.

Then you'll have shallow zone monitor wells kind of, let's say, the next zone up. And the idea with that is to make sure that there's no upward migration of the fluid.

So, basically, each of our injection wells and ASR wells has a series or network of monitoring wells associated with it. For example, the Livingston Road one has three monitor wells associated with it currently. One's in the zone just above storage, one's in the zone above that, and one's in the shallow zone.

So, basically, we're monitoring all three zones above where we're injecting to confirm that there's no migration. If there is migration, FDEP steps in and says, okay, how are you going to mitigate this migration. Maybe stopping pumping, maybe it's doing additional monitoring, installing additional wells. It's a process and, basically, they required a monthly report on that. The monitoring requirements are very significant, so that's the -- kind of the protection against the pollution.

CHAIRMAN STRAIN: Thank you. Appreciate that. My next --

MS. JOHNSSEN: I'm sorry. I do need to make a minor clarification. You asked whether it was the same material that was being injected into each well.

CHAIRMAN STRAIN: Yes.

MS. JOHNSSEN: If there was an instance at one of the wastewater plants where they were not producing compliant reclaimed water, and they could not bring that water back through the plant for reprocessing, then there may be an instance where they're deep injecting something that's noncompliant, and that would be another instance where you would use the deep injection well.

CHAIRMAN STRAIN: For the most part, though, you have more concern with contamination from a deep injection well than you do through an ASR well; is that a fair statement? Because you have more casings around your deep injection wells than you do your ARS wells, for the same general material.

MR. SCIANDRA: I think it's -- I think you'd have the same concern. I think -- the reason for the more casings, I believe -- and I could be wrong. I'm not a well driller, per se. I believe the intention of the casings has to do with the approach to construction as opposed to concern for migration of pollutants upward. But there is -- I think, historically, there was more concern from FDEP regarding the injection wells than there was ASR wells.

CHAIRMAN STRAIN: Do you know if the pressure to pump ASR is different than deep injection?

MR. SCIANDRA: Yes, it is.

CHAIRMAN STRAIN: Greater --

MR. SCIANDRA: The reason why -- and I'll get in -- the ASR well that we have at Livingston Road, I believe, will operate somewhere around an injection pressure 60 to 80 PSI, so it's a higher pressure.

CHAIRMAN STRAIN: Oh.

MR. SCIANDRA: The reason why is as you get down into the injection zone, let's say the Oldsmar, which is the boulder zone, which is the deep injection zone, that's seawater. It's also a very high salinity water, and because of that, there's no upward pressure coming up through the well.

When you go to drill one of those wells, you get no flow out of it. You get flow in the well only when you start injecting less dense material.

So, basically, as we start injecting reclaim water or treated effluent water into that well, we're adding more freshwater to it, and the buoyancy of that freshwater causes the well to flow back.

With their ASR zone down in the Ocala aquifer, which is shallower, it's a little bit higher. There's more pressure on it from above. It's interesting. There's pressure from the aquifers above basically pushing down, and we'll get a head in the aquifer, let's say, of 10 feet or so.

And shallow aquifers, for example, are production aquifers of the Hawthorne. If you drill one of those wells, you have 30 feet of head pressure on it. Meaning that if you just put a casing in it and let it go, you kind of get a geyser effect coming out of the well.

So the difference is that with the ASR wells being shallower, being into zones that we're trying to recover from, the water -- there's more pressure upward in the well, which means that we have to put more downward pressure into it, means the higher PSI going in.

CHAIRMAN STRAIN: Great, thank you.

MR. SCIANDRA: You're welcome.

CHAIRMAN STRAIN: Appreciate that.

Stan?

COMMISSIONER CHRZANOWSKI: So that's the term artesian, the aquifer that's under pressure?

MR. SCIANDRA: Correct, yes.

COMMISSIONER CHRZANOWSKI: And one of these is an "artesian," or are any of them partially artesian?

MR. SCIANDRA: Looking at our zones going down, the Hawthorne Zone 1, lower Hawthorne -- these are the green ones. The Suwannee and the Ocala would all be artesian pressure zones of differing capacities.

The lower Tamiami, which is a blue zone up top in the water table, those are non-artesian zones. Those are the ones that have to be pumped.

It's kind of a similar question what Mark was asking about the oil wells is that the zones where they're in, which is about 15- -- or 12,000 to 15,000 feet down are non-pressurized zones. These are not gushers. These are things that are under no pressure of their own. They need to be pumped to recover the fluid out of.

CHAIRMAN STRAIN: Right.

COMMISSIONER ROSEN: Mr. Chair?

CHAIRMAN STRAIN: Go ahead, Mike.

COMMISSIONER ROSEN: Question, please. Has there ever been a study on the cost of all of these deep injection wells and other facilities or methods that you're using to dispose of extra materials versus additional piping throughout the county to distribute those waters for irrigation?

MR. SCIANDRA: I'll make this comment, Mike. And I mentioned it today to Beth earlier when she was answering the question about, you know, should we pipe up more communities so we can dispose of this water during the wet season that we're putting down the injection wells.

And I reminded Beth that the one thing that we always run into with wet weather flow that -- if you ask the former IQ manager who just left Friday -- they have a new IQ manager starting up this week. If you asked her, she'd be like, I can get rid of all reclaimed water, I can get rid of all the -- not get rid of, but I can distribute all the supplemental water and still not meet the demand of the existing system during, let's say, the dry season. There's enough demand during the dry season.

During the wet season, I can't get rid of any of it. I can't get rid of the reclaimed water. I couldn't give it away. If I was giving it away for free, nobody would take it. There's nowhere to put it. People are putting it into lakes on their golf courses, they're putting it into ponds, and they're putting it on the ground.

You only need so much water during the wet season, and that's the issue is that -- and that's why ASR is such a great thing in this case is that we're going to put in five wells at the Livingston Road sites, which it's a drop in the bucket compared to the total demand. But 5 million gallons a day of additional storage capacity means 5 million gallons a day that aren't being injected to never be recovered.

But the reality of it is is that you can't just pipe up more communities if they're getting the same rain everyone else is.

So as these communities get more and more rain, there's nothing to do with that water anyways. You'd still be deep injecting it.

COMMISSIONER ROSEN: Okay. Thank you.

CHAIRMAN STRAIN: Anybody else?

(No response.)

CHAIRMAN STRAIN: So when the earthquakes start because of the higher pressures you're holding this water underground for, we know to call you, right?

I have one question on the map that's on Page 7. It's your district map. And, Carolina, could you put that first slide on for me? I had to do a little slide show, too, Chris.

That is the -- in the area that I'm concerned about on your map, which is just north of I-75 and east of 951. And we'll get to your map in a minute, but I wanted to build up to it.

I believe what you're trying to do with the configuration on your map is to show that you're going to provide service eventually to the neutral and receiving areas, which are checkered in blue on this map; is that correct?

MR. VanLENGEN: In the rural fringe area, that's correct, yeah.

CHAIRMAN STRAIN: Okay. Could you put the next slide on then, Carolina.

Now, this is map of the units in Golden Gate Estates. There's your benchmark, 951, going north and south on I-75 to the west.

If you take a look at your -- at the rural fringe, both receiving and neutral, they correspond to the

areas that I highlighted in blue on this map.

Now let's go to your -- the last one, Carolina.

This is your map. The orange areas are areas in Golden Gate Estates that I'm not sure why you're showing incorporated into your system. The yellow area is not part of the receiving or neutral area of the rural fringe but yet you're servicing it, and the blue areas outside the dotted line on this map are areas that I think you do want to service, and then the orange to the top is just where your map's a little cocked and a little bit off.

I know you guys can do better maps than this. And what I'm concerned about is a few years back we had a problem; people in sections of the Estates were being charged impact fees from your department for potentially being serviced, and they weren't even though -- but it was because these lines are over -- one section over past 951.

Now, I understood that all somehow got corrected, but I don't know what it's going to mean for the areas that aren't accurately depicted in relation to the rural fringe versus what you guys think is your districts.

And I was hoping by the time we can talk about this on adoption that maybe you could look at having your graphic people do a better map, because this one -- it's caddywompus and all kind of -- go ahead, Terri. Try spelling that word.

MR. VanLENGEN: It's hyphenated.

CHAIRMAN STRAIN: But it's -- it doesn't make for a clear picture, and I'm worried that people will be using these maps to depict where you want to be, and all of a sudden we have impacts to citizens we didn't count on.

MR. VanLENGEN: I agree with you. And not to detract from what you're saying, I think the intention here -- there were some double dotted lines where those areas were excluded. So, in fact, the district almost hopscotches from one -- and that's hyphenated, too -- from one area to the next, so that those areas that you show in orange really -- at least two of them -- are excluded on this map, although it looks like they're included. It's just not a good depiction.

So there are a couple of issues. One is better depiction, and the other is to proof the actual areas. And we will do that for you.

CHAIRMAN STRAIN: Okay. I'd appreciate it. I think it would make it clearer for reading in the future, so --

MS. VALERA: Mr. Chairman?

CHAIRMAN STRAIN: Yes, ma'am.

MS. VALERA: It will probably facilitate our shape files from our GIS to see the end so we can, you know, better coordinate our maps, you know, in regard to our --

CHAIRMAN STRAIN: Well, I know if you gave this to Tim Billings, he'd have it fixed instantly. But I don't know who you've got over in your department. I'm assuming you've got some good people that can do graphics, so --

And that's the last question I have from the staff report. Does anybody else have anything?

(No response.)

CHAIRMAN STRAIN: The next part of the documents that we received are the large report from CDM, and I don't know how to break that down other than to just start working through it. And it's about 100 pages. So does anybody -- or it's over 100 pages, actually.

Does anybody have any questions from the beginning of it?

COMMISSIONER EBERT: I just have one thing for Chris. I found the acronyms and, I'm sorry, but you have a PUD in there, and that acronym has already been used. So you'll have to change yours.

MR. VanLENGEN: Okay. We try as hard as we can just to spell out public utilities without the D when we can, but I understand the confusion. I appreciate that.

COMMISSIONER EBERT: Chris, that was funny.

CHAIRMAN STRAIN: When you get to your document, on Page -- well -- 3-4, but it includes -- it occurs repeatedly. And it's just a general question. I notice that every utility that is private has a less per-capita demand, significantly, than Collier County, and the reason that that's important is that's the multiplier that you-all use to generate when you need new facilities.

So the higher the per-capita demand, which is consumption, the more facilities you need sooner, because we're using too much water, yet if you look at all your other facilities, I think the one even -- we are at 170, and I think it's -- Immokalee might be 110; Ave Maria's 100. You know, that's 170 percent difference between the other utilities and us.

What are we doing that's causing the people that live under your jurisdiction to use that much water while people in other parts of the county aren't? Do --

MR. VanLENGEN: Well, I think there are a couple of answers to that question. One is -- again, I'm going to refer to the master plan process that's undergoing right now. And we do expect that number to come down somewhat based on historic usage; however, I think it's also important to note that there are differences in demographics.

And in addition to that, most of these, if not all -- and Jason can correct me on this. Most of these private utilities have irrigation systems that are supported at least in part and some totally by permitted allocations from the Water Management District for irrigation.

So, whereas, we have irrigation uses in our district that come from finished potable water, many of these areas do not or have much less so.

CHAIRMAN STRAIN: Well, let's take the demographics as the first instant -- as an example. The demographics along the urban area, which is where most of your demand is, is generally retirees, people with small families, or seasonal residents. Their per-capita demand overall ought to be far less than the multitudes to the east where they have working families with children; and teenagers are noted for having a lot of water use. And so I'm not sure demographics helps your argument, and I think it does just the opposite.

I don't know about the irrigation quantities, and I do know that South Florida issues separate permits for that, but it would be nice to find out if that is a cause of the discrepancy. Because if you guys could lower your per-capita demand and practically lower it, meaning it's reasonable to lower it -- we're looking at system reductions as far as when they need to come online, that would be extensive savings for the taxpayers.

MR. VanLENGEN: Absolutely.

CHAIRMAN STRAIN: And it's a 170 percent difference than Ave Maria, for example.

So I think, again, by adoption, if someone could take a look at that a little more closely and provide some input -- because if we have levels-of-service standards that are higher than need be, we certainly could benefit to all the taxpayers by reducing them, so --

On your Page 4-1, you talk about existing water supply facilities. And in the first paragraph, 4.1.1, you're going to have two new supplemental wellfields. Where are those going to be located?

MR. SCIANDRA: We're currently in the process of retaining a water-use permit with the South Florida Water Management District. This has been in play for about a year now. The two new wellfields that are envisioned -- one will be at the Foxfire development; one will be at the South County Water Reclamation Facility. These are in the south service area.

CHAIRMAN STRAIN: Yep, okay. Something else that's concerning South Florida, when you pump water into an ASR so that you can take it back and use it, do they require you to have a permit to use it and take back again --

MR. SCIANDRA: Yes.

CHAIRMAN STRAIN: -- since it's back in the ground?

MR. SCIANDRA: Correct.

CHAIRMAN STRAIN: So you not only have got to get a permit to put it in the ground; you need a permit to take it back out again.

MR. SCIANDRA: We have -- for the ASR well on Livingston Road, we have a permit from the South Florida Water Management District to inject water -- I'm sorry -- to recover water from the water we inject into the ground. We have an FDEP permit to inject water into the ground. We also have a South Florida Water Management District permit which would allow us, during the wet season, to take water from the Livingston Road wellfield that would be excess water, if reclaimed water wasn't available at that time for one reason or another, and inject that into the ASR as well.

So we have at least three operating permits related to that well.

CHAIRMAN STRAIN: Well, at least Collier County isn't the most intense in regulation, so -- it

sounds like some other departments might be as well.

Unless others have any questions, I'll move on to some of mine and let you guys jump in when you want to, so -- I'm trying to get to my next one.

COMMISSIONER ROSEN: Mr. Chairman --

CHAIRMAN STRAIN: Yes, sir.

COMMISSIONER ROSEN: -- while you're looking for your next question, I need an education from staff, if I could.

Ten years ago, we were -- 10, 11, 12 years ago we were trying to permit -- we did permit Verona Walk, which -- CDM Missimer, I think, was the company. Is that any relation to you?

MR. SCIANDRA: CDM -- they were a predecessor of ours.

CHAIRMAN STRAIN: You'll have to use the mike, unfortunately. She's got to pick the discussion up on tape, so --

MR. SCIANDRA: CDM Missimer was a predecessor of CDM Smith.

CHAIRMAN STRAIN: Right.

MR. SCIANDRA: Basically it was CDM -- CDM, Camp, Dresser, McKee bought Missimer & Associates in the late '90s, it became CDM Missimer, became CDM, and the latest name change was CDM Smith in the last two years.

COMMISSIONER ROSEN: Gotcha. Okay.

Well, the question I have, they talked about the ASRs, you know, for our Winding Cypress DRI, which is Verona Walk, and it was new, basically, then. And please excuse the question being so elementary, but are you finding these are successful? Because back 10 years ago they were sort of new, and there wasn't a lot of history behind them.

MR. SCIANDRA: The history behind ASR is -- it's interesting. And Steve can back me up on this. Collier County has an ASR going back to the '90s at Manatee Road. It was a potable water ASR in the end of the distribution system. The intention was to store water during slow times of the year so you could recover it during peak times.

There have been a lot of issues with ASR mostly on the regulatory side. Steve can get into some of the issues with regard to the Manatee Road ASR, but the one they kind of stymied at the Livingston Road project was the EPA's move on the arsonic limits within groundwater aquifers. It went from 50 parts per millions to 10 parts per million in, I think, it was 2004/2005.

And the other part about it was nobody's ever kind of -- nobody's pushed the envelope to say what's going to happen. And everyone who does push the envelope -- I know there's work going on in kind of in Central Florida funded by Army Corps of Engineers, the Water Management District's got funding projects, but everything's kind of at a very slow pace because we know ASR works conceptually. We've tested them in different places. You can recover out of them, anywhere between 50, 75, 80 percent, depending on what kind of aquifer you're injecting into. The big issue, though, is the regulatory hurdle.

Most recently with Collier County and the Livingston Road ASR, the well was drilled deeper. The well was originally 800 feet deep. They drilled down to 1,400 feet to get down to an aquifer that didn't have the same EPA requirements within the aquifer. Same requirements leaving to go out to distribution, but within the aquifer they had a little bit more flexibility in terms of how they used the well.

So, really, the history on ASR, we know it works; there's just regulatory hurdles that keep coming up that may get difficult to implement.

COMMISSIONER ROSEN: All right. Well, you answered my question, so you know it works. So they do work?

MR. SCIANDRA: Yes.

COMMISSIONER ROSEN: Okay. Thank you very much.

COMMISSIONER CHRZANOWSKI: I've got a question, Mr. Chairman.

CHAIRMAN STRAIN: Go ahead, sir.

COMMISSIONER CHRZANOWSKI: The Collier County Water and Sewer District, Golden Gate Tamiami wellfield, I know that the city has one farther out in Golden Gate Estates, and Golden Gate Estates, 90 square miles, the units that are more toward the west are, like, 80 to 90 percent built out; toward the

middle they're, like, 50, and when you get to the far end, the east end, they're only, like, 10 to 20 percent built out.

Is there any possibility at all -- and I'm looking at the casing depths on these, and I know the city wells are even shallower. Is there any possibility at all that there's going to be competition for water? Because all those people out there are on wells right now.

When you guys pump in the drought out of that wellfield or the city pumps, any chance at all that you could affect, adversely, the people in Golden Gate Estates?

MR. VanLENGEN: Jason, could you address that? Thank you very much.

MR. SCIANDRA: Collier County has been going through -- well, back in 2009 we went through a process with the Water Management District to extend their allocation of freshwater Tamiami aquifer from 18.7 million gallons a day to 26.5 -- 26.5 million gallons a day.

And the intention of that was basically to expand the withdrawal capacity to match the plant's treatment capacity. So basically, we have constructed capacity at the north and south water treatment facilities. We basically line that up to make it so that what you could draw out would basically fulfill your need at the plants.

And the reason I bring this up is through the process we've got a lot of pushback. The pushback was, you're going to, you know, harm the wetlands, you're going to harm the Everglades, you're going to harm, you know, the homeowners.

And what we've seen over time is that while the water table aquifer has stayed steady over time, despite the increased pumpage from the City of Naples, Collier County, and a dramatic increase in population in Golden Gate Estates, let's say, over the last 20 years, we have not seen impacts on wetlands, we have not seen impacts on the water table in terms of water levels. Basically, this is all graphed out.

Unfortunately, I don't have those graphs; otherwise, I'd share them with you. We basically -- we did a couple of things. We did a pump test out there demonstrating that when you pump this lower aquifer, you don't impact the shallow aquifer.

We did groundwater modeling to demonstrate that there is no impacts, and we also have long-term -- what they call dual-zone monitor wells, one in the water table aquifer, one in the Tamiami aquifer. And we trend those over time looking at whether or not, you know, pumpage -- you can see the impact of pumpage on the Tamiami aquifer when the water table stays relatively level, but you see the seasonal impacts of rainfall.

With regard to drought situations, our permitting is all based on a 10-year drought, a one-in-10-year drought. Basically, we have to do a model that basically shows the impact of a 90-day one-in-10-year drought to show, okay, what's the impact going to be if this happens if you're pumping at your full allocation.

And time and time again we've proven to the district with our modeling, with our real-world results, that there is no impact.

Now, should there be -- and this is something we always fall back on because we've acquired properties over time to put in new wells into Golden Gate Estates. And people are like, well, if we sell you this part of our land here, you know, and you put a well in in the future, if you cause a drought on our well, what's going to happen?

And, basically, the short answer to that is, if the county causes a drawdown on a private well, the county's responsible for mediating that in one way or another.

And more than likely what would happen is the county would probably just hire a well driller, drill the existing well for the homeowner deeper, and lower the pump settings.

Does that answer your question?

COMMISSIONER CHRZANOWSKI: My concern is that the Estates is, in total, maybe about 50 percent built out. When the other 50 percent builds out -- and it's all going to be to the east -- I'm worried that there might be a problem.

And I see right now -- and it's not you, it's the city -- they have a wellfield that runs for five miles, and it sits between two weirs, and it pumps the canal between those two weirs down. Downstream of the bottom weir there's water; upstream of the top weir there's water. So you can't tell me that there's no continuity of water surface between there.

The canal is pumped down, so I know there's an affect on the groundwater table. But it's not you. It's

the city that's having the effect. And I'm worried that in the future, between you and the city, you could affect 15,000 more people in Golden Gate Estates. But you're telling me that if you do, you have to solve the problem?

MR. SCIANDRA: That's the way the Water Management District looks at it.

COMMISSIONER CHRZANOWSKI: Okay.

MR. SCIANDRA: But I would want to point out one of the things -- and part of our permitting process -- and I would say our argument with the Water Management District has always been, we're different -- not we, but Collier County Water/Sewer District is different than the City of Naples in terms of where they sited their wellfield.

If you look at hydrogeologic maps, for lack of a better way of putting it, there's a water table aquifer, there's a confining zone called the Bonita Springs moral (phonetic), and then there's the lower Tamiami aquifer.

Where you'll find the Collier County Water/Sewer District's wellfield, you have between 15 and 30 feet of confining zone between the water table, which is where your canals are, where your wetlands are, and where we pump in the lower Tamiami aquifer; 15 to 30 feet of confining, which basically is a real separation. You're not going to be able to draw down the water table through aquifer.

As you go further east and further south -- and by south I mean south towards I-75 and south of I-75 and out further east of, I believe it's Miller Canal, that zone, that confinement kind of peters out, it narrows out.

And so what you have is -- and the City of Naples wellfield is more likely to cause groundwater -- or shallower impacts than the Collier County Water/Sewer District.

It kind of -- it's a different thing, but I wanted to at least clarify that, you know, there's two different aquifers going on here or two different situations going on here, and you can't necessarily lump them together saying the total impact is really bad.

COMMISSIONER CHRZANOWSKI: I had heard that that confining layer is, I guess what they call an aquitard. It just retards the waterflow, as opposed to an aquiclude, which totally -- I think those are the terms -- which totally separates the water. You know, the difference between broken rock and maybe a clay layer that's totally impervious.

MR. SCIANDRA: Well, what we're dealing with here -- and we actually -- we just submitted a -- or we're preparing a permit application to renew part of water-use permit for the Golden Gate wellfield. And one of the things we got into was a study that was done back in 2008 by CDM for Collier County Water/Sewer District in terms of permitting another facility which is -- we did three tests specifically that tests that confining ability of that confining bed in different areas of Collier County.

And what we found is it's really -- it's a real confining bed. It's not something that's slowing down. We're talking, you know, flows that are less than what's acceptable for landfill liners. You're talking about basically, you know, very long term, you know, movement of water.

So you're not -- so if you start pumping on one, you're not going to see an impact on the other, at least not in the short term.

COMMISSIONER CHRZANOWSKI: Okay.

CHAIRMAN STRAIN: The practical aspect, though, of what you said is interesting. If a homeowner in Golden Gate Estates thinks his well has gone dry because of the wells that the county has out there pumping and he wants to get the well drilled deeper, I'm sure that before the county would agree to expend that kind of money, they would probably say, well, we think it's coming from the City of Naples.

The City of Naples would say, no, it's coming from Collier County, and then both municipalities would get their two groups of attorneys paid for by taxpayers to fight the citizen who has nobody to pay for his attorney.

But that's a whole side effect. But that's the reality of how that would all probably pan out, unless you have gone out and drilled wells just out of the goodness of Collier County. I don't think you have.

MR. VanLENGEN: Well, I think -- and I think Jason covered it, but I think monitoring wells and monitoring those monitoring wells month after month, year after year, has to provide some assurance. I mean, once we see some changes occurring, we have to react to those changes.

CHAIRMAN STRAIN: Back to the document. There's a couple things I'd suggest, Chris, under your conservation items on 7-1 where the use of the word "encouraging" for Florida friendly landscape. You might want to pursue and see how that word could be strengthened with LDC text.

There might be some practical reason why it can't be, but I think it would be worth exploring to help reduce IQ water.

On Page 7-2, you also talk about distribution system rehabilitation, and automatic flushing stations are installed in problem areas of the system that are identified.

And I know -- I'm familiar with those flushing stations, because they generally happen in long dead-end extensions.

And this board routinely approves dead-end extensions at greater lengths than allowed by code when we do cul-de-sacs. So if someone wants a cul-de-sac and they want it to not be consistent with the code, which has a limited depth, they go to 1,000, 1,200 feet, whatever, whatever seems to be what we've customarily approved.

It might be something for your department to consider that when those issues come up in a PUD, that if there's a -- if it's practical, that you recommend that somewhere along the end of that cul-de-sac there's an easement provided through any private properties to future interconnections to adjoining properties for your waterlines. That way you wouldn't have so many dead-end connections that require these flushing mechanisms, and we wouldn't be wasting water doing that.

MR. VanLENGEN: Right. I think that's an important point. And in that regard, I think it might be helpful to set up some communication, maybe a meeting between growth management and our department, in order to kind of really talk about the parameters of that calculation.

We tend to look at the number of connections as opposed to the distance. And I think the concerns are reliability, water quality, and fire flow. All those things are related to what you're saying, but it may be a more -- it may be a conversation that would be helpful to have along with our consistent review.

CHAIRMAN STRAIN: And that would be another -- instead of another item of the listed projects for automatic flushing, you could actually list that as another conservation item that your department's pursuing to reduce the amount of flushing stations needed to save water.

COMMISSIONER ROSEN: Mr. Chairman --

CHAIRMAN STRAIN: Yes, sir.

COMMISSIONER ROSEN: -- on your point, may I ask a minor question?

CHAIRMAN STRAIN: Yeah, go ahead.

COMMISSIONER ROSEN: On those cross-connections or interconnections that Mr. Chairman just articulated -- I agree with him -- does your department allow subaqueous crossings?

MR. MESSNER: Once again, Steve Messner, director of the water department. Yes, we do.

COMMISSIONER ROSEN: You do?

MR. MESSNER: We do.

COMMISSIONER ROSEN: You didn't in the past. So now you do?

MR. MESSNER: Yeah. In the form of -- to create loops and things like that --

COMMISSIONER ROSEN: Yes.

MR. MESSNER: -- is that where you're going with that?

COMMISSIONER ROSEN: Exactly.

MR. MESSNER: Yeah. If there's any areas that -- we love to have loops at the end of these lines.

COMMISSIONER ROSEN: Of course.

MR. MESSNER: And a true loop into a different source of -- you know, different area, not just looped into itself. In any way -- in our review of plans, any way to get to that we will require that. Unfortunately, a lot of these dead ends, they dead end, and there's no looping factor there to get that back in.

COMMISSIONER ROSEN: Sure. Understood. Thank you. Thank you.

CHAIRMAN STRAIN: And, you know, when those PUDs come through, you guys sign off on them. If you look at that as a -- usually they're listed as deviations. They want a deviation from the cul-de-sac length, and if there's some way that in your comments you could provide that, this board and, I'm sure all the boards, would appreciate that kind of information.

MR. VanLENGEN: Absolutely.

CHAIRMAN STRAIN: Did you have something, Diane?

COMMISSIONER EBERT: Yes.

On water conservation, one quick question. For conservation you're saying even if it is a -- they're using from their own lakes, and you're saying three times a week. And I remember with -- during the drought, I don't remember how long the drought lasted. Was it three or four years this last time? Does anyone -- know long -- does anyone know how long this last drought was?

MR. VanLENGEN: I don't know what the official number was, but I think you're pretty close to the target.

COMMISSIONER EBERT: Yeah, three, four years. Because I know it was put out that all of the developments were to use less water. The lakes were getting so low some communities could not even pump from the lakes.

And you talk about rain sensors. I don't know of any rain sensors that are working, to be real honest with you. They were put on every home, and there's something to be changed every year which is done, and the water still comes on.

The rain sensors -- maybe if there's something that can be done differently, it would help. But I notice the sprinkler system still comes on even though they have rain sensors, because they're not working.

MR. VanLENGEN: Something we can definitely look at.

CHAIRMAN STRAIN: So you found a complaint against your own place?

COMMISSIONER EBERT: No, it's not just -- no, I know. Not just mine. It's throughout, you know. And I know -- originally I went to South Florida Water Management for a recharge well. Well, I went just during the time the drought started, and they just didn't want to talk to us at that time, so --

CHAIRMAN STRAIN: Does anybody else have any questions about the report?

(No response.)

CHAIRMAN STRAIN: Then there's some appendices to the report. And one of the problems, when you provide documentation to read, it almost forces people to have to read it.

So on Page -- well, on the agreement for potable water service with Calusa Island Village in Goodland, Chris, I'd given you a heads-up on this question a day or two ago. It had some timetables that are going to be expiring in 2014. I just wanted to make sure we collected the money.

MR. VanLENGEN: Yes, sir. We looked at that, and we have -- in our SAP system we show that all of those monies were collected within the first year of -- following the agreement, so --

CHAIRMAN STRAIN: Excellent. And that's the last comment I have on this. Does anybody else have anything else they wanted to --

Yes, sir?

COMMISSIONER ROSEN: Mr. Chairman, I'd just like to make a final comment.

You have a very difficult job, you know, balancing your system with supply and demand, extremely difficult, and then the environment, you know.

But I -- and this is my time to talk. I've said this off the record, but I'll say it now on the record. I would encourage you, you know, from a planning process, to keep on looking at new innovations and techniques in water conservation, as I'd mentioned previously, because years ago, back in the '70s when I first started in this business, we said then water is gold. You know, water is going to be very valuable in the future.

And it's -- I think it's our responsibility to try to move forward with some water conservation techniques in lots of different directions, as I mentioned before, about using IQ water in areas that we didn't think about using. You've got some political issues, you know, from -- probably from the building community that don't want to do that, you know, and I guess there's cost issues.

You've got distribution issues that Stan mentioned about Golden Gate Estates, and I believe he's absolutely correct. I think Golden Gate Estates has -- I think it's 30,000 lots, and 15,000 are about occupied now, so you've got 15,000 more to go.

It's piping, it's distribution. Again, it's a balance that you have to fight with, but I encourage you to keep on coming up with ideas and presenting them to the County Commission to -- you know, to hopefully

answer those ideas through technology and, you know, through proper planning. Thank you.

MR. VanLENGEN: Thank you.

CHAIRMAN STRAIN: I just hope that you don't bring a proposal to ever put piping in Golden Gate Estates. The cost per lot out there --

COMMISSIONER ROSEN: I told you it was political.

MR. BOSI: Chair, just for your information, in 2008 during the second phase of the East of 951 Study, we actually had a presentation, and it was a report that was generated by Greenley and Hansen. And the estimated cost at that time to extend to the Estates lots that were within the water and sewer district were $119,000. So it is a --

CHAIRMAN STRAIN: I'm familiar with it.

COMMISSIONER ROSEN: Per lot?

MR. BOSI: Per lot.

CHAIRMAN STRAIN: Per lot, yeah. And that's a two-and-a-quarter-acre lot, and a lot of us have five-acre lots. And just for one house, we'd be spending more than the entire cost of the property, practically, to get water and sewer -- water -- yeah, your facilities there. So that will be -- I will be very --

COMMISSIONER ROSEN: That's kind of a scary figure, Mike. You know, but that's based on a one-time payment; is that correct?

MR. BOSI: Correct.

COMMISSIONER ROSEN: It's not based on bonding it for 30 years or some other type of financial method.

MR. BOSI: That was just the one-time cost to each individual lot owner within that section of the Estates.

COMMISSIONER ROSEN: Right. So part of that balance is finance, as I mentioned previously, as well as the planning.

Okay. Thank you.

CHAIRMAN STRAIN: Or contribution by the county to do that for free for all the people in the Estates. We'd be very pleased with accepting that, I'm sure.

COMMISSIONER ROSEN: I'll vote for that.

MR. VanLENGEN: Commissioner Rosen, I really appreciate your comments in conservation, and I think by the time we come back for the adoption presentation, we may have some additional items in our irrigation ordinance that have been proposed or will have been adopted by that time. I can't tell you that for sure, but we're certainly looking at additional strengthening there.

COMMISSIONER ROSEN: Thank you.

CHAIRMAN STRAIN: Okay. Does that wrap it up, Carolina?

MS. VALERA: Yes, sir.

CHAIRMAN STRAIN: Okay. And I think, from my notes, we have a few things that, between now and adoption, maybe you could at least address when it comes to adoption with some kind of affirmative discussion that you may have had with other parties. One is getting that map fixed so it's more accurate.

MS. VALERA: Will do.

CHAIRMAN STRAIN: Discussing possible improvements over the use of the word "encourage" when it comes to Florida landscaping.

MS. VALERA: Yes.

CHAIRMAN STRAIN: Also discuss some methodology for looking at those dead-end connections and improving on those when they come in in PUDs.

MS. VALERA: Noted.

CHAIRMAN STRAIN: And then checking the level-of-service standard of our 170 requirement versus others.

MS. VALERA: Noted.

CHAIRMAN STRAIN: And I think with those further clarifications by adoption, I mean, I don't know any reason we wouldn't want to recommend approval, so --

MS. VALERA: Thank you.

CHAIRMAN STRAIN: -- I'll ask someone if -- we have to make a motion on behalf of both the Planning Commission and sitting as the EAC.

Does anybody want to make a motion to recommend approval of this water supply plan?

COMMISSIONER ROSEN: I'll make that motion, Mr. Chairman.

CHAIRMAN STRAIN: Okay.

COMMISSIONER ROSEN: Motion to approve PL-20130001132/CPCP-2013-7 on behalf of the Planning Commission and the EAC.

CHAIRMAN STRAIN: Is there a second?

COMMISSIONER CHRZANOWSKI: I'll second.

CHAIRMAN STRAIN: Seconded by Stan.

Discussion?

(No response.)

CHAIRMAN STRAIN: All those in favor, signify by saying aye.

COMMISSIONER CHRZANOWSKI: Aye.

COMMISSIONER ROSEN: Aye.

COMMISSIONER EBERT: Aye.

CHAIRMAN STRAIN: Aye.

COMMISSIONER HOMIAK: Aye.

COMMISSIONER DOYLE: Aye.

CHAIRMAN STRAIN: Anybody opposed?

(No response.)

CHAIRMAN STRAIN: Motion carries 6-0.

MS. VALERA: Thank you, Mr. Chair.

CHAIRMAN STRAIN: Thank you. Thank you all very much for your time today. We appreciate the answers, so --

MS. VALERA: Thank you very much. And we also want to thank the South Florida Water Management District staff that made themselves available to coordinate this effort; also our local branch, our Big Cypress Basin, headed by Lisa Koehler. She was very gracious in providing her offices and her time to facilitate this coordination with the district. So I want to thank them.

I thank you for your recommendation, and we'll be back in just a few months.

CHAIRMAN STRAIN: Great. Thank you very much.

And that takes us to our last item today. It's an item of old business. It's just a quick reminder. I don't know if you-all had a chance to play around with the example PDF that was sent. As you do have time to look at it, if you feel that electronic formatting is something that you desire or you think is viable, bring it up again. Otherwise, I'll just leave it on -- leave it until we get to a -- get further along.

New business? I don't think there is any.

There's nobody left in the public to comment.

So with that, is there a motion to adjourn?

COMMISSIONER EBERT: I make a motion to adjourn.

CHAIRMAN STRAIN: Seconded by?

COMMISSIONER HOMIAK: Second.

CHAIRMAN STRAIN: All in favor?

COMMISSIONER CHRZANOWSKI: Aye.

COMMISSIONER ROSEN: Aye.

COMMISSIONER EBERT: Aye.

CHAIRMAN STRAIN: Aye.

COMMISSIONER HOMIAK: Aye.

COMMISSIONER DOYLE: Aye.

CHAIRMAN STRAIN: Anybody opposed?

(No response.)

CHAIRMAN STRAIN: We're out of here. Thank you.

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There being no further business for the good of the County, the meeting was adjourned by order of the Chair at 10:32 p.m.

COLLIER COUNTY PLANNING COMMISSION

Mark P. Strain

MARK STRAIN, CHAIRMAN

ATTEST
DWIGHT E. BROCK, CLERK

These minutes approved by the Board on 12-5-13, as presented ✓ or as corrected _____.

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