# City of Grand Island

## Tuesday, September 25, 2007
## Council Session

# Item G2

## Approving Minutes of September 18, 2007 City Council Study Session

**Staff Contact: RaNae Edwards**

CITY OF GRAND ISLAND, NEBRASKA

MINUTES OF CITY COUNCIL STUDY SESSION
September 18, 2007

Pursuant to due call and notice thereof, a Study Session of the City Council of the City of Grand Island, Nebraska was conducted in the Community Meeting Room of City Hall, 100 East First Street, on September 18, 2007. Notice of the meeting was given in the *Grand Island Independent* on September 12, 2007.

President Bob Meyer called the meeting to order at 7:00 p.m. The following members were present: Councilmember's Brown, Haase, Zapata, Nickerson, Gilbert, Whitesides, Niemann, and Meyer. Councilmember's Gericke, Carney, and Mayor Hornady were absent. The following City Officials were present: City Clerk RaNae Edwards, City Attorney Dale Shotkoski, Public Works Director Steve Riehle, and Finance Director David Springer.

INVOCATION was given by Pastor Gary Schulte, Evangelical Free Church, 2609 South Blaine Street followed by the PLEDGE OF ALLEGIANCE.

Groundwater Removal Study and Computer Model Presentation. Gary Mader, Utilities Director reported that in July of this year City Council authorized Olsson Associates to update the 2002 Ground Water Model Study for future presentation to Council at a Study Session. Explained was the geography of Grand Island and the ground water problems. The last seven years the city had been in a drought with this year being a particularly wet year causing high ground water. Mr. Mader updated the Council on the history of groundwater problems and what the city had done in the past.

Mr. Mader introduced Olsson Associates representative Kevin Prior who gave a PowerPoint presentation updating the groundwater study from 2002.

Key issues presented were:

- Wet Basements
- Sanitary Sewer Infiltration and Residential Pumping to Sanitary Sewer
- Property Values
- Future Growth in Grand Island
- Discharge Location Options

Groundwater Dewatering Options:

- Deep/High Capacity Wells
- Shallow/Low Capacity Wells
- Horizontal Wells
- French Drain

Mr. Prior introduced Jeff Johnson who presented the following modeling objectives:

- Simulate existing water table conditions
- Evaluate aquifer response to pumping

- Examine affects of pumping on contamination
- Examine affects of pumping and water disposal on existing surface water bodies
- Assess potential subsidence due to dewatering

The following modeling aspects were used to create the study:

- Utilized BMS – MODFLOW, MODPATH, and MT3DMS
- Utilized GMS's capabilities for data evaluation and exhibits
- Large data base for model
- Modeled worse-case scenarios including high and low water tables

Key points from past records showed whenever there was rainfall the ground water level increased. In general, the water level had not exceeded the historical records. A computer model was presented showing water draw down with dewatering wells pumping from 300 to 500 gallons a minute 24 hours a day for 365 days a year.

The following conveyance/disposal options were presented:

- Discharge of the water into the Wood River Diversion Channel just south of Stuhr Museum
- Discharge of the water into the Platte River where it crosses Shady Bend Road
- Discharge of the water into the Platte River south of the Stuhr Museum, and using the water for downstream industrial or other uses

The following modeling summaries were presented:

- Combination of low-and high-capacity wells meets project objectives
- System would consist of eleven 500 gpm wells in NW and seventeen 300 gpm wells and one 1100 gpm in SE
- Maximum capacity is 11,700 gpm or 16.85 mgd
- Subsidence should not be an issue
- Discharge would need to be piped to the Platte River
- Surface water impacts are unlikely

Mr. Prior presented the probable costs for three alternatives ranging between $17,802,000 to $23,385,000 and annual operation and maintenance costs ranging between $1,895,602 to $2,343,582.

The following findings were presented:

- The opinion of costs for the construction of the capital improvements is $23,385,000. Annual costs to amortize the capital improvements is $1,876,412 (20 yrs., i=5%).
- Operation and maintenance costs are estimated to be $467,170/year.
- Total cost of the project on a per resident basis is estimated at $44.00/month.
- Several potential methods of payment to retire the capital costs and annual operation exist.

The following financing options presented were:

- Nebraska Natural Resources Commission

-Development Fund – Grants/Loans
Nebraska Cooperative Agreement/Water Action Plan

- District Creation
  -Drainage District – Assessment of project benefits to the designated area
- Off-Set Water on the Platte River
  -Market Water to Platte River Users
  --Potential sources include: Downstream Communities and Industry
  -Market Water to Environmental Agencies
  --Potential sources include: Fish and Wildlife Service, Nebraska Game and Parks, State of Nebraska Department of Water Resources/New Depletion Plan
- Utility User Fees
  Wastewater Department
  Water Department
- General Fund
  General Fund – Municipal Bonds

The following people spoke concerning water problems in their homes:

- Liz Gerberding, 404 West 14th Street
- Randy Stueven, 233 South Gunbarrel Road
- Vern Rempe, 1739 South Arthur Street
- Carolyn Bresee, 303 East Nebraska Avenue
- Jim Waters, 1733 South Arthur Street
- Ruth McDonald, 2525 Mill River Road
- Cyndie Larson, 2811 Circle Drive
- Dayle Schutte, 1742 Arthur Street
- Kevin Rathjen, 2509 Pioneer Blvd

Councilmember Nickerson commented on the options of dewatering and forming districts. In the past these districts had been voted out and would likely be voted out again. Mr. Prior answered the question as to how long a project would take - approximately two years. The problem would be finding the financing. Mr. Mader commented that it was possible of take the water to the Platte River but would be very expensive due to the cost of discharging pipe.

Steve Riehle, Public Works Director commented on the detention cell on Stagecoach Road being at ground water level thereby the cell had water in it continually. The five test dewatering wells were discussed. Pulling water out of one area created a problem in another. The model showed that the water needed to be piped south to the Platte River.

Craig Lewis, Building Department Director answered questions concerning changing building code requirements to eliminate basements and/or regulate elevation. He said the council could change the city code. Mr. Lewis explained the subsurface drainage.

Mr. Riehle explained the process of a dewatering district. Mr. Mader explained those city wells which were contaminated were no longer in use. These wells would be used only for an emergency.

Discussion was held concerning costs and if the dewatering wells could be done in segments. Mr. Johnson said it could be done but there would have to be bigger pipe put in and we would have to plan for the future.

Discussion was held regarding a short term fix. Mr. Johnson stated there was no short term fix and this project would take time to lower the ground water.

Comments were made by council that this issue needed to move forward. Council President Meyer recommended that City Administration look into this and come up with a plan to be discussed at the Council Retreat.

ADJOURNMENT: The meeting was adjourned at 9:15 p.m.

RaNae Edwards
City Clerk