

Minutes – Regular Meeting
Solid Waste Advisory Board
June 5, 2008
Approved August 7, 2008

Attendance: Jan Sassaman, Bonnie Norwood, BJ Tipton, Linda Bowerman, and Michelle Grunwald

Staff: Blair Pollock, Paul Spire, Wanda McCain, and Harv Howard

Guest: Bob Sallach, Louis Watts

1. **Adoption of Minutes from May 1 SWAB meeting** Norwood moves to accept. Grunwald 2nd. Passes unanimously
2. **Board Member Comments** None
3. **Transfer Station Siting – Process Update** Pollock states that Bob Sallach and Louis Watts are from Olver Inc., the engineering firm that we have retained to help with the transfer station siting and design and the landfill gas project. They will be doing the presentations tonight. The transfer station siting presentation will be recapping what the Commissioners have gone through. In addition to the presentation this will be an opportunity for you all to ask questions about the other sets of criteria and provide any input you might have about the criteria.

Presentation by Bob Sallach

The information presented tonight is also on the website
www.olver.com/orangecounty

Pollock states that this could be characterized as a blind process - there are no sites on the table until all the criteria are set

Sallach replies yes, there are no sites at this point.

Sassaman asks when do you have the sites – going from exclusionary to technical?

Sallach replies yes.

Sassaman asks how does this schedule correlate with the original schedule you proposed.

Sallach replies that we are behind. We had hoped to be at the point of having candidate sites at the meeting on the 24th.

Sassaman asks are you going to be able to compress it towards the end.

Minutes – Regular Meeting
Solid Waste Advisory Board
June 5, 2008
Approved August 7, 2008

Sallach replies that is the objective. We want to get the criteria established that would allow us to proceed with the engineering evaluations over the summer break. If we can do that we can put it back on schedule.

Sassaman states that some of the things you do not want to compress are the public input meetings.

Pollock asks for an explanation of "critical area overlay district of water supply watershed".

Sallach states that that is the legal description of that. In the critical overlay, [this] area is defined to be within a thousand feet of water supply impoundment and within one mile of an intake or something along those lines. There is a State definition as far as defining a critical area in terms of water supply. Primarily it means a water supply within that settlement.

Pollock states that it could be irrespective in case of the mile criterion of whether it's in the fall line or does it have to satisfy both criteria.

Sallach states that the critical overlay area is within the fall line. The protected watershed overlay is the fall line.

Grunwald asks, in the exclusionary criteria, it's excluding anything that is 3 miles from all those above, what are you excluding from the exclusions. Are you including anything along NC 86 in parenthesis?

Sallach states that NC 86 is a boundary. That boundary stops north of Hillsborough.

Pollock states that what it really says is that north of Hillsborough along NC 86 is out regardless of how close it is to NC 86.

Bowerman asks if the 12 miles is radius or diameter

Sallach replies it is 12 road miles.

Bowerman asks do you think there are ten of these [sites].

Sallach states that we have not looked. There are a couple of other criteria the Board has designated that, if there are too many sites, then those criteria would be applied. The criteria that would be applied if there were too many sites would be to exclude protected watershed areas. If there were fifty sites, that would be an unmanageable number. We would have to screen them further.

Minutes – Regular Meeting
Solid Waste Advisory Board
June 5, 2008
Approved August 7, 2008

Norwood asks regarding the slopes, if the other sites get attacked but there is a site that would work but has a slope can you grade it and use it.

Sallach states that as long as it doesn't have slopes greater than 15%.

Norwood asks even if it appears to be more viable and has the least amount of impact on anyone in its close proximity?

Sallach states that the way the criteria would be applied, that site would be excluded. A site could have 15% slope on it as long as it has 25 acres of area that doesn't have 15% slope.

Norwood states that initially it looks like if there is a slope it will be shoved away and I would like to see if that happens not to totally throw that away because the battle is just starting.

Sallach states that if it is a 25 acre site that has 15% slope it will be excluded. If it is a 35-acre site and approximately 25 acres of area that doesn't have slope then it would be considered.

Grunwald asks if you are looking at publicly held land only or private and how would you approach that.

Sallach states that it will be approached through the technical criteria in terms of weighting and importance.

Grunwald asks how would you approach a private – eminent domain or purchase.

Sallach replies at this point we are blind to ownership. We address this under the technical criteria in terms of its weighting and importance and then community specific.

Norwood asks [for a site] to be eliminated for historical reasons does it have to be on a list or can it be historical to the USA.

Sallach states that there is a definition provided that establishes the registries we would use to identify sites.

Pollock notes that this is the SWAB's opportunity to weigh in on the weights that apply or recommendations about weighting.

Grunwald asks if the central location would be more important especially in the future with the push on carbon emissions standards and constantly tightening those.

Minutes – Regular Meeting
Solid Waste Advisory Board
June 5, 2008
Approved August 7, 2008

Sallach replies yes.

Grunwald states that so you will have to consider weighting for the future too.

Sallach states that we want to be thorough this process in defining the technical criteria, that is to establish the importance of that criteria. What we are proposing is as you go through the criteria [you will] be giving an importance factor of very important or important. If it were very important there would be a numeric weighting factor of 10 applied to that ranking.

Sassaman states that looking at your technical criteria there is one criterion that kind of cuts across these – energy efficiency. When looking at \$4.50/gal. for diesel the whole issue of energy cost efficiency should be considered as a separate criterion if it can be teased out.

Pollock asks how does that differ from carbon footprint.

Sassaman states that carbon footprint is a lot broader.

Sallach states that we are going to look at this in two components – carbon footprint and under community specific we will look at it again under an emissions standpoint. That doesn't specifically address energy efficiency but it does kind of cover the fact of distance.

Sassaman states that I'm thinking more in terms of life cycle efficiency.

Sallach states that there is a cost component under community specific that it could be incorporated into.

Norwood states that under truck and traffic compatibility the word neighborhood should be there.

Sallach states that it is under community specific.

Grunwald asks how much break down is going to be in this. These are good but they are pretty general considering all that is involved.

Sallach hands out a copy of the working documents of the exclusionary, technical and community specific criteria.

Grunwald asks who has been responsible for bench marking.

Minutes – Regular Meeting
Solid Waste Advisory Board
June 5, 2008
Approved August 7, 2008

Sallach replies we have.

Norwood asks do you know how far away from the schools [as a criterion] considering there will be a new school within two miles of the landfill.

Sallach states that we will look within a half-mile radius and everything in that half-mile radius.

Norwood states that the rural buffer would require sewer but Gayle can't have sewer in the rural buffer.

Sallach states that you wouldn't necessarily have to have sewer. We could use holding tanks and wells.

Pollock states that if you thought that was an important criterion then you would say that is a ten. If you think it is less important you would give it a lesser weight.

Norwood states that since the rural buffer has been fought for so long--not messed with by certain things and now that the government wants it and can site the transfer station in the rural buffer that they will do it.

Pollock states that then you would say that is an important criteria.

Sallach states that I don't think that you have had enough of a chance to provide input as to what you think or what criteria you think are important. If we could get your feedback in some sort of consensus that would be beneficial because where we are in the process is the working document you are looking at has been submitted to the Board and will be taking a recommendation to them in terms of the ranking of the criteria for discussion.

Grunwald asks is there some place for us to look at a discussion from you or your sources to give of us some background so that we don't make random comments on things that we have a different understanding of those words than you do. We could cause more problems than we solve.

Sallach states that there is a document on line of public comments that we have received to date. It would basically include the same particular information. The technical criteria are in the form of that document. When we email the documents to you we will also send our suggested importance factor evaluation form.

Pollock clarifies that the exclusionary criteria are set so there is not much point of commenting on those. There is much more significance in commenting on the technical and community at this point.

Minutes – Regular Meeting
Solid Waste Advisory Board
June 5, 2008
Approved August 7, 2008

Sallach states that the technical criteria are going to be discussed/presented at the June 16th meeting. We will need your turn around as soon as possible. We will email out [the] importance factor evaluation so you take a crack at that.

When we are done with the technical we will have ranked ten sites. The top four sites will become the candidate sites they will then be evaluated with respect to community specific. When we go to community specific the points and rankings of those four candidate sites will go away. We start over in terms of ranking.

Sassaman asks how do you evaluate the impact on a residence.

Sallach states that we are not going to evaluate the impact we are going to look at the number of residences affected.

Sassaman asks what is the definition of an impact of a residence. (reads definition from working document --"*The site with the fewest number of residences located on abutting property parcels will be ranked the highest. Demographics including race and class of impacted residences will be established for consideration under the environmental justice criteria*"). It could be a different density if the abutting properties are a half an acre in size or twenty acres in size.

Norwood states that with the mailings that go out to notify us when things are going on they only notify the property abutting and not those across the road because it didn't meet the number of feet criteria and the whole neighborhood would be affected far vastly affected than one individual.

Sassaman states that in risk assessment you take the area of concern and look at the number of the population at the various annuli away from that area.

Sallach states that we are open to ideas and input and this is a process we want to refine. So you are saying you would look at this from the standpoint of various impacts.

Sassaman states that you would give weighting to the number of people that would be within 200 or 500 ft. You could come up with a qualitative number by multiplying – a weighting within a weighting.

Norwood questions the noise, how many hours you will have to listen to the "beep, beep" will have more impact than anything else.

Sallach states the beep -beep will be inside the building.

Minutes – Regular Meeting
Solid Waste Advisory Board
June 5, 2008
Approved August 7, 2008

Tipton asks if it will be a drive through.

Sallach states that it will be a lower level drive through of the transfer station. The tractor trailers drive under a hopper that's on the second floor. The collection vehicles will come in, drive into that building and then they will have to back up and dump the load on the tipping floor and drive out the other side. With a 25-acre site and buffers we are trying to address those issues.

Tipton asks for the meaning of non-protected neighborhood character.

Sallach states that it is an ambiguous definition that we need to work on trying to further clarify. We want to try to assess the impact on protection of neighborhood character that isn't covered by land use or zoning.

Pollock states that this has been rich feedback. If you all have the maps and criteria by Monday is it fair to expect that by Friday, the 13th you can direct comments to either Gayle or Bob? That would enable us to get them to Bob and the Board before the 16th.

Norwood states that on the non-regulated we could see the transfer station could be sited and the garbage trucks coming by your house that do not pickup your garbage but you would have to drive ten miles past the transfer station to get rid of your trash. Would that be a non-regulated nuisance? It seems that you don't want to adversely affect neighbors, so if you already have to drive all this distance and you talk about carbon tracks, can there be a facility for proximal people for a convenient site there?

Spire states that there was a section set aside where small vehicles could go to get rid of their garbage without having to process through the large building. That was designed into the original Eubanks Road facility.

Sallach states that we would recommend that there be some sort of facility so that the citizens don't have to go on the transfer station.

Pollock states this has been a fairly important discussion and between the minutes and you all's opportunity to comment next week that we have given fair opportunity to get feedback from the SWAB.

4. Landfill Gas Recovery – Project Update Presentation by Bob Sallach.

The gas is extracted by a vacuum system from the well, conveyed to a collection system where it's captured, cleaned up and compressed and moved by pipeline.

Pollock asks how tall the wells would be.

Minutes – Regular Meeting
Solid Waste Advisory Board
June 5, 2008

Approved August 7, 2008

Sallach replies about 3 feet or they could be put in vaults. This is a common system. This is a bigger flare than what would be proposed here and it would be enclosed so there would be no visible flame. There is higher destruction efficiency as compared to an open candle flare so there is additional emissions reduction. Ultimately the gas will be conveyed to an engine generator set.

Pollock asks if the flare configuration is a bridge technology that would only be there for a short period of time. The flare would be the cylinder and everything else (shown in slide) would remain and the flare would go away and be replaced by a generator set?

Sallach replies that some of this equipment would have to be on-site. You would want to have the capability if the generator set was down to flare the gas.

Tipton asks how long will it produce.

Sallach replies approximately 30 years with a determination late in that period to see if what the generation rate and quality is.

Sassaman asks what type of pumps are you talking about – reciprocating or centrifugal for compression.

Barner states that it is a very low pressure application and I'm not sure about pump type. There is an ongoing discussion about pipeline size that will determine the pressure and pump details. These will be electrically driven pumps, not gas driven.

Norwood asks what is going on Homestead Rd.

Sallach replies the generator facility.

Bowerman asks if there is no electricity, what does that mean for this. Is there a danger?

Sallach replies there is automatic control equipment to cut all the valving down so that there would be no releases of gas. There are flame arrestors and other sophisticated controls.

Norwood asks if the Duke substation behind the old Duke Power building is the location you are talking about?

Sallach affirms that location.

Minutes – Regular Meeting
Solid Waste Advisory Board
June 5, 2008
Approved August 7, 2008

Norwood states we would like to leave the pipeline along the railroad tracks. Is that not what you are going to do?

Sallach states that the routing is still being looked at.

Spire adds that routing is a major decision still being looked at and costs of various easements are being evaluated.

Norwood asks if the gas will be used for heat in addition to electricity.

Sallach states that it will be used to generate electricity and some heat recovery equipment on the generator set but until you have a load you can use it for, it will be primarily for electricity.

Pollock states that if the location of the generator set is at the Homestead substation area, what is going to happen to the waste heat until there is a heating load? Will it just dump the heat? Is a pipeline to capture the waste heat going to be built?

Sallach states that that is something that will have to be evaluated by Duke Power.

Pollock states that this generator set will never go at Carolina North.

Barner of UNC [or perhaps Watts] states that the initial plan is this would go adjacent to Homestead substation. We have another project that's going to send some electricity from this substation to Carolina North starting right away to the facilities on Airport Dr. So this will power Carolina North.

Pollock notes that the prospect of co-generation of power and heat from this project is therefore limited.

Barner agrees at this time.

Tipton says this brings electrical power to Airport Drive facilities.

Sallach goes on to describe the gas generation rates that will start at 300-400 cfm and then will decline. This provides from 750 to 1,000 kilowatts. The demand at the Airport Drive complex is about 1200 kW and this will average 600 kW. From a GHG reduction level it's the equivalent of 39,000 tons of carbon dioxide equivalent per year based on destruction of the methane and its global warming potential.

Sassaman asks if it's fair to say that the carbon offsets are a prime motivator for the University?

Minutes – Regular Meeting
Solid Waste Advisory Board
June 5, 2008
Approved August 7, 2008

Barner replies “Yes”.

Sallach says there are two sources of revenue - the carbon credits and the electricity [sales]. The carbon credits are an important aspect of this project. This landfill, due to its size, would be unregulated in terms of emissions; so capturing the gas is voluntary [thereby] making the carbon credits saleable at a significant value. The credits could vary from \$5 or \$6 per ton to \$15 or \$20, geared around the Kyoto agreement for reducing greenhouse gas emissions and this [carbon market] is a spin-off of that agreement. An independent party would establish the value of the carbon credits and the other component is the BTU value of the gas that can readily be indexed to the market value of natural gas. The carbon credits are more of a separate market.

UNC and the County have agreed there will be a preferred distribution of revenue to the County prior to the operating costs or debt service being deducted. After the capital recovery period, the revenue sharing will then be fine-tuned between the County and the University. It is unique in that it captures the carbon credits and takes into account both parties sharing in the carbon credit value as it increases over time.

UNC will provide capital construction costs to build the facility. These numbers are very preliminary in an order of magnitude pro-forma and continuing to be refined, but [at that level of estimating costs] we’re looking at an investment of \$5.5 million with annual O&M costs of \$365,000 averaged over the life of the facility.

The capital recovery period may vary depending on how project is structured, energy costs, and carbon credit values. The project could have revenues of \$1 million per year, versus now, where gas is now passively vented and turning these uncontrolled emissions into a revenue stream. The significant component of revenue is from the sale of carbon credits, a value that didn’t exist six months ago. UNC and the County are on the front end of this. Without this, the project would not have been economically feasible as a straight electric generation project.

The schedule has the agreement being presented in August. Phase one is to capture the gas and control emissions. Then flares will be constructed and carbon credits can be realized [from destroying the methane] during the first quarter of 2010. Power generation could be added by the fourth quarter of 2010.

Pollock notes that Norwood raised concerns about the pipeline routing and generator set location. Is there anything else? He notes his own concern about not using the heat for cogeneration because there is no heating load nearby.

5. **Solid Waste Management Plan Work Group – Next Steps** Pollock states that the group has been active but recently dormant. The next round of the solid waste work plan that you all will see in late August/early September will concern PAYT, the fate

Minutes – Regular Meeting
Solid Waste Advisory Board
June 5, 2008

Approved August 7, 2008

of the convenience centers, and rural waste franchising. We will bring some decision making focus to our recommendations. The hoped-for trajectory is to get through all that by next June including commercial in the fall, financial in the winter and the integrated plan in early spring so it can go to the boards by April and we hope for your intensive involvement.

All three boards heard the solid waste plan after your approval. Only Chapel Hill approved it. Carrboro and Hillsborough want to wait until the County hears it. The County approved it Tuesday.

6. Programs/Services Update

Solid Waste Operations Center -- Deferred

FY2008-09 Solid Waste Budget -- Deferred

Interim Solid Waste Management Plan -- Deferred

Landfill Leachate Sewer Project -- Deferred

Orange County Comprehensive Plan -- Deferred

Alternative Technologies Feasibility Study Watts states that the study is about half-done. You are scheduled to hear the report at your next meeting. There will be a report and a Power Point presentation. Then it will go to BOCC in September.

Sassaman states that it would be useful for those of us with a mild technical bent to see where you are going.

Watts states first draft is due next month, at least a few weeks. I can tell you what they are looking at. The four technologies are waste-to-energy, plasma arc, pyrolysis and biofuel production. There was an evaluation without much analysis of composting (mixed solid waste).

Sassaman states that originally we had talked about a number of criteria to evaluate the various processes by in terms of things like practicality for Orange County. How well they're developed, economics, reliability, etc.

Watts states that the outline they are using there will be a section of overview for each technology and a section on worldwide experience, research and procurement an opinion on economic feasibility effecting environmental issues, and an opinion on what Orange County should look at considering from among these technologies. Understanding that's limited by your 300 tons of waste a day. Those things incorporate the list you all provided.

Sassaman asks if the list of criteria to select those can be included.

Minutes – Regular Meeting
Solid Waste Advisory Board
June 5, 2008

Approved August 7, 2008

Watts states that they can. How much time should they allow for the presentation at your next meeting? This will be the only opportunity for you all to really ask questions. There will be a lot of information at your August 7 meeting so you will want to set aside some time for that.

Norwood states that considering what I've been able to grasp thus far I don't see me having much to say because I don't have enough of an idea of what you are talking about.

Bowerman states that if we got more information sooner we might know more. Are there some web sites where we can go to learn more about these technologies?

Watts states that I would suggest that you set aside an hour to an-hour -and-a-half for the presentation.

Pollock suggests a review of the NAWTEC web page where their last conference also covered pyrolysis and bioconversion.

Watts reiterates waste to energy (direct combustion) where there are 20-30 plants in the US. Plasma arc technology is the current buzz technology, there is a project in Florida and GBB is working on that. Pyrolysis or gasification is another and biological fuel production is the fourth one. The presentation will be geared to give you an understanding of the technologies so you will have a good opportunity to discuss it. There may be a preliminary meeting of staff, consultants, and board chair prior to the SWAB meeting.

Other None

7. Other Business – None

Bowerman moves to adjourn.

Adjourn: 9:10pm

Next meeting August 7, 2008
Government Services Center, Hillsborough