

Water Supply Assessment Workshop – January 11, 2016

Darlene: so, I am going to start out tonight with a few summary slides on the Water Supply Assessment (WSA). I wanted to bring out to everybody's attention that the version of the WSA that you have tonight has the date of January 11, 2016. We found that in table 4-1, that the projected demand in acre feet for the approved projects which is the commonly referred to as the 6-70 Group, in the out years of 2025, 2030, and 2035, was not accumulative number and so those numbers were short by 126 acre feet per year, so the version of the WSA you have tonight has that updated which rolls through all the tables in 4-1 and then it also rolls into the annual supply allocation of table 6-2. So the net result is that it did not affect the conclusion of the WSA but it did revise some of the numbers.

So, we will use this version, the January 11 version, as the now the main document that we will be making further comments and revisions to based on comments received.

Martel: Can you tell me how you think the numbers are affected.

Darlene: pardon me

Martel: Can you tell me how you think those impacted the report a little bit.

Darlene: Well, like I said, it didn't have any change to the bottom line numbers it just had the table 4-1 the second line down that says approve projected demand in acre feet per year, and the paragraph above that says that the developments of the Retreats, Murieta Gardens Extended Stay, the Murieta Gardens residential, Murieta Gardens 2 commercial, and the Murieta Inn are all projected to be completed in the year 2020 and then the remaining 6-70 developments of Riverview, Lakeview, Residences East, and Residences West are assumed to be completed by the year 2025. The previous version of this table in year 2025 did not have the cumulative projected demand so in the prior version that number was 126 acre feet short. I will tell you what the previous number was. In the previous version it had for years 2025 and beyond 265 acre feet of demand and it should have been the 391 as reflected in here.

Pasek: 2030 was 391.

Darlene: Pardon

Pasek: What was 2030 in the old version.

Darlene: 265.

Pecotich: so it was all 265 in 2025, 2030, and 2035 which now reflects 391.

Pasek: so 130 something

Darlene: 126 acre feet.

Pasek: yeah, okay

Graf: if you look at 126 divided by the total is less than 5% difference so

Darlene: but it was a calculation error in the back up spread sheet that fed all these tables.

Pecotich: okay, so before we get started I wanted to say think for everyone being here tonight to be part of the workshop. I know that there was interest expressed by members of our community to have some discussion around this so we did make accommodations to have tonight's workshop for that purpose. You know, the whole point of this was to hear from community folks who may have some expertise in this. I think that one of the things that we identified there is interest from people in the community but there is also people that have some, you know, professional experience around some of these things and we would like to hear that input from you too as well. With that, I hope that tonight we kind of focus on the scientific facts around things and try to stay too much out of the anecdotal type comments around that. So please, just focus on the scientific parts, if we could. The other thing I wanted to share with everybody is that we are recording this tonight as well and we will post it on our website so there is others that maybe are watching the championship tonight or have other things involved that they can listen to it on the website and then they are free to comment during the EIR process as well in addition past tonight's workshop as part of our EIR process there is an opportunity to do that. There is also a CPAC meeting that is happening on Tuesday the 26th that is also another opportunity to give comment as well. So I just wanted to point those additional things out to the audience in case you were not aware of them and hopefully that sets the stage for getting started.

Darlene: so everyone should have copies of the slides I am going to go over. There is just a few of them and I just wanted to go over a summary of the WSA together. So, the WSA process was requested of us back on June 30, 2015 from Sacramento County. It resulted as, it was a result of Senate Bill 610 which was enacted in 2002 and the primary purpose of the WSA is to determine if the water agency supply is sufficient to serve the proposed development under a normal year, single dry year, and multiple dry year conditions during a 20 year projection. So, that is why we show the WSA starting 2015 and we take the 20 years out to 2035.

Want to do some quick summary just on the supply assumptions and go into some demand assumptions that we used in developing the WSA projections. The, on the supply side, we constrained the supply vehicle to the 4,723 acre feet per year which is basically storage with the stop logs. We did not include in the WSA any water that is available from director diversion that we do during the periods of November through May when we can actually draw water from the river and replenish it as it is used. The water permit we have allows a diversion of up to 6,368 acre feet per year. So, we could have some direct diversion of anywhere between that 4,723 up to the 6,368 acre feet per year that we do not have included in the WSA. The water supply does not include any water made available for augmentation wells. We elected not to include that our supply availability because the wells are not drilled. We don't know for sure what the augmentation wells will actually provide for additional supply so to keep things on a conservative basis, we did not include any augmentation well supply.

And then we did include a projected estimate supply of available recycled water of 560 acre feet per year. That number is derived from the 2006 IWMP from Hydro Science. They projected 1,110 acre feet of recycled water to be produced and if you subtract the 550 that would go to, that is estimated to go to the golf courses, that leaves 560 acre feet of recycled water available for use to off-set potable demands.

Pasek: and that is downstream in 2030 or there about.

Darlene: we don't include any of that until 2030. Half of it in 2030 and half of it in 2035. On the demand side for assumptions for the demands that we calculated for the proposed development, we went and calculated from basically, ground up. We didn't try to constrain the estimated demands based on what the District typically uses as our gallons per day or EDU number. We wanted to build it up so that weren't artificially constraining. We wanted to see where it would go based. We wanted to build it up to be more conservative on the demand side so there is a table in the WSA itself that outlines all of these which is table 4-5. We calculated that indoor water use is going to be about 61 gallons per day per capita per person. We estimated that there were going to be 3 people on average per lot per house. That is a higher number than what the census shows.

Typically, we run about 2.3 people. Again, we wanted to be conservative and show a higher person count per house. The irrigation demands are 4.18 feet per year which, when you calculate to gallons, it is 31.3 gallons per square foot irrigated per year. The irrigated land area for the proposed development is on the lots that are over 24,000 square feet which are going to be like the ranchettes. The ranchettes, anything that is over 24,000 square feet is estimated that about 33,000 square feet would be irrigated land. Lots that are over 12,000 square feet, less than 24,000 square feet, about 11,250 square feet irrigated on average and then the small estate lots, lots that are less than 12,000 square feet will have about 8,000 square feet of irrigated land.

Commercial demands are built in the proposed project has a 39 acre commercial parcel and final use on that commercial parcel are not known yet so we took a look at what our existing commercial demands are and that equates out to .56 million gallons per acre so in this demand projection we included those 39 acres at .56 million gallons per acre for demand estimate. And then on the park and common areas in the 2010 and earlier IWMP there were a projected amount of park and open space EDUs. We currently use about 54 of them so that left a balance of 250 EDU equivalents for parks and common area at the 600 gallons per day. So, that is all of the demand assumptions basically that we used build from 0 up.

Pecotich: what did you say the current indoor water use was today?

Darlene: about, in here, it is about 60 gallons per day, the actual that we use is in the table, just a minute.

Lisa: it is the same.

Pecotich: is it the same. Okay. So it is based on current usage or similar scientology.

Darlene: then in the summary of the proposed project demands we used very conservative assumptions to produce a conservative demand for the developments. I didn't want to come in constraining it to 600 gallons per EDU that could have been, you know, very much on the low end. So to show a very conservative demand instead, we are projecting a larger demand than is probably going to happen in reality. The proposed project demands in the final build out year of 2035 calculated out to 1,326 acre feet per year, that's equivalent to about 1.2 million gallons per day and just as a validation check point, we looked back and saw that on the Water Treatment Plant Expansion Project, that the pass through that the developer has contributed is 1.5 million gallons per day. So, even at our conservative level we haven't over allocated from the treatment plant from what they actually contributed for.

Pasek: that is in processed gallons per day, not raw water.

Darlene: right, treated water. The water supply estimate is based on building from the ground up projects an EDU count of 1,995 dwelling units. If we had restricted based on just the 600 gallons per day per EDU based on lot size and an estimated guess, like on the ranchettes, of what we assumed an EDU would be, that would only come in at 1,202 EDU of water usage. And then I just had on the bottom here our actual average demands in gallons per day again as a validation check point, from the time I could go back and pull these numbers easily, a 16 year average has been 460 gallons per day. That goes from June of 2000 to June of 2015. A 10 year average June 2000 to June of 2009 – 474 gallons per day. I picked that 10 years because after 2009 is when we started having reductions in usage because of conservation efforts. A recent 5 year average, June 2010 through June of 2015 was 455 gallons per day and if you roll that out to include our most recent year of demands based on drought and conservation efforts that gallons per day reduces down to 414. And the conclusion from the WSA is that the District does have sufficient water supply to serve the proposed project per the requirements of SB610. A normal, a single dry year, and multiple dry years.

The next steps for the water supply assessment are that it will go to the Board for request of approval at our regular Board meeting on January 20. So what we take from tonight is comments and input in making any revisions to the WSA that we think are valid and reasonable. Those will be included in this January 11, 2016 version of the WSA and that revised document will come to the board January 20. From the board approval, we will, the district will submit the WSA to Sacramento County Planning. Sacramento County is planning on having a peer review done on the WSA to validate what we have done. The WSA will become an attachment to the project's EIR and that EIR is anticipated to be released, last time I talked to Shelby, in early December – her projection was it would be ready for release and public comment in September 2016. And that is just the overall summary I wanted to give.

Pasek: you also have to keep in mind that historically, 70% of the water use goes for outdoor irrigation and as people are cutting back on the lawns they have and/or the controllers they, etc., etc., outdoor irrigation is becoming less and less of a water hog so to speak. And keep that in mind because leading to 2014 most of our water went to irrigation so when we got a water shortage or drought condition, that was the place that we saved a lot of water. People are not being cut back inside.

Pasek: at this point in time, let's go over it. Does anybody have any comment; do you want to go over it section by section, who do you want to work that?

Darlene: I think it is going to be better to have a person come up one at a time and then give their general comments. We could go over, we did have some comments that were submitted to us at the December Board meeting that came in from Les Clark. We could review his comments as a starting point if we wanted to go through that.

Pasek: Okay, let's do that.

Darlene: Okay. His first comment was related to table 2-1 and that table shows the development schedule for the proposed project and his comment is that maybe rather than showing that schedule in percentages, that it be better understood if we actually put in the total number of lots assumed for development during each of those time periods. Lisa, I don't know if that makes a difference, it is just that this field from your spread sheet so we would have to go back in and modify the table to put in actual.

Graf: percentages gives a quick feel for the magnitude of what is going on and obviously if you want to get to the actual number you could do the math but understand it, in trying to understand the table here is trying to show a schedule and look and say okay, Village A is obviously the first thing going on and it has most of its work early and tapers off towards the end and then you can see the others come on line going from 0% to their start percentages. I am comfortable with it as percentages.

Pecotich: Les and his comment is that he also referenced those in table 4-7 with the numbers being shown in the actual lot type and size and numbers.

Darlene: Yeah, so table 4-7 shows it by lot type and total numbers. It doesn't show it by village.

Pecotich: let me just complete the thought. Is there any correlation that other than going to a separate document that correlates Village A to what estate less than 24,000 square feet, you know, is there any key that cross walks the two?

Darlene: there is in the back of excel spreadsheet. I don't know if it makes a difference on here but the Excel spreadsheet has it to that detail, yes. His next comment was in section 3.7 which is page 9 of the report and he is talking there about table 3-1 and the third row down, water treatment capacity in acre feet. His comment is

that this is max theoretical which may not be practical given down time and maintenance interruptions, which could be true but that number is there for information only. It is not used in any of the calculations or in any of the water supply assessment determinations. It is not used in the supply or demand.

Pasek: it clearly says treatment capacity.

Darlene: Yes. Another comment on that same table 3-1 is related to the note section on the row 4 – total usable water storage capacity with stop logs in acre feet per year. And in the note section that is where we make reference to say that the value does not include water that is directly supplied to customers during pumping season. His comment is that this is an important conservative assumption that may need some quantification and see comments on table 6-2.

Graf: so Paul, this is going to vary from year to year depending upon when we can start pumping and how soon we will have to cut off because obviously the longer we can pump, the more we are replenishing the capacity used the month that we are pumping.

Paul: Yeah, the detail would change as far as what is being diverted when but the total usable capacity is going to stay fixed.

Graf: but if you can reach the total usable capacity in March, you got less time for drawdown whereas if you have to stop pumping in December. And start your draw down earlier.

Paul: yeah, it depends on how long, you know you have that May 31 cut off, you fill up and then sustain. Your starting point changes.

Merchant: Yeah, your top off takes that 4,700 number up. If you can

Graf: While you are filling it up, people are still using. If you can pump for 2 months

Merchant: you are maintaining the existing level but you are fielding more water.

Pasek: I don't think there is any way to predict that.

Graf: Yes, that is a variable thing.

Darlene: it is a variable and again it was conservative to say that we started with full reservoirs and we could not do any replenishment during so it is just, like you say, you don't know each year how much you are replenishing so it was more conservative to do that maximum of 4,723 acre feet per year available with the stop logs.

Pasek: Remember in 2014, we took half reservoirs and filled them in 30 days but turning on 500.

Graf: that was like in February.

Martel: February 7, 8, 9

Pasek: March

Martel: no the rain storm came in December

Pasek: but is it was in the February/March time frame that we were able to fill it because we didn't know what else was coming.

Les Clark: and my comment was just to point out the magnitude of the conservative nature of that assumption. That for a maximum, potential maximum of 6 to 7 months out of the year, albeit they are winter months, you have the opportunity to replenish supplies and direct supply from pumping but you haven't considered that in this assessment report. So it is quite a conservative assumption, which was my only point in making that comment.

Pecotich: with regard to the comment regarding down time and maintenance interruption, is there some sort of a factor to consider there or is it just so minimal in the high scope of things that it doesn't really necessarily play a part. This is related to the first comment.

Darlene: It is like you said, it just there, it is taking the amount of treatment capacity that you have going from the 4 million gallons per day to the 6 million gallons per day. It is just saying that 4 million gallons per day our water treatment capacity in acre feet per year is the 4,481 meaning that if we went 100% full boar on that single water capacity, we couldn't do any more than 4,481 total.

Pasek: you know, but there is another factor there in that we also have the spare train so technically you are not down very long.

Darlene: in the new plant.

Pasek: yes, the new plant. Well, that is what this reflects, is the new plant.

Darlene: right.

Martel: I didn't think we were buying the other filter system until we needed it. I thought we were only putting online the plant that we are going to use and as development occurs

Pasek: this is all downstream stuff. It is assuming at that point in time you are on the new plant 100%,

Darlene: and I think based on conversations that Lisa and I had, that we will probably go because he makes the, in table 3-2 on the next page it is also the same kind of comment, is there a need to emphasize that this does not include supply provided during reservoir recharge cycle. So, I think what we will do is we will put like on the tables just an additional footnote that says this does not include any projection for direct diversion; which is a normal occurrence.

Darlene: His next comments come on page 14, section 4.3. On the first row of that table the indoor water use gallons per capita per day where we say it is 60.7, his comment is that GPCD number differs substantially from that used in the GM report and need to explain difference. So, if he was looking at the GM report for the December packet for November that was not just strictly indoor use. Residential gallons per capita per day in my report and Paul's report is all usage on the residential side which included any outside irrigation and any internal. So there will be variance there.

Pasek: but the indoor use number primarily comes from townhouse data, right.

Darlene: we basically and go and pick primarily the month of February. Wwe make the assumption that in a normal year the month of February, pretty much everyone has their irrigation turned off. So that is going to be more indicative of internal use only.

Pasek: I can assure you that the estate lots have a significant number that still significantly irrigate

Darlene: but is it not going to be enough to make a huge difference. It is going to show a higher gallons per capita per day but it is still conservative. I don't think looking at a townhouse is going to necessarily be correct either because they may not have the same water usage as a regular single family residence. So, I just wanted to explain that is the difference between this 60.7

Pasek: if that is the data you use, the 60.7 is a high number.

Darlene: then he has a comment on just the title of it and he might want to come up and try to explain a little bit. This approach needs to be referenced to the methods used in the 2010 IWMP and the June 19, 2013 summary demand factors and analysis to clarify and compare final demand factors. I don't know that is necessary to do because of the way that we build up from ground 0, but

Les: And I think your explanation of truly independent approach in this WSA report answers that question. It just, I just wanted to point out that there is a difference between the numbers you used previously and this WSA report but it is because you went the route of being completely independent and then checking it at the end. So, that was my only concern there.

Darlene: Okay, thank you. Then on page 15, he has the same comment on the top about being referenced to the methods of the 2010 IWMP so I think he is okay with what we have done. Then there is a comment on table 4-7 that says we should show a table with number of different size lots projected for each period along with EDU rate for each size lot to clarify the derivation of the acre feet per year and again since I didn't apply an EDU rate per type, we built up from ground 0, there isn't an EDU rate to apply to it and we didn't force it to fit back to an EDU.

Darlene: table 6-2 he wants, just a suggestion that we add a footnote that says it is based on static water capacity and we don't include demand or supply or direct diversions so we will take a look at that. And that was the end of Les' comments.

Pasek: okay, is there anyone else who has a comment in any one of the sections they want to comment on.

Pecotich: and Les, if you have anything further since this has been about a month removed. Okay.

Graf: thank you Les, appreciate it.

Pasek: any other comment.

John Merchant: I was wondering on the 2-1 first of all, where the projections for the build out came from. Are they just directly from John?

Darlene; that was the how that would project out, yes.

Merchant: is there or did they do any analysis on what the impact would be of accelerated development? Does it impact the numbers if, for example, if the Village H 2035, 65% really winds up being built in 2025. I am just wondering if that

Darlene: we haven't looked at that but my thought is that it really wouldn't change things that much because whether you have that kind of development happening earlier, you would have your recycled water available earlier.

Merchant: right. I wasn't sure I just wondered if that was, if anybody had looked at that.

Pasek: and also, we are not doing anything relative to raw water capacity storage or processing capacity that is all in place in another 6 months. So that no matter how fast it comes up,

Merchant: that's true. And the other thing, the IWMP, makes a definitive of 2014 makes a definitive statement that we needed 300 acre feet of additional capacity at build out in medium level build out to support development. Am I reading the table, I just want to make sure I am understanding it, am I reading the table correctly now that we don't need that water?

Pasek: I believe that is a true statement.

Darlene: Yes,

Merchant: Okay, so

Pasek: the previous one was being drug along with the 750 number and some other assumptions.

Darlene: and it has a higher build out number.

Merchant: so you could say then, you could make the statement then that those wells would strictly be emergency.

Pasek: correct.

Merchant: because you no longer have any redundancy in that plant, right. So in other words, if you have some catastrophic event where

Pasek: the whole water plant went down

Merchant where the water plant goes down or we contaminate our reservoirs, then technically that would be the emergency water supply.

Pasek: yes, then you would go to 50% reduction, etc., because you

Merchant: right. You have to obviously have to go to at least 50% in that. So really, then, if we drill these wells we can pretty well safely say that we cap them, we don't use them unless anything like this occurs?

Pasek: there is no intent to routinely use them other than

Merchant: that is not what I asked. I asked if you could see any reason that we would have to use those emergency wells other than a catastrophic failure of our system.

Pasek: I think that is a true statement. And we certainly wouldn't cap them because you never know when that emergency is going to come through and how long it takes

Merchant: well, yeah, I meant

Darlene: they would be operated and exercised routinely so we know the pumps and everything is going to work.

Pecotich: in other words you wouldn't draw against them to support anything outside of

Merchant: right, because I understood that the agreement we have over there allowed them to use the wells. I recall reading that or hearing that. I am not sure.

Darlene: we don't have a final agreement on the wells yet.

Pasek: that is a negotiating position.

Merchant: thanks. The owners of the property on which the wells will originally

Pasek: the rancher whose land the wells are on.

Merchant: and I always questioned why if we were drilling emergency wells why anyone would use in conditions other than emergency, which is why I asked.

Martel: can I ask a question for you, John. I never understood the well why we are getting this, but the document was already file before I even got on the board and it was talked about some usage of the water and then you were on the board I think when that document appeared or surfaced. But if I own that well, if I own that property, and I was giving permission to the District to drill, I would want, wouldn't you think if it would be in their best interest to use that water or do you think they are going to negotiate and allow us to drill the wells because if we are going to spend ½ million dollars to a million dollars of grant money, why would we spend that without having a use for it and is everybody okay with not using it. I definitely support what you are saying but the landowner, if I am the land owner,

Merchant: he made yeah, I am sure he has a different opinion than I do. I am concerned about depleting ground water. And I am concerned about depleting the ground water to support development with it and if this is in fact true, I mean, this shows remarkable progress from where we were when we first did the IWMP in 2004 and then updated it 10 years later. So maybe we have gone past the need to look at that as, well according to this, we make it through droughts, we don't need. And there has been a lot of concern in the surrounding area I mean there are guys out there digging deeper wells that are going to be impacted from draw in water that comes out here so you are probably, if you make that commitment, you probably are reverting a lot of debate that will occur through CPAC and the surrounding area about the ground water.

Pasek: you know, there is a correlation there, you say ground water depletion. There is also the capability to replenish.

Merchant: yeah, I read that. Maybe we don't have to go there either. I hope not. That's voodoo water. Voodoo economics only wet.

Pasek: same source though.

Linda Kline: my concern is that the report seems to be based on internal assumptions and it doesn't take into account any external resources if you look at the resource references in 8, all of the resources are internal

there is no attempt to look at projections from anything from NOAA or state agency and all projections are based on our driest years for

Pasek: projection of what, river flows?

Linda: river flow, water supply, everything. And the drought projections are all based on our 75-76 or 76-77 driest years but there is no effort to see if that driest year is what experts are predicting for the future of California.

Pasek: okay, anybody that can predict the weather in the future is smoking it.

Linda: well, that's, there are predictions by scientists that drought conditions perhaps would be more extensive than they have been in the past. And that was not taken into consideration in any of these reports. So, it seems that the references are out dated in some respects. That there is no forward thinking going on.

Graf: Lisa, I was wondering if you could have a comment in terms of this study is very specifically single normal year, single dry year and multiple dry years. So within the analysis is a projection of the potential of us being in a multi-year drought or water deficit situation.

Lisa: we did, this is a, the reference to the IWMP update, we actually did do what we called shared vision model with it. Where we did projection of supplies and we looked at your worst case hydrologic flow in the river, what constrains your pumping, and then we compared that to modern demands. So we looked back historically and said what is the worst river flow we can see and then we said okay, what demands today, what is the projected demands in the future, we tested these build out scenarios so low, medium growth, high growth, you know, what is your worst case demand scenarios even the high growth ones with your supplies. That is kind of the scenarios we did. We took it even one step further with on the supply side. We actually did get hydrology sets they indexed all of the rivers in northern California, all the major rivers with climate change, global circulation modules.

Pecotich: who is they

Lisa: UC Davis. So, and we worked the hydrology sets, they were for the Cosumnes river, they basically run 12 scenarios through it is the State, do the planning and analysis for the department of water resources model that also runs so this is concurrent with the best of the state of the art planning in terms of looking at climate change and hypothetical what if scenarios too on the supply side. How bad could it be and then put it worse. So they have wet/warm scenarios and dry scenarios so all these cycles. So they run these scenarios. We were given the, and they look at them for flood and they look at them for dry. Well, we were interested in the dry on the supply side so we did look at the 4 worst dry scenarios as well. So we were then layer in that type of climate change analysis and that was the checking we were doing when you are referencing do you need supply augmentation with the wells and those kinds of things that was the outgrowth of all that planning was to be conservative in the analysis using the medium growth scenario which is what you see referenced in table 4-2 here kind of the demand projection that you were picking at that time was kind of based on that. So we looked at supply side, we look at demand side, same thing here. We are trying to do a water budget. What is the water budget basically for the service area and kind of try to pick out what is conservative and kind of a worst case scenario. So that is the 50% cut back in demand is more conservative than the reliability than the reliability of the supplies you have. I can't put a probability on it in terms of reality of having the 50% cut back but with the conservation track you are on with the fact that the new development is under new laws they are more constraining than the development that happened historically. When you factor in all those assumptions this conservative, very conservative.

Pecotich: so Linda's point about knowing other agencies is this the methodology and you talked about Davis and so forth, is this consistent with the way other folks do this assessment. You know, are they looking at the same figures, the same information in order to make their assumptions based upon. To Jerry's point you can't predict the future but you can try to look at the past to get an idea of the future is this a similar way they go about doing it?

Martel: I don't think Folsom used that.

Lisa: Yeah, I was going to say it is what we wish. There are people invested in I would say El Dorado County, I did their plan in 2006/2007, they were state of the art when only the state would have done this. At that time due to our published guidance in 2006 recommending that resource managers do this, so it is, I would say, you are on par actually we are ahead of the curve in 2010 in the norm in picking up this kind of approach, planning approaches. That is one reason why we didn't go back and revisit it all because the assumptions still hold. I don't have a lot to update.

Pecotich: so the best modeling available, we did the best we could with what we have.

Lisa: yes, at that time, and your worst case hydrology of 76-77 is still the worst case. You got a waiver, you pumped, I mean the flows were really bad this last round but you did have, it was different actually. The rain came, the pumping schedule you had, what you experienced, was not as bad as the 76-77 even recently. So that is just a perspective. Even though everyone was saying it was the worst of the worst that we had, so we the planning assumptions

Pecotich: I am just making sure that I fully answer Linda's question with regard to and I am hoping that it did. Based upon your comment.

Linda: I still think it is still based on the same assumptions that 76-77 is the worst case scenario and it was.

Lisa: it still is. In 77 you could not pump.

Darlene: we could not and did not pump at all in 77 and we have been able to every year since then so looking at historical data information 76-77 for Rancho Murieta water diversions was the worst drought situation we had. The rest of the state, the 2014-2015 they have had some dire drought circumstances but it did not impact us the way that it did the rest of the state. So for looking historically on hydrology and in drought situations, 76-77 was the worst it has been for us. If we included and tried to look at what we did in 14/15 again it would paint a much better, we would have more water supply than looking at 76-77.

Pasek: you have to keep in mind that we are dependent on river flows not annual rain fall or anything else that they talk about. Two good rainstorms get the river flowing for 30 days plus and we fill the reservoirs. And that could be 50% of normal for the state or even less. Or the area or even less. So it is kind of a unique situation and to predict whether or not there are no river flows available based on climate change or anything else is pretty tough to do.

Lisa: that is why you base it on your local situation. Your local system, your local flows, and that is we took normal worst, worst, with the climate change and then we drew the demands to make sure we were still in, that is what this table 6-2 is telling you.

Pecotich: right and to your point about having experts look at that in addition to making a conservative assumption, based upon the worst case scenario. I mean one of the things that I read in this similar paragraph around this too is about the extension of the permit, you know like that rings my ear a little bit about what if

we are not as successful with the next round of securing rights. So how do you know. Does, I would imagine that that is another one of those hard to predict sort of things especially given what is happening in wells, agriculture, everybody's demand.

Darlene: I think the district has been in past years and continues to take the necessary steps to show the state board that we are taking steps to conserve, we are trying to comply, we are trying to do, we are doing all those things to protect the water right so that the thought would be that if we ignored everything that was happening and go back to the water resources control board, they would look at it and say you guys are not doing enough on your own we are going to force it. So, I think, we are in a good position to protect that water right when we go to the board.

Pasek: did you have a question in the background?

Donna: I am donna and I am lot

Pasek: address

Darlene: we use addresses

Donna: oh, I am on Guadalupe. And my question is did you put in the assumptions if the state does not honor the contract you have when up for negotiations, what would happen?

Darlene: We didn't use any of that additional water in our supply at all so, in the assessment at all, so the existing water right is up to 6,368 acre feet for diversion and we have included in this analysis that we have only got what we can store, 4,723. So,

Donna: Yeah but my understanding is you are going to renew the contract with the State in like 2020.

Darlene: Yes, we have to go back and request renewal.

Donna: Yeah, have you put in any risk assessments that they may reduce what we have?

Darlene: the only thing we have done is make the conservative assumption that we are not relying on our full water right we are relying only what we can store.

Donna: so you are doing that. Okay

Graf: and at this point we have not had any indication from the state agencies that they are looking to cut water rights for everybody on the Cosumnes 15% or 20%, so there has been no indication that there is a problem.

Darlene: and we will start the process on the permit probably in 2017, to give us, I am not going to wait til June of 2020 to ask for an extension for December. We are going to start the process in probably 2017.

Donna: oh you will start working on it so you will know.

Darlene: yeah

Donna: I was a little worried that there were the assumptions

Darlene: yeah I don't want to wait until 6 months before it expires so we will start the process early.

Donna: okay. Thank you.

Merchant: in terms of renegotiating the water right, isn't this report kind of sealing our own fate. We are pretty much telling them that we don't need any more water than what is in this report. Right?

Pasek: well, I suppose you could look at it that way but you

Merchant: well if I was the State of California, maybe I would, that is why I am asking the question.

Pasek: I think if it came around they needed it elsewhere on the Cosumnes they might consider it that way but most of the Cosumnes goes shooting straight down to the ocean anyway.

Martel: Unless you build a reservoir.

Pasek: Yes, I mean there is the need for allocation of the water on the Cosumnes is again a unique configuration that we have. So I think the risk is close to zero but they could reduce it. I mean, they could say you are not using it all so we are going to reduce it just for kicks.

Keith Golden: I live on Indio Drive in Sloughhouse. I have a number of comments and I just want to get a little more fundamental understanding of how the CSD process works. Very brief, I because it is in the document to understand how you folks would operate under page 17 in the event of prolonged drought conditions the district would implement a water shortage contingent plan. That is on page 10. First of all, have you folks ever had to do that? The contingent plan, the 50% reduction in

Darlene: we have not gone to that level of conservation but we are under a stage 2 – 25% conservation right now.

Keith: and then says the plan provides a framework to address demand curtailment of up to 50% would this have to be implemented to completely before you would ever use this kind of last ditch well water concept that you folks are wanting to do with the, on the Anderson property. Would this have to be fully implemented before you start drawing water from the Anderson property?

Darlene: that is, I think, to be determined. I mean you can look at it that way or you can also look at it and say if you are in a drought situation that could be determined by the Board to run the wells for a short period of time so that such conservation demands weren't placed on the community. But again, we are also going to have to, should the situation for the state or the area is to such a drought situation that the governor is going to say, he is going to put out his executive order, he is going to mandate certain conservation levels and so that is, I mean it is a complicated situation. Is the governor going to come in and say you have to complete, you have to follow a 50% conservation level. It is kind of hard to answer that definitively right now. I mean, in an isolated vacuum we could say we would come to a 50% reduction and conservation level and then rely on the wells but

Pasek: look at the situation we are in today. Or actually we were in last year. We mandated a 25% reduction because the governor said so. We did not have a water shortage to that extent here. But if you start getting up to 50% and you got an operating well that you could tap, then there is, that presents a different dilemma unless the government had mandated it.

Darlene: and part of the operation on the wells as far as looking at the grant application is that it is also, I think we had the brief conversation about the recharge aspect of it. So it is basically kind of saying when those wells are drilled and were able to put water back in the aquifer, whether it is this local water is the one that Ochumne Hartnel is using. It's like we get banking credit of what we put in, say we have the wells and we do ground water recharge for 15 years we will have the banking credit basically of saying we put in xx amount of water in to the ground supply which we have the right to pump.

Keith: well I think I told you my opinion on that.

Darlene: I know, but that is just kind of the way it would

Keith: it doesn't do us that live down from Anderson's property any good to recharge it somewhere farther down.

Darlene: Yes, your concern is that it is a different aquifer.

Keith: we wind up losing.

Martel: one of the questions I want to ask is, I attending a meeting over at the Wilton fire station and Don Nottoli was there with all the people and they talked about the water that Kiefer is using and the potential expansion of the Kiefer landfill and one of the comments that David and others made was being able to take the water that was being used, claimed water, treated water, and give it back to the farmers. So I know Nottoli has been working on that process to help augment or supplement the water that they are taking out of the wells and some of the farmers. So I know that discussion is being had at Don Nottoli's level and then area that he is representing for the Keifer expansion thing so I think the county is also you know, on the same page as you are that everyone is going to suck all the water out of the ground so I think they are trying to figure out and I had heard that there is like a million gallons of water, I can't remember the time frame, but a lot of water and all the ranchers were there were pretty excited that he was going to take that lead and try to get the county to or get his area to be granted water rights to replenish the water taken from the well.

Keith: on the larger scale that sounds good it is just that those that rely on ground water in close proximity of a major well draw down that's our concern that we are

Martel: we have a ranch right here that totally ran out of water here that we are supplying water to I think the Hutchinson Ranch totally ran out of water. They went dry. Dry as a bone.

Pasek: remember now, when you are at 50% outside irrigation is effectively curtailed so now we are just talking about keeping water in people's homes in which the ranchers would be under the same criteria. They are not going to get much more than what they get to keep their house running, their irrigation land is gone. At that point.

Pecotich: that was one of the questions I had last time is what does a 50% reduction look like. Is it not taking showers, it is not water to drink and I think the answer last time was brown lawns but not radical cuts, correct.

Darlene: you can take showers but short showers

Keith: a couple of other things in here that I am not real fully versed on this system, on table 3-1 the second line from the bottom. Your supply goes up by 280 in 2030 and in 2035 goes up to 560. Additional recycled water supply, is that coming from your waste treatment plant then and it is that far out before that water is injected into your water supply.

Pasek: it has to do with availability of it through new homes. Today all the reclaimed water is spoken for to the Country Club and we only have an excess of reclaimed water when there are more homes being built. So that is why it is downstream.

Keith: so the golf course gets the water first.

Martel: that was negotiated in the late 1960's early 1970s.

Keith: one other thing, it just in reading this it is alluded in many places in here about supplying groundwater for as a potential supply. It is page 10 and there are a few other, actually page 8, water supply plant, it just troubles me that is thrown out there in a number of places in here we can augment the water supply if this development really needs it through ground water and I am sure a lot of folks in Murieta says great, let's just take the ground water from somewhere else it don't impact us with the huge conservation measure. And I am just concerned about that, that somebody doesn't live in Murieta and does rely on ground water that there will be an interest, let's just do the ground water, we already got this plan in place we want to, we are going to drill on Anderson's property to do this as an emergency. I am just saying I am a little nervous why this report had to reference ground water so much if it is not really part of the project.

Darlene: because it is part of the District's plans. To not address it and not include it would not be including when we have gotten with a couple of different RFPs for drilling, we got the test drills already drilled. That project, we got the grant money to actually do the production wells so I felt it was important to make sure that we were referencing that we are looking to have some ground water supply but it was also important to show that for this water supply assessment that the ground water supply was not required to support that development.

Keith: I understand that it is not included out there but it certainly is dangled out there in front of people's noses as here is a way that we can augment our water supply by using ground water.

Darlene: because it is in the District plans to drill the wells and do that.

Graf: Keith, you are also aware too that at the state level, there is intent of policies going in place. Water districts are actually seeing up ground water recharge programs and I think it is by 2020 essentially, the whole question about pulling ground water is going to be a state regulated thing so these wells are going to be put in, obviously these will be considered a large development as opposed to your personal well. There is going to be different priorities and ways of doing things but to tell you the truth, after 2020, the whole question of how much water you can pull even out of your own well, is now going to be a state thing.

Keith: I know. I understand that is down the road.

Graf: so we are going to be in the same, whenever that gets enacted, these wells are going to be controlled by the state

Pasek: as I indicated to Mr. Merchant, we have no I intent to routinely use the wells as a supply.

Keith: that is my understanding and that is fine. I would hope that somewhere in this permitting process that is somehow memorialized and reflect that so everyone knows that is the intent here.

Pecotich: I gotta tell you, that is one of the things I have been mentioning now for a couple of months about what the wells are going to be used for, you know, and I know the staff here is working on that and we have

had water treatment plant launches and everything else that has kinda gotten in the way of it but I asked for it by February to have a clear explanation on our website exactly what those augmentation wells are going to be used because I wanted to be clear to the community how it is going to be used, why, and how and circumstances. So I am there with you.

Keith: that is what we like to hear especially those of us that are off

Pecotich: so that everybody who is not here tonight can answer that question for them too. You know the one thing I did and I am glad you are speaking Keith, is I did read something interesting at the bottom of page 8 that I did want to ask you about. There was a statement there about trading recycled water for ground water not that we would have an excess or surplus, but I mean like as a rancher

Keith: that would make sense.

Pecotich: yeah, as a rancher, how do you view that statement?

Keith: well I am not a rancher but, you mean you are talking about the last paragraph down there.

Pecotich: yes, basically it says there are several agricultural fields in close proximity to RM potentially the District could form an agreement

Keith: is that kin to your emergency plan?

Pecotich: it is not.

Martel: we even talked about selling our surplus to the ranchers or helping the ranchers out down the road. That was one of the conversations we had a couple of months ago about doing that. So.

Keith: I would have to study this and ask some other folks about this to get a better understanding. I can, I can understand the idea but I don't see the tie in to project here. It sounds like it is a water supply contingency that could be employed but you folks aren't proposing to do that and it is not part of the project applicant proposal at all so.

Graf: it is an independent project

Keith: the general interest kind of scenario.

Pecotich: that is why I asked it.

Keith: I just want to be brief cause I know you folks want to head out of here, but

Pecotich: hang on a second, what is the question guys? Is there something?

Martel: I was just telling him about the

Graf: he was just getting me up to speed

Martel: Keith, we have actually talked about some of the issues you have. What I was telling Morrison is that we have these conversations about the wells and the money that we are spending drilling the wells and how to

use the wells and that kind of stuff. The last thing we want to do is harm anybody else. I think we are just looking; our fiduciary duty is to look after us.

Keith: I can understand that.

Graf: this whole idea is an emergency supply if we do have other problems.

Martel: I am not sure I can give you a guarantee that we wouldn't, you know if all of the sudden I look at Michigan and some other stuff that has stuff going on we would use the water supply.

Keith: on table 4-5, I am just going back to my experience when I used to write technical analysis in where I worked on air pollution and I could throw acronyms out on air pollution that would make your head spin that you would not understand anything. There is a lot of acronyms here for me being a lay man on water that I don't understand what they are and it would be helpful to have some of these clarified. Foot notes for instance, indoor water use GPCD, what is that. What is that?

Darlene: gallons per capita per day

Keith: again, I don't know that. The term EDU, I had to ask John what is an EDU. I don't know what that is. So I think there is certain things in here that if you could clarify the units per irrigated area I guess that, on the second or third line from the bottom, 33,000 what per square foot.

Darlene: total square feet

Keith: that doesn't say that.

Pasek: there is room at the bottom there.

Darlene: yes, we can do an acronym definition

Keith: also, I am just kind of, maybe I am just too dumb to understand this but the applied water estimate in feet per year of 4.18 that is.

Gallons per square foot per year

Keith: so that is gallons per square foot per year. So then you say the outdoor use assumption is conservative given the existing homes of using approximately 5.5 to 7 feet of water per year. So I thought is, that doesn't seem too conservative. 4.18 is less than 5.5 to 7.

Darlene: because they are under new regulations as far as outdoor landscaping and irrigation systems that the new development can use.

Keith: okay. One other thing, I take it that these assumptions are used to calculate most of the acre feet per year show on tables 4-6 and 4-7. When I did my work on air pollution, I would bore people to tears with including appendices of how the calculations were formed. Summary tables like this but there is no way I was going to show this calculation in the analysis, I would put them as an appendices. Because I know Darlene you were doing a lot of these calculations, we can't follow, those of us in the community, can't figure out where you actually got these numbers and an appendices showing those calculations however dry, mundane and boring they might be, at least it would give us the oh that is how you got that number versus just a number. Because this is just a number. I couldn't replicate how you folks got these figures here based upon the text of

this document. It is just a suggestion, it would help the layman better understand certainly it would help the technical layman understand. Most of the general public I ever worked with all this stuff was way over their head anyway but at least the technical layman would go make the effort of going through the calculations, oh, okay. I understand how you got these numbers because it is right here in the appendices. They can do all the math and figure it out.

Pasek: you will be pleased to know that I made the same comment to her. I said it looked like it was a leap of faith and magic in some cases and there ought to be an appendix or something that says how we got from here to there.

Darlene: it is explained in the paragraph above it just is not shown in a formula.

Keith: you guys are using a lot of conversions all over the place to convert from this to that and to this to that and the appendices can show those conversions and how those numbers all trailed into the results you show in the tables.

Donna: on my question regarding forward thinking. You keep making the comment that the water flows down the Cosumnes into the ocean. In most years we don't use that water and doesn't it replenish the delta.

Pasek: doesn't it require what?

Donna; doesn't it replenish the delta, the water that isn't just flowing into the ocean.

Pasek: Oh, it flows all the way down the delta but eventually ends up in the ocean.

Donna: what about the state plan to divert some of the water through the tunnels and is that taken into consideration. I mean, I don't know that, just that water flows down the delta. I mean, is it going to be the forward thinking thing to be thinking about.

Pasek: off the top of my head, I don't remember where the tunnels were going to connect in but I think they are above where this water. Eventually, this water ends up in the river and then into the bay.

Donna: then it wouldn't be affected by the tunnel construction.

Keith: it is not affected by the tunnels at all. The tunnel diversion is more I think by Clarksburg or that high up in the Sacramento River area. So

Donna; I think it is important to take that in

Pasek: you disappoint Governor Brown in that regards

Martel: you mention forward thinking, what, in your mind, what are we not thinking. I know there is a version of how the global warming and that kind of stuff affects, but I read all that stuff and I think there is a lot of truth to what some of the scientists say but I am not sure how that would, we are producing a document or verifying a document for what is being requested of the district so I don't know how to apply your term for thinking into our calculations.

Linda: well, in a lay person's opinion. You know the calculations are taken into consideration a 3 year drought based on historical fact. There is not consideration that the historical fact may be completely altered in the

future and some scientists are predicting a 30 year drought for the western United States. So, it just seems like that is projection that is based on past thinking not future.

Martel: I looked at what the state requires us to do and I took a couple of your comments before and I looked at the application and how they are asking us to throw out the documents and that kind of stuff and I don't even think the state has adopted and I think Brown is pretty, you know, forward thinking guy with what he wants to with the water so I, you know, I am not sure that I know how to define what that is into the document that we have to produce.

Linda: well, I don't think it is completely definable but I don't see an effort to think about that in this and it is all based on historical fact and not a projection for maybe instead of a 3 year drought, a 5 year drought. Or a 10 year drought.

Pasek; but again, it is a drought as it affects the river flows and the Cosumnes not as it affects the state or Shasta or any place else. That is what makes it exceedingly difficult to say as they predict for the state, how does it affect us.

Linda: well in the report there is a 3 year drought projection.

Pasek: that was based on the 76-77

Linda; why can't it be extended to a 5 year drought projection and how much reduction would that require. I mean the 50% is for a 3 year projection, I mean that seems not exactly the most worst case scenario facing what we are facing on the instability of the climate. So, that is all I think that needs to be in the consideration.

Cheryl McElhany: In looking at your shortage contingency plan or your emergency plan, I see 2 basic strategies.

Pasek: what page

Cheryl: no, I am just talking about it, summarizing it. So in your contingency plan your emergency plan as you refer to it, I see basically 2 strategies. One is that we go to a 50% conservation and the other one is would be you have wells, emergency wells. Those are your 2 strategies that are part of your contingency plan. And I am just wondering why isn't there a reduction in demand or a reduction in households also considered as a way to safeguard our water supply. Why wouldn't that be another strategy that you would consider? What does it take, what kind of emergency or situation would be in before you finally would say gee I think we need to reduce the number of households or densities or whatever in future plans because we in this enormous drought or enormous emergency situation. It is just not considered, it is not ever mentioned and I just think that gee you are going to drill wells, you are going to make us go to 50% reduction, I mean our lawns are dead now, probably all the trees will be dead then so I just think that looking at supply and demand or basically the demand, ought to be one of the other strategies that would be looked at as you trying to safeguard our water supply. Just a comment.

Pasek: anybody else.

Roger Brandt: how much of our water supply is, does the CIA ditch have authority to take?

Darlene: that is a separate water right so I am not sure; Paul might be able to answer that, how much the CIA ditch can.

Roger: yeah, but

Paul: there is a couple different rights with the CIA ditch. And they can take water on a certain right for as long as it is available.

Darlene: but that doesn't have anything to do with the WSA. It is totally separate.

Pasek: they take raw river water as it comes overflowing by the dam. They don't take it from our storage at all.

Roger: oh, yes they do, Mr. Pasek.

Darlene: they only take raw water they don't take any treated water.

Roger: they take raw water from Lake Clementia.

Pasek: under what condition

Paul: no, so, at a portion, for example, this summer I took water from Clementia so I stopped diversion to the ranches and then I took water from Clementia and ran it into Laguna. That is when we utilized the infrastructure of the CIA ditch to transfer the water from one point in the District to another. But I did not transfer it down to the ranches.

Pasek: so there is not Lake Clementia water flowing down the CIA ditch that winds up at the ranches.

Paul: correct, unless there was some sort of agreement that, possibility exists that it could happen.

Darlene: they could use that as kind of a water.

Roger: this year you diverted about 18 inches from Clementia into the CIA ditch

Paul: and into Laguna Joaquin for RMA's use.

Someone asked about a response to a question that was asked.

Pasek: It is difficult to put it in to perspective since you can't destroy houses that exist to cut back, etc., I mean there are other alternative approaches in addition to that and that is deepening reservoirs and all that other stuff. I mean there are tons of things you can do if in fact we need more storage capacity, we have processing capacity so that is no longer an issue.

Something about issuing water permits and being able to limit use.

Pasek: yes, it is an alternative but I am not sure I know of too many people that would support it.

Martel: I want to comment on that a little bit. So when I got on the Board the one thing that I did was look who paid for what. I know that the developer on the south never paid their full bill. They had a line of credit that we should actually, the plant should have been built in 1992 and they took some water rights from, the previous board took some water rights from here and gave them to another developer so when they were already involved in the FSA process for years and building a new water plant, it was real important to me to make sure that we didn't get charged for somebody else and everybody was getting charged the appropriate money. Now there is a lot of arguments about how much water they use and how much we charge for an EDU

and that kind of stuff. And I demanded and required the board to reconcile who has paid for what and how has everyone paid for it because the plant was 40 years of age so the water supply issue for me personally, never became a conversation because all the documents I read there was no challenge of how much water we have available and how to bill it out and that kind of stuff there so taken into consideration it never came up for a, you're asking me, it never came up to reduce the houses until you guys started coming forward and that kind of stuff. I thought that the plan, when I was down at the county, I didn't like the development plan the last time. One of the things that bothered me was Van Vleck got an \$3 million dollar check, the District worked with the other developers and made the waste water available to be dumped on this land. If that was never done, the chances of building we would have had to done a whole different strategy of how to approve additional building so a hand was dealt even before I got on the board from other people on how they continue to allow development to go until we saw the problem. Actually, RMA should have gotten that money and we could have put that reclaimed water up at the parks and some other stuff. That is one of the things that I have talked about so I am in agreement with you. It was never part of the conversation until all this process is been going on for a really long period of time. The FSAs have been, I think we talked about not getting paid, so being new to the water board, I never knew that was an option, I was already taught and told by our attorney that if you have paid the 4.2 million dollars and you have paid for your supply, then we have an obligation, a legal obligation, to provide what they have bought. So, if we, we just made the south finally pay their bill of 4 million dollars, we made the new development put their 4 million dollars up and we paid our 4 million dollars to upgrade our water plant that was 40 years of age. So, it never was, never came up as a conversation so if it would have, those questions might have been asked or they might have been looked into. But the way I interpret our lawyer was, we are a district and we have to provide services especially if you paid for it, you know, unless there is a real science that we can't provide it. so maybe my thought process is a little bit different, I haven't seen anything that says we can't either by science or data and so I am an process kind of guy so nothing is showing me that I have the ability or the authority to deny it and risk the district being sued and that kind of stuff.

Somebody: I agree with you but I think it should be in the emergency plan. If you have an emergency, all bets are off.

Pasek: yes, but again,

Darlene: table 6-2 does show what happens at a 50% including existing and approved so it is looked at if, can we, does our water supply support in times of a 50% conservation, does it supply, is it reliable to supply existing development, currently approved development, and proposed project development and it does show that in 50% reduction that there is still supply remaining of 927 acre feet which there is a footnote or it is the text of the document which is an important number to have because even though the WSA doesn't have to include other potential uses, we still have one parcel that is the multifamily apartment site parcel that eventually, if they ever decide to develop, will come in to ask for some water supply and it shows that we would still have, although we don't have to take that into consideration in this assessment, that particular parcel is still out there and it shows that we would have water to supply them as well.

Martel: my last comment is that back in 2007, the RMA gave permission to put together an Ad Hoc Committee and I had a lot of communication with Candy Chan and they brought some people that lived here a long time that had a different view on the development we brought all these plans, all these documents out and I really wasn't experienced what those questions so I never heard that until you brought that up today. So I never heard of that as a viable option into the process a little bit. And I have had, had many conversations with Janice Eckard I am not sure we agreed on a lot of stuff and I always asked, find me a document or find me a scientific something that proves me wrong or right and I go with that kind of stuff there. So, not sure how, if you are asking for an answer to a question other than I don't think it ever became part of the conversation other than you know, I have been here almost 30 years,

Somebody: it just seems that reducing the demand should be part of it. That's all I'm saying.

Larry Shelton: a comment about some of your data that you referenced. I don't think it is all actually referenced when you mentioned that you used UC Davis as a reference for some of your information. I never saw those cited.

Darlene: that is part of the IWMP.

Lisa: that is the whole water balance that we

Larry: You mentioned UC Davis. There are other state agencies, the US Geological Survey operates the gauging station at Michigan Bar which has historical data that I think would have been valuable for your report.

Pasek: I thought we had it.

Darlene: it is in the IWMP

Larry: there has been something; I am going to refer to table 6-2 on page 18. It is kind of cycled off and on throughout the report. There is something that keeps bothering me and it may just be me not understanding it so please correct me if I am going in the wrong direction here but under the top line under supply, you should show a 10% reduction in supply with the first dry year, the second dry year is another 10% and so forth, and the fifth dry year is a 50% reduction so it goes from 4,881 acre feet per year to 2,240 which is basically 50% of so where, what constitutes those numbers other than just the percentage. Why are you reducing the supply in a single year by a 10%.

Darlene: that is the assumption we made that if we in a single dry year, I mean it could even be, depending on the extent of the drought, I mean a dry year could mean a 30% reduction, it depends on the river flows and how we can divert. This is all built

Larry: so we have a single dry year in 1997 and you got zero water out of the Cosumnes River.

Pasek: no, not 1997, 1977.

Larry: 77, my bad, sorry. So why wouldn't that be a single dry year of reference. Rather than just 10%. You could have had zero allotment out of the river so your entire supply for that year would have been based on storage only and then if you had.

Darlene: which is what we built here. Everything is based on storage only. We are saying that

Larry: well not, you are saying that if you have 1 dry year you only reduce it by 10% when in essence you are reducing your supply by 100% you are only based on the storage capacity that you have for use. So you are not really reducing your supply by the maximum potential of 1977. Your supply, if, as an example, if you had 3 dry years that were all exactly like 1977, you would have zero water supply.

Pasek: true

Larry: and that is not in here anywhere. That information is not applied to any of your information here.

Merchant: those numbers are in the IWMP. They are now different numbers.

Pasek: they are higher in the IWMP.

Larry: I recognize that but someone reading this document doesn't understand that you could have 3 dry years equal to the driest year on record and you haven't applied any information as to how much water you are going to have left.

Martel: my opinion was that I thought Lisa and Darlene answered it. the only year we never drew from the river was 1977, the other 28 years we have been able to pump the water out and refill the reservoirs so you bring up a good point but for my, it wouldn't be 3 years, we would put it as 1 year, that year we couldn't draw but I think, I don't know the reason why we didn't draw anything out of the river. There wasn't many houses here back here at all in 76

Darlene: we couldn't because of our water right. The flow as never substantial enough to allow us to draw water by the permit requirements.

Larry: and I suspect that could happen in more than 1 year in a row if we go into a major drought situation. And you haven't considered that at all.

Martel: I think we were part of El Dorado water district, I don't think we had formed yet. I think we were El Dorado weren't we.

Darlene: it is the same permit.

Martel: there was no district at the time so I am not sure I know the answer other than if I was El Dorado I would be keeping the water, you know, drawing a little water up north, like Keith is worried about drawing the water from the back end.

Larry: but the point is you did have a year that when the flow was not adequate for us to withdraw anything out of it and it was considered a dry year which was suppose, which is implied to be used as the reference but the data doesn't necessary show that you, what would happen if you could not pull out for 1 dry year and you might have 3 or 4 or 5 in a row that you could not pull any water out. I think in some ways there is a huge assumption that you are always going to be able to pull water out of the river.

Martel: absolutely

Pasek: to some degree.

Larry: in your drought.

Merchant: well part of it, too is we should be able to reply and at least identify it based on these numbers what you want to know if I just want to rephrase it is now based on this new development forecast is how long can we go before we run out of water. I mean assuming that we have multiple years or single year, second year, third year, of flows below the minimum and we can't pump, then how long until we reach dead storage. And you want to plot that along the way, I know but we are adding a lot of houses, we are talking about apartment buildings I mean it is a number, I guess it is a pretty important number to know and if it is changing then we ought to really know what it is. Maybe it is better.

Larry: You never run out of water in 5 years and that is not true. You could easily run out of water in 5 years of drought.

Lisa: I think the right paradigms to think about is scenario planning. What you look at in table 6-2 is one scenario, in the IWMP we ran a lot of scenarios and there is, the only board member at the time, I think Jerry was in the audience I think Betty was the only one on the Board at the time. We spent time going through all those what if scenarios. And we did on a monthly time check, tested minimum months, minimum years, full build out, that is kind of, and then we added in the hydrology to make it even worse and we tested, tested, tested, it is the best we can do with planning estimates when you haven't lived through three 1977 before at your current demands, at your projected build out demands, we do engineering estimates the best we can to give you some confidence within some reasonable scenario planning, trying to be pragmatic about it. And so that is what we try to describe in this document as the IWMP if you brought it in as and we spent a lot of session here with the Board live walking through making sure there was some clear understanding at that time so these are I guess I can say table 6-2 is a simple fiction and a conservative one where we are not checking in a monthly time step, we are doing it an annual check. We are not including the dynamic pumping that looked at the dynamic pumping it was a much more sophisticated and comprehensive look so we felt we had taken that step and

Pasek: so what you have here is basically 5 scenarios. You don't have 5 years you have 5 scenarios where in the first case you are unable to support by 10% the worst case scenario is you were unable to support it by 50%.

Lisa: you can basically look at year 5 and say if we cut it back 50% at full build out at the bottom that is, you could have 1,000 acre feet left in a single year.

Pasek: no, again, his point is valid that these are scenarios of a 10, 20, 30, 40, 50 percent reduction but nothing to do with years or sequence of years.

Lisa: right. They just asked for multiple years. So that is right, that is what I was saying. It could, you could change out the names for single year, you could

Pasek: and that is what is causing the confusion.

Darlene: if you took a quick look under 2035, where we say we have supply of 5,000 acre feet, and if you were under a situation where we have 1977 hydrology where you are not anticipating any river diversions, you would be basically under a 50% conservation level. If you took that supply, divide it by demand of 1,700 acre feet per year that gives you about 3 years supply. If you take the 4723 assuming okay, say, lets say we don't have recycled water because of all the drought. So you reduce that to the 4723 supply divided by the 1714 and that lasts 2.7 years.

Pasek: but again you are describing various scenarios it is not year 1, 2, 3, etc.

Darlene: but I am trying to answer - no that would be a 3 year, that answers Larry's question. What would happen if you couldn't divert this allocation of acre feet per year, it says.

Larry: I think your document should state that. It should state that if we have 3 years that is comparable to the driest we have ever had that we will be out of water in 3 years. And it doesn't say that it implies that we are always going to have water.

Lisa: yeah, that would be worse than a millennial, like one in more than a thousand years scenario or worse. We don't have even tree rings that show that data. I have nothing that shows that kind of scenario. So that is where you get asked is that burden on the rate payers then to build additional storage so you wouldn't have

that scenario ever. I mean that is kind of where the state actually, the 50% comes from the state. That is in water code, you need to check for 50% cut back in supply. Independent of how reasonable that is for your supply and reliability and I made this statement earlier, you supply and reliability is right now better than this so that is what I am trying to express. With the detailed look

Pasek: we are quibbling about the title on the top where it says multiple years 1,2, 3, 4

Lisa: yeah. They are asking for a 50%

Pasek: they are actually scenarios.

Larry: but I don't think the report ever really clarifies that if you were not allowed to do any pumping out of the Cosumnes River this is what would happen. And I think, that result is critical if, for people understanding the future you're not predicting the future, you are just saying if we have a situation like we had in the past.

Darlene: it would still last us 3 years, is what

Larry: right but you never say that. You never actually give that doomsday scenario. It implies that you are always going to have water and I think that is a false statement.

Martel: part of me says that the state would never take our water rights away because of the same science that you are using there that we would always have the capacity to draw from the river as much, cause we could use that argument also to support them extending our water rights after 2020.

Merchant: it still doesn't work Mike if you don't get the cubic feet up to the point where you can pump.

Martel: so I, the part is you build more reservoirs, you start after one year reducing instead of the 25% you go, instead of the 50% so is there a way of

Pasek: and there's another factor that you can fail to reign in as if the river runs on the low side you petition the state to allow you to suck water in below 70 which is the current limit and so there are ways of assisting it if they want to grant it.

Larry: and I think you are being remiss by not having that type of information in this document.

Someone: Is it possible to include that information that Larry is saying in the report as well as the option that Cheryl is offering too. Because another option if there were three dry years like 77 is if we didn't have so many units it wouldn't be such a problem. So

Darlene: I really don't think that is an option based on what our lawyer has told us we have the obligation to serve based on what we can serve in a normal year. We can't not provide service to undeveloped property on the thought that we could have a drought situation.

Person: but you could protect your water supply for your current

Darlene: that's, it's the legal question would we are obligated to provide service and if we have the supply capacity to provide that service then legally we are required to provide

Person: whether you have that capacity is an assumption that not everyone agrees with.

Darlene: you are only saying it is not there in a drought and the occurrence of a drought is not considered in our obligation to provide service because it is a rare occurrence. We have asked that question to the attorney that is our legal opinion.

Person: well, whether it is a rare occurrence or not is to be foreseen. It should be something that should be considered by the Board.

Pasek: you might in the conclusions include something about the worst case condition

Graf: Lisa, would that be a problem at all in the report if we had more of an appendix or something at the end talking about in this, basically what I think Darlene what you were doing is taking the calculations at a 50% that if we fill, from a time frame, we filled our reservoirs

Darlene: and 3 years we couldn't pump

Graf: and we initiate a 50% reduction we would be able to live on our reservoirs for 3 years.

Darlene: correct

Graf: which is longer than anything we have seen in the last 1,000 years so that would be an absolute doomsday or a

Pasek: the critical part of that though is you gotta determine when to go to 50% and it is at the end of the second of the first dry year I would assume

Darlene: it depends on the projections, I mean that is all conjecture.

Larry: yeah, and I think your percentage doesn't really matter in a way with the point is what does happen if you can't, if your supply runs out.

Graf: how long could we live off of one full

Larry: you have a maximum storage capacity

Pasek: you have a comment

George Philips: I am a land use attorney working with Rancho Murieta North applicant team. Hopefully I won't confuse things more by just making a couple observations. One is I think the comments that you received tonight, this one in particular about multiple 1977 years or the comment or question have looking at reducing demands. My suggestion for you all to consider is that those are issues actually that are not required to be reviewed as part of the WSA and so to kind of keep things on track in terms of what the District's legal obligations are I would submit to you that your document as it has been drafted already does that. I think that the comments that have come up this evening about clarifying some of the assumptions and conservatism of those assumptions are very good comments and it could also be a suggestion to describe why a WSA is not required to look at doomsday scenarios because that is not the purpose of a WSA. And in fact, in looking at the 1977 drought condition which your IWMP states and I think the WSA does as well, that was a one in 200 year drought. You are not obligated to look at or speculate about multiple 200 year droughts, you are not obligated to look at a 1000 year drought, and statistical analysis in this situation does not warrant looking at those infrequent events happening in series so I would just throw that out. On the issue of reducing demand by reducing density or the number of units, that too is not the purpose of the WSA if that WSA in fact finds that

there is adequate water supply. If you had a scenario where you did not have an adequate water supply then you would look at a reduction of units reducing demand in that sense or you would have to identify additional water sources and how you would perfect those. You have a WSA that does, in fact, finds you have ample water to provide service to the current, the subject of the application the number of units. You are not required then to speculate again as to how you would decrease demands further when in fact you have an assessment that tells you that you have adequate water. So I just wanted to throw that out there for your consideration. Thanks.

Pasek: any other comment

Pecotich: is there any tool that addresses a doomsday scenario? Should I repeat that?

Darlene: tool or obligation

Pecotich: obligation, tool, study, I mean in that regard around your comments you know about this not being the tool for assessing something like that. Does anything like that even exist?

George: CEQA is supposed to look at a worst case scenario. I don't believe that even a worst case scenario is not a doomsday scenario. I would say that there is, I would suggest to you that there is no legal requirements to look at a doomsday scenario in this circumstance.

Pecotich: okay

John VanDorn: I have a question as to the question as to the depths of the reservoirs and is there a point of which the reservoir water becomes undrinkable.

Darlene: that is what we consider dead storage and we have excluded dead storage from our numbers.

Pasek: if, on the website I believe, there is a number up there that says what the dead storage is so the reservoirs are never gone bone dry except through evaporation. There is a point in which we stop using it. but there is still a level of water, you know.

John: what percentage is that?

Pasek: Paul, do you have the percentage

Paul: of how low we have gotten in our reservoirs.

Pasek: No, no, no, no. dead storage is a percent of the total

Darlene: what's the amount of dead storage?

Paul: I don't know off the top of my head. It is fairly small though. I think it is 50 acre feet in 2 of them and 100 acre feet in one of them.

Pasek: and you can draw down to that point if you have to

Paul: according to our engineering guidelines.

Pasek: at Folsom the pumps were above certain levels and they couldn't access it so they worried about what they are going to do but that is not, we can go to dead storage based on our current

Darlene: on our current set up we can. And so that number on there, the 4723, is available capacity with stop logs in but excluding dead storage.

Pasek: any other comments

Graf: Paul, one quick question, I think we talked about this and technically this storage includes lake Clementia so in that emergency that second year of the ultimate doomsday drought and taken Calero down, taken Chesbro down, you essentially stick a hose into Clementia and suck it out.

Paul: yes, so we have a plan to utilize Clementia's storage water put that into our raw water pipeline and fill our existing storage reservoirs.

Martel: am I understanding that Van Vleck has a pond over there. I think, isn't it, and maybe I might be, I was just thinking about Larry's question if we needed to expand our reservoirs my understanding is there are a couple of reservoirs that are on existing properties that they do their own water supply.

Pasek: that subject has come up in the past as to where there were places that reservoirs could go in and the Bureau of Reclamation is actually looking at some of that.

Martel: okay. It makes a point that

Pasek: it is exceedingly expensive so it is not an issue we are looking at. You can also deepen Clementia, or Calero I should say.

Martel: and I know that Joe Blake talked about that one time, that was kind of a unique conversation.

Pasek: yup, he was going to have the geysers come in.

Keith: it looks like we are kind of at the end of meeting tonight. Logistically we made a number of requests about further information, requested appendices to verify the calculations is that something that is going to be forthcoming before you folks decide to vote on the analysis. You want to take a look at what the consultant puts together to somewhat augment this analysis to address these questions that were raised.

Pasek: Darlene you want to summarize what modifications you are going to make if any.

Darlene: well I wasn't prepared to go through my notes but as I said earlier based on the comments we received tonight and going through the comments that we received from Les Clark earlier, a revised version of this document will come forth to the Board at the regular Board meeting on January 20, 2016 for review and consideration that night.

Pasek: is there something in particular you were looking for. The appendix of

Keith: well yeah, particularly I was wondering taking all of the assumptions that are in table, near the end here, table 4-5 and then from that generating the figures and I believe that's how the trail runs here. You have a lot of assumptions here and then you wind up with a lot of figures, acre feet per year, those calculations and how those figures came about because that is the core of the assumption that there is plenty of water and the devil is in the details here.

Pasek: and I believed Darlene you said it was in words but not in formula form.

Darlene: yes, there is a paragraph above it describes how you reach that calculation but it doesn't go through an actual equation formulation

Pasek: is there any problem putting one in

Darlene: no, I didn't say I was not going to I am just saying that it will be back revised on January 20.

Pecotich: exactly, there was a number of things mentioned tonight like acronyms, glossaries and. I was watching her scribble a lot

Pasek: so the formula you intend to put some place

Darlene: yes, I will put a description either like he said in the back in the appendices or I will elaborate more on the description or something

Pasek: she intends to do something.

Keith: I am sorry Darlene to have you do all this. This was prepared by you correct,

Darlene: in conjunction, Lisa and I did it together.

Keith: oh, together. Oh I see. I didn't know who was really the main author of this

Darlene: the main author is Maddaus Water Management but it was done with input and oversight from me to validate the numbers and assumptions and that sort of thing.

Martel: I think the District has to own the document. You know we hire a consultant

Darlene: yeah, when you approve it, that is our ownership of it.

Pecotich: so ultimately though some of the things heard and said tonight that you are going to see in the version on the 20th.

Darlene: yes

Person: and just real quickly for your edification, the CEQA does require that a no project alternative needs to be put in the analysis along with various alternatives to the proposed project if a significant impacts have not been adequately mitigated. So the county, if they are worth their salt, is going to probably going to be under a lot of scrutiny to take a look at the various scenarios on a smaller project or different potential location for the project or a no project if there is significant unmitigated impacts. So it is their responsibility to take a look at ultimately a significantly revised project.

Graf: we are trying to feed information to the county and it is, everything will be reviewed. There can be input from all sorts of sources that might impact what goes into the final, what is the ultimate build out, what are the mitigations required. So this is one piece of information amongst a whole tableful of stuff that, it really behooves us to get this into this process so that it gets on the table in a timeframe and they can really start their review process.

Pasek: any other comments.

Pecotich: Jerry, just to kind of wrap up, I do appreciate everybody's comments and dialogue this evening. It was good input so thanks everybody that attended tonight.

Pasek: do I have a motion to adjourn?