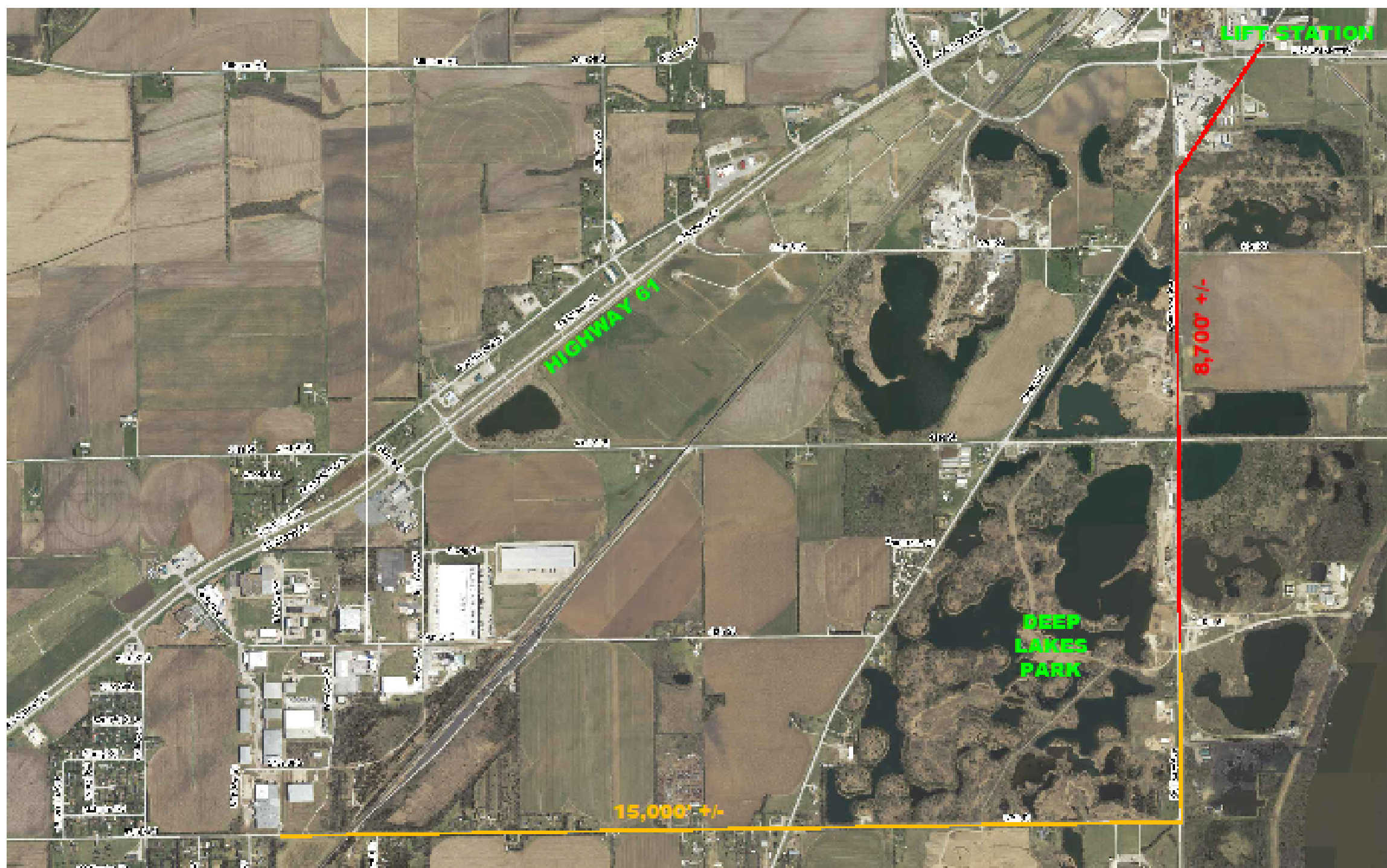


Deep Lake Sewer Discussion



City of Muscatine

March 30, 2021



LIFT STATION

HIGHWAY 61

DEEP
LAKES
PARK

8,700' +/-

15,000' +/-





Septic, Sewer and Lift Station Options

- 
- #1 Septic Systems
 - #2 Private installation and connection
 - #3 City installs and maintains



1 Septic Systems

- Current system on cabins using Waterloo Biofilter System
- How is it working? Can you sample it for nitrates, fecals, etc.?
- Restricts development if there are more users added?
- 75 camp sites may be too large for Waterloo System, unknown
- How do they work during off season and spring start-up?
- Will DNR allow 75 campsites to run on Waterloo System?
- DNR requirements for water more significant going over 25 users
- Environmental concerns, leaching into drinking water and lakes potential



#2 Private Installation

- Allows for expanded park development
- Only two current systems outside City limits connected: Hon Geneva and Lutheran Homes.
- In general, the City does not extend City services outside City limits.
- \$1.0 to \$1.5 million cost by our rough estimation
- Numerous entities in the area desire connection without being in the City
- Private line agreements could be tricky for billing, stacking and pretreatment requirements for additional users
- City oversight for additional connections would be required
- Multiple ownership and liability challenges to consider
- There are private companies that can maintain sewer lines, lift stations and water systems
- Interest from surrounding users? Monsanto/Bayer, Kammerer Park?



#3 City Installed and Maintained

- Allows for expanded park development
- Out of alignment with past practices and policy. In general, the City does not extend services outside City limits
- Multiple entities have asked and have been denied services outside City
- \$1.0-1.5 Million installation
- Not enough of a return on investment due to low flows and limited development potential
- Maintenance challenges due to low flows: large water flushing program needed to move material long distances
- Installation and maintenance costs pushed to City rate payers
- Future costs for maintenance are difficult to determine



Cost Estimates

- Sewer Line: \$100 - \$150 per foot
\$870,000 - \$1,300,000
- Lift Station: \$50,000 - \$75,000 installed
- Maintenance: Difficult to determine