MINUTES
EAGLE MOUNTAIN CITY
SPECIAL CITY COUNCIL/PUBLIC WORKS BOARD MEETING

October 27, 2005 - 7:00 p.m.
Eagle Mountain City Training Room, 1650 East Stagecoach Run, Eagle Mtn, Utah 84043

7:00 P.M. SPECIAL SESSION – CITY TRAINING ROOM

Mont Beakstead, Public Works Board Chairman called the Public Works Board meeting to order at 7:38 p.m.

Mayor Lifferth called the Special City Council Work Session to order at 7:38 p.m.

CONDUCTING: Mayor David Lifferth and Chairman Mont Beakstead

ELECTED OFFICIALS PRESENT: Councilmembers David Blackburn, Vincent Liddiard, Brian B. Olsen, Janiece Sloan and Linn Strouse.

PUBLIC WORKS BOARD: Mont Beckstead, Shane Jones, and Bob Stadel (participated telephonically until arriving at 8:22 p.m.)

CITY STAFF PRESENT: Chris Hillman, City Administrator; Shawn Warnke, Management Analyst; Chris Trusty, City Engineer; Gina Peterson, City Recorder; Angela Cox, Deputy Recorder; Adam Lenhard, Planning Director.

OTHERS PRESENT: Kelvin Bailey, Tiffany Ulmer, Mark Madsen, Heather Jackson, residents; Larry Bowen, Jeff Beckman, Bowen Collins & Associates; Rob Herbert, Ed Macauley, Utah Division of Water Quality; Korey Walker, Epic Engineering

SCHEDULED ITEMS

PRESENTATION – Feasibility Study for Wastewater Treatment Options.

Larry Bowen of Bowen Collins & Associates stated the City has a big decision to make, and it won't be an easy one. He stated all of the options have negative points, and asked the Council and Board to save questions until the end of his presentation, except for clarification on the meaning of a word or a term.

He explained the general flow of a wastewater treatment plant. He stated the critical elements are what to do with the waste, and the capacity and ability to treat the water coming out. Not having a live drainage, such as a river or stream to drain wastewater into, is a big complication for Eagle Mountain City.

Mr. Bowen stated Eagle Mountain has four main options for wastewater treatment: Aerated Lagoons; Extended Aeration (oxidation ditches); Membrane bio-reactor; or pumping to Timpanogos Special Service District (TSSD) water reclamation facility, and 5 sub-options.

Mr. Bowen presented flow schematics for aerated lagoons. There are three options with aerated lagoons: land apply effluent at 12-inch per year, no winter storage required; land apply effluent at 12-inches per year, 3-month winter storage required; land apply effluent based upon nitrate uptake, 3-month winter storage required. Mr. Bowen explained the decomposition process. He stated with a lagoon system the City would not have to deal with the solids (slough) for some time from 30 to 50 years or more. The disposal of slough is difficult, and expensive to handle and get rid of.

Option 1-A (land apply effluent at 12-inches per year, no winter storage required) water would be land applied after processed. Mr. Bowen explained there are 2 types of reuse water. Type 1 reuse water can have human contact, Type 2, is not safe for human contact and should be restricted to farming operations only. It is estimated the City will have a 7% growth rate with a flow of 1.36 million gallons a day. At that rate the City would need approximately 1400 acres within 18 years, and would need to apply water year round. That would be a challenge based on the recommendation of Ed Macauley with the Utah State Department of Water Quality, that no more than a foot of water should be on a property to prevent contamination of ground water.

Option 1-B (land apply effluent at 12-inches per year, 3-month winter storage required) same as option 1-A except has three months of storage for winter time.

Option 1-C (land apply effluent at based upon nitrate uptake, 3-month winter storage required) proposes working with the Soil Service in changing the phosphorus limiting application of water and apply water based on a nitrate update. Under this scenario it is assumed the water would be applied to an alfalfa field. The City would need 515 acres of land. In this proposal the City would have to work with the State to allow a foot of water during the non-irrigation period which would reduce the volume in storage.

Mr. Bowen explained option 2-A (extended aeration, oxidation ditch discharge to dry wash) flow schematics, and discussed discharge options. He stated if the City can find a viable discharge option this would be a good option and a cost effective option. He stated there are some concerns with this option discharging to the sinks, such as, the City cannot contaminate ground water. He stated many of the wells in the area have shallow ground water with low TDS (total dissolved solids) values, which is a concern. Mr. Bowen has talked to those who monitor ground water; they say the City could possibly get a permit to allow discharge, if wells are monitored and back up, to switch to if TDS is detected, is in place. He explained if discharge water travels to the sinks it will affect private property and put the City at risk of causing damages to private property owners.

Option 2-B (extended aeration, oxidation ditch land apply with 3-months winter storage) would require approximately 400 acres of land. The required acreage is based on the water demand. He stated this would require the added effort on the City of farming the land which is a negative point.

Option 3 (membrane bio-reactor) requires a much smaller amount of acreage. Mr. Bowen explained the flow schematics and maintenance of option 3-A(membrane bio-reactor, discharge to dry wash). He explained this facility is easy to expand and this option is more expensive because of the filters. The reuse water coming out of a membrane system is better than the water coming out of oxidation ditch. He stated if there are plans to put reuse into residential areas he would recommend a membrane system because the water is safer. Option 3-A is similar to option 2-A except the use of membranes.

Option 3-B (membrane bio-reactor, land apply with 3-months winter storage) is similar to 2-B except with the membrane.

Option 4-A (Pump to Timpanogos Special Service District water reclamation facility and pay capacity buy-in costs) would require 2 pump stations. He discussed pumping options and possible problems

Option 4-B (Pump to Timpanogos Special Service District water reclamation facility and capacity buy-in costs are reimbursed by the North Service Area) is a single line; the capacity will only last for approximately 7 years. This option may be the cheapest option for the short term. Discussion ensued on connection fees and Impact Fees.

Mr. Bowen explained the costs were determined from looking at bid information from a variety of treatment plants in Utah and capital costs per gallon. They estimated the numbers high and included a contingency.

Mr. Bowen explained the Economic Evaluation of Alternatives as outlined in the *Wastewater Treatment Evaluation Summary.* (attached as a permanent record to these minutes)

He doesn't feel the City will benefit from having a long term land application system, but all of the most feasible options offer that. He is concerned with TSSD because of the uncertainty of future costs compared to other options. The State is doing a study on Utah Lake that may require additional costs to the TSSD treatment facility, and they are looking at expansion in 2-3 years which may cause impact fees to increase.

Mayor Lifferth called for a 10 minute recess at 8:50 p.m.

Mr. Bowen stated the sludge in a membrane plant is dealt with in the same manner as in a mechanical plant. Discussion ensued on the processing of sludge.

Councilmember Sloan asked for clarification on the processing of sludge concerning information obtained the City Council meeting when they visited the Oakley Wastewater Treatment Facility.

Mr. Bowen discussed collective dewatering. He stated both options work and are close in cost.

Councilmember Liddiard stated the TSSD pump version has a $2400 impact fee calculated with the impact fees as a capital cost. This is not a cost imposed on the City, but on the residents.

Mr. Bowen stated this money would be collected through impact fees and is not a cost to the City, but a cost to the residents of the City. He stated the TSSD option is similar to purchasing a portion of the treatment plant. Growth does not affect the City as much with the TSSD proposal as with other proposals.

City Attorney Jerry Kinghorn explained TSSD is the only option that the City would make a payment to a third party to acquire capacity.

Councilmember Liddiard stated TSSD is the only option that includes an impact fee for existing residents in the calculations.

Mr. Bowen stated it is calculated because the City is paying for the capital cost and the carrying cost to secure that money. TSSD can only use impact fees to pay for new capacity.

Councilmember Liddiard stated TSSD services the majority of homes for the City and any expansion or financial burdens of TSSD will be spread over a large population including other cities.

Councilmember Liddiard asked questions concerning nitrate uptake.

Mr. Bowen stated Option 2-B is not a long term option because the amount of property required will continue to increase as the City grows.

Councilmember Liddiard questioned option 2-B not being a long term option and what would be required of the City to make it a long term option.

Mr. Bowen explained the City Council must decide if the amount of land required, depending on the amount of growth the City receives, would be viable.

City Attorney Jerry Kinghorn stated the discharge of wastewater to the sinks would not be a viable option. He explained the City would benefit from sending reuse water to churches, parks, and schools. This would benefit the City as it becomes more difficult to transfer water into the City. The cost of transferring the reuse water to be used in other areas in the City is not included in the wastewater treatment plant bids. It is important for the City to have the ability to reuse water for use in city parks, schools, and churches as soon as possible. This may help in solving the problem of the State allowing only a minimum number of water rights to be transferred into the City.

Councilmember Blackburn asked if the City could recapture water rights in areas that have been xeriscaped and are requiring less water.

Mr. Kinghorn stated the City is trying to establish a formula to determine the water rights not used once previously landscaped property is xeriscaped. He is opposed to crediting water back to developers and feels the City is entitled to use those water rights elsewhere. He then explained water rights in open spaces.

Mayor Lifferth recommended Public Works Board consider the following guidelines when making a recommendation to the City Council:

1. The system should be affordable
2. The system should offer reuse water
3. They system have a high salvage value
4. They system should be in operation before the City runs out of capacity.

The City Council discussed pumping to TSSD.

Councilmember Liddiard stated his concern with the amount of property required for some of the proposals.

Councilmember Sloan would like the City to get out of the sewer business, but feels there is value in reuse.

Councilmember Strouse discussed the option of delivering sludge to citizens and developers to be used in gardens.

Councilmember Olsen is most concerned with finding an affordable option, and the amount of land the proposal requires.

Councilmember Blackburn feels the cost to residents should be minimized as much as possible. He would like to see the option chosen be something that could be acquired by TSSD in the future.

Mayor Lifferth would like to see the City get out of the sewer business by eventually selling the system. He feels reuse is an immediate need.

Councilmember Sloan asked if the City Council could send multiple options for the State to consider.

Mr. Macauley stated there is no guarantee the Division of Water Quality Board will approve any of the options; however they would only consider one option at a time.

Mr. Beckstead stated the Public Works Board has been discussing waste water treatment plant options for 4 years. The major issues are reuse, salvageability, and time frame. He stated winter storage will be needed for the City, and he feels option 3-B is the best option for the City based on the major issues.

Mr. Stadel agreed with Mr. Beckstead. He stated the slight additional cost will be worth more in the future.

Mr. Beckstead stated the Public Works Board felt the ability to get additional capacity was a needed benefit to the City.

Shane Jones stated the sewer system is an asset to the City rather than a liability. He feels as the City grows reuse will be a benefit. He supports option 3-B.

Mr. Stadel **moved** to recommend option 3-B (membrane bio-reactor, land apply with 3-months storage) to the City Council as the wastewater treatment plant, and to looking into water reuse options. Mr. Jones **seconded** the motion. Those voting aye: Mont Beckstead, Shane Jones, and Bob Stadel. Motion **passed** with a unanimous vote.

Mayor Lifferth asked the Public Works Board if they had a second recommendation if that option is not in the City's price range.

Mr. Beckstead stated the second option would be 2-B.

Mr. Bowen explained the cost difference of option 2-B and option 3-B. He explained the cost difference is close.

ADJOURNMENT OF PUBLIC WORKS BOARD MEETING

Mr. Stadel **moved** to adjourn the Public Works Board meeting at 10:00 p.m.

Councilmember Blackburn stated he is concerned with the time frame to have the wastewater treatment plant in operation.

Mr. Bowen stated the plant could be in operation in 16 months at the soonest. He stated an oxidation ditch will take a little bit longer because of the infrastructure that would need to be installed.

Councilmember Olsen feels the City Council needs to focus on the criteria the Mayor previously gave to the Public Works Board to consider when making their recommendation. He is also concerned with the time frame of the plant being in operation.

Mr. Macauley stated the City Council will need to have strong justification for the need of a more expensive option, as the Board is very careful with money.

Councilmember Strouse asked on what criteria the proposal would be evaluated.

Mr. Macauley stated the Board will want to know what the need is and why there is such a strong need.

Councilmember Sloan asked if an immediate need or a long term need is more justified.

Mr. Macauley replied they are both justified.

Councilmember Sloan stated the value of reuse offsets the capital costs.

Councilmember Liddiard stated water reuse is important because water is a limited resource. He is concerned with the amount of land required for some options, and the City should not build a plant with the intention to sell it unless they have a buyer.

ADJOURNMENT

Councilmember Liddiard adjourned the City Council Work Session at 10:10 p.m.

Minutes approved on December 6, 2005.

ML