MINUTES

Meeting with ADEQ
on
WATER QUALITY IMPROVEMENT GRANT PRE-PROPOSAL
for
BIG DITCH/AMITY DITCH EXTENSION PROJECT

January 8, 2009
9:00 A.M.

Present: David M. Newlin - LCR plateau RC&D – Watershed Projects Coordinator
Byron James - ADEQ
Marion Wiltbank – Assistant Town Clerk

Conference Call: Krista Osterberg – ADEQ - Grant & Outreach Coordinator for Water Quality Improvement Grant Program
Diane Marsh – ADEQ –

The letter from Ms. Osterberg had the following comments and recommendations to make the final application as strong as possible:

- Please note that the West Fork of the LCR and Tunnel Reservoir are not on the Arizona 303(d) list of impaired water bodies.

  David - Some confusion we thought a portion of the LCR up there is on the list of impaired water bodies. Diane/Krista - the LCR is and the Nutrioso Creek but the west fork of the LCR is not. David – where does it begin and end, were it enters the LCR is at that point is that were the impairment begins? Diane – thinking it is in the south fork. Diana – the south fork isn't listed but where the south fork comes up to the LCR I believe, I can get back to you on that. David – Please send me a link on your website on that one so we can make sure to incorporate that in the final proposal because there are parts that are and parts that aren't. Ultimately the name of this ditch we call it the Big Ditch, but on the topo maps which I finally found, it is called the Amity Ditch and we will cross-reference that. Regardless the Amity Ditch/Big Ditch does come into the LCR at certain points. And we will have to, by use of the Topo Map indicate those points where we believe it does, and that will help clarify. It sounds like the LCR is impaired for turbidity were the Big Ditch parallels it, and down stream at south fork is were it would be, correct? Diane/Krista - downstream on the south fork is, Lyman Lake more or less. Listed quite a while back when we had turbidity standards. Looking at it based on suspended sediment concentration issue, I haven't looked at that data in a while and it is a good question. David – will put that in there as a qualifier in the grant proposal. Krista will send the specific on what is listed and why it is listed. David – It will help in understanding on our part up here for now and for future projects. We need to focus on places where the studies have been, so that we know what is a benefit and we all have our restrictions and some of this scientific data puts those restriction on even if we think that there is other things that should be on the list, where it starts and where it stops.

- Is there data that supports contribution by the Big Ditch to areas of the LCR and Nutrioso that are impaired? If so, please provide with final application.

  David - There is some older studies that Bill Greenwood has found and he will go through them and pull out information and add as an appendix. James –It may be accurate to say there might not be data but visible evidence. David –based on seasonal flow and the overflow is accidental at best or the inflow depending upon where it gets backed up we won't have consistent data from the viewpoint that it isn't a consistent contributor. Krista/Diana We don't need necessarily water quality data we are okay with visible evidence showing that right along this stretch of the LCR there obviously sediment coming in especially due to Big Ditch. He will add appendix where we know there is bank failure and where there are built in returns with the pictures to provide that evidence. Bill Greenwoods comment Check with Milt Nelson, was monitoring done on LCR prior to as well as after pipe installation in order to have baseline. If it was done before and readings of TDS are lower now – we may have case that piping "cleans up" river. Nutrioso Creek probably not affected however last water user on system has fields that drain into Nutrioso Creek- tail water would impact Nutrioso Creek. We knew that and we should put that in. We may have some evidence that piping does help in cleaning up the river. Krista/Diane - It only slightly supports the case on TDF, we have no standards on total dissolve solids, what would be too much. Now that I have a ToPo map I can make a copy of that - this is where it ends up and this is where it drains.

- Since there appear to be water quantity concerns, WIFA and EQUIP may be other options for funding.

  Water quantity concerns except in the fact that if you are losing through seepage and things that is an impact on the end of it. Especially if there isn't enough evidence that it isn't going to improve water quality issues especially then what are you doing putting a culvert in water quantity issues. If you have seepage in the ditch from field's grass and all of those unpleasant nutrients end up draining into the LCR. The more population here the more growth and that kind of thing that gets into the grass and fields that flood irrigation doesn't do well with. If you can line it and make sure that the seepage stops then you are attacking both of them and there is benefit in both cases. Krista/Diane - that is a weak argument.

- All grants must have an education and outreach component. Ideally, public involvement is incorporated into project implementation, as well. How will the public be involved with and educated by this project?

  Mr. Greenwood says that we can incorporate the High School into monitoring of this with some of their basic science classes. Similar to what Blue Ridge High School did on Mineral Creek and the stewardship projects and we can do that. Krista/Diane- we are looking more for the education and outreach on how to stabilize these slopes and how to reduce the sediment coming into the stream. That's the kind of education and outreach we are interested in. Not so much the monitoring and science behind it, that is good but not exciting. We are wanting in this watershed to reduce the sediment loading. David- we will incorporate that. Krista/Diane –The area where you are having failure is where the slope is sloughing, is that true? David - That is part of it. One is the slope is sloughing on

the highest portions of it, but the other part that effects the Town of Eagar is the growth and the ditch going through these areas. With leakage there that goes into yards and picks up nutrients and moves some of that nasty stuff down stream. Like dog, cattle, horse -animal waste. That takes it into a whole other education and outreach – possibilities on how to reduce that. Because the animal waste is always going to be there. So how can you, with all of these ditches that go into all the yards, eliminate waste in the water on these properties and it isn't flushing nutrients of into the streams. David - Line ditches. Control the water that comes onto your property through lining the ditch and proper piping, then you eliminate a lot of that and you are using the water more efficiently. Krista/Diane –Use water bills and mailing to use as an outreach in publication. More hands on to have folks change their behaviors in contributions to the sources. And code enforcement and proper codes, if they don't have proper codes they can pass it through council and then enforce it. Krista/Diane-Public participation and projects – ways that people can take some of the ideas and share them with others- 4-H, scouts. David – bullet points to cover all of these areas.

- Existing ADEQ monitoring programs cannot serve as a replacement for required components of this grant. Please include independent verification methods to show project success.

  The Town and irrigation company can monitor. What do you want monitored, because the monitoring abilities are limited to TBS. James – the town could do some turbidity monitoring. Krista/Diane – like to see first where there are actual indications that there is a problem on the LCR itself. If we have those critical sites already identified on the river where the Big Ditch is impacting the LCR or Nutrioso Creek. If we could establish those sites to begin with, then we know what kind of flows and what kind of conditions are occurring, then monitoring after you do this project, you should be able to see an improvement. With turbidity you need to do flow, base flow off of your irrigation ditch and that turbidity coming into LCR/Nutrioso then that would be really good if you continue to monitor it into the future. It depends on what evidence it was that shows that the Big Ditch was impacted of the LCR or Nutrioso Creek. It goes back to the second bullet point where it says what data you have in support of LCR. You can't just do turbidity; you have to do turbidity with flow. You need to get a flow meter.

- Include time frames associated with acquiring all necessary permits and approvals for this project when developing project milestones for the final application.

  Bill Greenwoods comments-I believe permits are in place. Archeological survey is done; we are not on river anymore so no 404. Krista/Diane – Reference archeological survey. David – not any retention basins existing or planed. Would ADEQ's Storm water permit apply here? Krista/Diane – survey greater than 1 acre. David - we are putting in a pipe that is 36" wide and x miles long when you cover it with fill. James- even when you put a pile of fill somewhere and it is covering a mile acre of land then our construction permit apply, I think that is a consideration here. David -So we need a construction permit. Do we need to be talking about an aquifer protection permit? Krista/Diane-I don't think

so. David -What are the permits that we might we be discussing? Krista/Diane - Construction permit, archeological in place and the storm water. 404 you will be okay and probably okay with AWR?, Storm water might be the only one. David - Have we overlooked anything?

Krista/Diane - Ditch coming on to people's property, how does the water flow onto people's property an then off again in the same ditch. David – from the ditch there are 5 major gates, when it is your turn to irrigate you open the gate and that flows into additional unlined and un-piped ditches, which goes onto the land. Some of it is farming; a larger and larger percent is just flood irrigation for the normal things, grass, fruit trees and gardens etc. All of it ends up flowing back down into the LCR. Krista/Diane – Have your considered some kind of treatment on that water, some kind of retention or bio treatment of that water before it re-enters the Nutrioso Creek? David – the cost becomes prohibitive. Krista/Diane – how many discharges back into LCR or Nutrioso Creek are there? David -That comes back to how many property owners there are. Krista/Diana - Each property owner could have a tail water discharge? David - Potentially yes, depending upon how much water you get. A lot of it is going to be absorbed and go into whatever kind of underground flow happens there. Krista/Diane – The Big Ditch doesn't really get the tail water back? David – the Big Ditch carries the water upstream, what gets back except for the very last water user and in times of excess flow when the water is not all used. The water gets on to the individual properties of the owners and then makes its way back into the LCR and Nutrioso Creek. The very last water user as you mentioned before, if he has more water than he needs, then that water ends up- from the ditch in Nutrioso Creek. But that would be a very small percentage of the overflow. Krista/Diane - Encourage people to control animal waste, so it doesn't seep into this water system. More interested in the tail water, than the water coming into this. David – If a agricultural situation one of the things that is happening is getting wildlife waste once you put the pipe in here then you are reducing the source of the sediment under the big screen in which it picks up the most sediment and lining the ditch will also cut down on garbage that flows down. James – Water Quality problem from the point where the big Ditch is lined down stream, the Big Ditch parallels the LCR and is very close to and is higher than the LCR. The Ditch obviously overflows in several locations and one area just downstream from the lined, there is a hillside that sloughs off and it creates a dam and diverts the water straight into the LCR. If we want to just focus on turbidity there are several location where you can visibly see these diversion ditches going from the Big Ditch straight into the LCR. Also there are certain gates downstream that are for emergency purposes where if needed the irrigation district diverts water from the Big Ditch directly back into the river. That flows is picking up sediment as it is going along, because the ditch isn't lined. And so you have these areas where the irrigation water is getting back into the river and creating a sediment issue. Krista/Diane – Areas where the embankment is sloughing down and creating a barrier, my concern there is to try to stabilize the embankment. I am not sure it is flowing down into the river; I am concerned that you have a stable bank there. So we could help you with implementing to EMT? to stabilize banks, we are probably right there with you. David - What is the most important thing to ADEQ? Best management practices, when you put the piping in management ends. The only thing they do with maintenance on the existing pipe is make sure the vents aren't open, there is no inspection to be done because of the quality of the pipe,

there is breaks and that kind of thing there is no heaving around here with the soil like there might be in Alaska. It is just an ideal situation because it solves multitudes of problems. Which is why we wanted to go forward with that in the first place Pipe itself is the best management practice. James- And it is not just where it is sloughing, all around the ditch you see all those tributaries going down to the river. Everything goes back eventually to the way it was with the least disturbance there is. There is no deterioration, water and plastic don't mix, and there is nothing that has to be done. It is not iron there is no rust. The pipe is really a good solution. Krista/Diane – it is not critical to us, the reality is that it is low maintenance. Streams are in dirt channels and with the elk, deer, and javelins and everybody else, we are okay with all of that, what we are trying to do is reduce mans activities have caused the additional deterioration. So we need to focus the grant on those areas. You might have more evidence than we do. We didn't walk the rest of the Big Ditch; we didn't see all this other areas. Document where the very deteriorated areas are. Those are the areas you need to focus on in this proposal. What is going wrong right there and what we can do to help you stabilize and fix those particular problems and having the evidence of the impact to the LCR and to Nutrioso Creek itself from the Big Ditch, that would be very important in getting any money from us to go forward with this. That does not mean that I don't see the need and true beauty of putting it in a pipe, I do see that. If pipe is the best use of the funds that we have, with all of the applications that are coming in. Krista/Diane - we did fund that first one but we might not as likely fund another pipe now. That doesn't mean that we won't fund something that would be very helpful to you, so lets see if we can find that. David – We have to meet your criteria and that is what we are trying to do.

Set up Coyote Creek Project - Monday morning at 9:00 a.m. Byron will check his schedule and set up another conference call through the state operator. David has had trouble getting people to meetings.