Item No. 28

MEMO

To: Mayor and Ames City Council

From: Steven L. Schainker, City Manager

Date: August 19, 2022

Subject: Selection of Site for New Indoor Aquatics Center

I realize the selection of the site for the new indoor aquatics center is one of the most difficult decisions that this City Council has been asked to make. Based on previous Council and public feedback, it appears that the major focus has been on the IDOT and O'Neal Park sites. in order to assist you with the site selection decision, I am attaching a summary of the major PROs and CONs for both of these sites.

I want to emphasize that this summary does not reflect every issue that was raised over the past weeks, but rather what I believe are the most significant issues identified. In addition, there was no effort on my part to prioritize the importance of one issue compared to another. For the purposes of the attached summary every issue is given equal weight, which might not be supported by each of you.

IDOT SITE

PROS:

- No need to modify the Urban Renewal Area nor Reinvestment District
- Reverse referendum no longer a possibility
- After originally consulting with the neighborhood residents, they had no major opposition to this site
- A conceptual plan has already been developed by RDG
- Once the contract to purchase land from IDOT is finalized, the architect and construction manager can be hired and begin design immediately
- Responded to objections from neighborhood residents by not pursuing the O'Neil site
- Potentially receive up to $10,000,000 from sales and hotel/motel tax revenues from the State to offset debt service payments for new indoor aquatics center
- Allows the City to complete the project quicker than pursuing any other site
- Replaces an impervious area with an impervious area
- A number of the individuals who have pledged donations for the indoor aquatics center have expressed a desire that the City move ahead with the IDOT site

CONS:

- There will always be the perception among some citizens that the site remains contaminated and poses a continued health threat to users
- The City will be responsible for all remediation and construction costs to protect the site with no indication at this time regarding the total amount of, or cap on, the City's financial obligation to accomplish these responsibilities
- In order to satisfy concerns about the safety of the site, on-going expenses may be required for monitoring groundwater
- While there is the possibility of seeking Federal grant funding for cleaning up the site, the grant program involves a competitive application process that could take a significant amount of time before funding decisions are made, and the City must first acquire the site to qualify
- According to IDNR officials, the potential approval for a geothermal system at this site is low

O'NEIL PARK SITE

PROS:

- Since the $2.9 million land acquisition cost will not be required at this site, there is a greater likelihood that the walking track and multipurpose room addition can be financed within current budget
- There is the ability to offer a replacement park a few blocks west of the current park site that won't require current residents adjacent to O'Neil Park from crossing major streets to access
- This site is similar in size to the IDOT site, so it should be able to accommodate the same facilities planned for IDOT site
- Discussions with Iowa Economic Development Authority staff indicate it may be possible to modify boundaries of Reinvestment District to include the O'Neil Park site and still qualify for $10,000,000 from sales and hotel/motel tax revenues from the State to offset debt service payments for the new indoor aquatics center

CONS:

- Switching to this site will require modifying the boundaries of the URA, thereby subjecting the ability to issue bonds to a reverse referendum
- Switching to this site will require modifying the Reinvestment District boundaries which will require approval from the IEDA in order to receive up to $10,000,000 of State incentive funds
- Assuming the IDOT site eventually is developed privately and the aquatics center is built on the O'Neil Park site, additional impervious areas will be added to the area while removing green space
- It appears that the site is not contaminated so no additional costs will be needed for remediation, but there has been no testing of the site to prove it
- It is possible that RDG will ask for additional compensation in order to develop a new site plan that was not examined in their preliminary evaluation associated with the IDOT site
- Not sure what type of amenities will be allowed to be built in the flood buy-out area until the development plan for the replacement park is approved by FEMA.
- A number of the individuals who have pledged donations for the indoor aquatics center have expressed opposition to the O'Neil site
- There has been strong citizen opposition regarding the construction of the aquatics center at O'Neil Park

MEMO

To: Mayor and Ames City Council

From: Keith Abraham, Parks & Recreation Director

Date: 08/19/22

Subject: Follow-up meeting with Iowa Department of Natural Resources (IDNR) regarding geothermal Wells

At the August 9 City Council meeting, I referenced a potential meeting with the IDNR to discuss the potential of geothermal wells at the IDOT site. On Tuesday, August 16, I met with Deb Williams and Eric Day, who are associated with the Private Well Program section of the IDNR. Attachment A is a summary from Deb Williams regarding our discussion.

With the information they have, the representatives from the IDNR made several comments.

1. Based on similar systems in central Iowa for geothermal fields, Williams and Day are assuming that the aquatic center may need a multitude of borings of a minimum of 150 feet in total depth on 15-foot centers.
2. Contamination: Geologic settings in nearby wells are driving forces in reviewing a Private Well permit for geothermal. To place geothermal wells at the DOT site, we will need to acquire this permit from the IDNR.
3. As part of the permit process for geothermal wells, the City of Ames will need to hold additional conversations with Private Well Program representatives and perform some geologic test borings. These borings need a minimum depth of 50 feet to provide a geologic profile of the various layers on this site. There will also need to be additional water quality sampling.
4. The IDNR representatives clarified that double casing on the geothermal wells does not prevent contamination from moving vertically. The secondary casing is only used to secure a section of the borehole from sloughing grout.
5. **Based on the information the IDNR has at this time, the potential for approval by the IDNR Private Well Program for a geothermal system on the DOT site is low.**

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Attachment #1

From: Williams, Deb <deborah.williams@dnr.iowa.gov>
Sent: Wednesday, August 17, 2022 1:53:36 PM
To: Abraham, Keith <keith.abraham@cityofames.org>; Erik Day <Erik.day@dnr.iowa.gov>
Subject: Fwd: DNR Grant Questions

Good morning Keith,

Thanks for taking some time yesterday to meet with Erik and I at the proposed site of the Ames Aquatic Center. I thought I'd start off with forwarding part of our response sent to internal team last week (Mike Sullivan and Matt Culp et al.) Within that first dialogue was the attached Source Water Protection Plan for the City of Ames in addition to the 2020 City's sanitary survey.

As discussed yesterday, for geologic reference I have embedded reference records obtained from GEOSAM - Iowa Geological Survey to three nearby City well logs for Well #8 to the SW 1 block and Well # 15 due South a block and Well #7 to the east....which represents the geologic lithologic sequences to 120 feet below ground surface (bgs).

GHEX Size and Depth:
Not knowing what the building thermal needs will be for the (GHEX BTU- tonnage), there is an assumption based upon other similar systems in central Iowa for commercial loop fields there will be a multitude of borings (minimum of 150 in total depth on 15 foot centers or if looking at horizontal loops (minimum of 300 feet long and layered at intervals of 15/30/45).

Contamination:
Contamination, geologic setting and nearby wells are the driving forces in the review for a Private Well permit for geothermal. Based upon historical and recent Contaminated Sites reports of identified plumes nearby and onsite contamination related to the FMGP site and former LUST sites and other identified contamination contributors. A large portion of known contamination sits on the NE corner of the available property for the GHEX footprint. As well as, identified unknown residual contamination and scattered by other contributors that may be altered by shallow groundwater flow and geologic anomalies (sand seams) from NE to SW cross-gradient of what would be the GHEX bore field.

Geologic Setting:
Geologically, there is glacial till layer of unoxidized identified in the City Well #8 - 10 - 60 feet below ground surface (bgs) but does not appear to be continuous; the alluvial (sand and gravel) aquifer is from 70 - 120 bgs with a 5 foot till silt layer at the base. Note, the overburden of glacial till is fractured and interbedded with sands and gravel lending to potential preferential pathways for movement of both groundwater and migrating contamination.

GHEX Private Well permit review:
The potential approval by the Private Well Program for a GHEX system for this site is low both for the fact that based upon commercial sizing with multiple borings to a minimum depth of 150 for vertical and/or 50 feet for horizontal loop fields lends strongly to the potential of increasing interconnection between the upper contaminated shallow aquifer and lower potable aquifer source. The lower potable aquifer is highly vulnerable due to it's lack of natural confining protective layers, and introducing a geothermal well field would relate to more exposure due to penetrating borings to contributing sources of contamination.

The Private Well Program (Erik and I) in our review would be looking for a dense till or shale acting as a confining layer to provide additional protection for the lower alluvial potable aquifer source (City of Ames well field) from contamination. However, from what we have for well logs there is not enough geologic data to verify the glacial till is continuous and homogeneous.

If the City wishes to pursue the geothermal option for vertical or horizontal, additional discussion with the Private Well Program as well as, additional requirements of pre construction geologic test borings (not to be confused as conductivity or geotechnical test bores) but rather to provide a geologic guide of the representative lithologic sequence that may affect groundwater movement, loss of grout or migration of contamination. Performed to a minimum depth of 50 feet and with the additional requirement of water quality sampling at first encounter of groundwater for identified contaminants - PAH's, BTEX and Arsenic, Chlorinated Solvents.

Finally, in reference 'double casing' as an option of protection for the geothermal loops - Not sure if that was to protect the HDPE loop or the aquifer. This is not a general practice for GHEX since there is no thermal exchange benefit for maintaining conductivity but rather would retard thermal exchange, but this is a practice for water wells in contaminated areas for the protection of the potable aquifer. Geothermal wells are made of HDPE (High Density Polyethylene) tubing extended into a bore hole and with full length bentonite thermal enhanced grout mixture tremied from the bottom of the boring up. Secondary casing is only used to secure sections of the borehole from sluffing or voids to reduce loss of grout; often set then drilled through and then pulled after loop is placed. Hence, this is not practical or effective in this scenario. BTEX, Chlorinated solvents, or PAH's may have some affect particularly with the sealants of the joints in the geothermal loops - we suggest you ask the manufacturer.

If you have any additional questions moving forward that weren't addressed, please feel free to email or call either Erik or myself.

Best regards.

www.iowadnr.gov

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