

STAFF REPORT

**Underground Geothermal Well request within Conservation Easement
in Quarry Estates, 1st Addition**

August 23, 2016

Background:

On July 12, 2016, the City Council referred a request from Brian Torresi, Davis Brown Law Firm, dated July 8, 2016, to place underground geothermal wells within the Conservation Easement in Quarry Estates Subdivision, 1st Addition.

The City of Ames acquired this specific Conservation Easement during plat approval of Quarry Estates Subdivision, 1st Addition. **This was consistent with the Conservation Subdivision requirements as outlined in Chapter 23 of the Ames Municipal Code.** The intent of the conservation area is to preserve the existing natural features of the site, to preserve the natural drainage features and hydrologic characteristics of the landscape, to reduce the impacts of development on the landscape including protecting the water quality and groundwater of Ada Hayden, to protect and restore environmentally sensitive areas and biological diversity, to minimize disturbance to existing soils and vegetation, and to maintain environmental corridors.

As part of the Final Plat agreement, staff worked with the developer to ensure preservation of this conservation area. The developer will be placing a two-foot wide limestone chip band with boulders and signage to delineate the conservation easement. This is a measure to prevent usage of the conservation area by adjacent landowners.

The **recorded Conservation Easement** states:

The foregoing rights are granted upon the express condition that the undersigned shall not erect or place within the easement areas identified herein any buildings or other structure or improvement, including, but not limited to, a retaining wall or fence, or any trees, shrubs, or other landscape plantings other than grass or comparable ground cover except without the consent of the City of Ames, Iowa.

The **Municipal Code, Chapter 23 – Subdivisions, defines a structure** as follows:

Structure: Anything designed and constructed for use on, above or below the surface of land or water and located on land or attached to something located on land. "Structure" includes, but is not limited to, any buildings.

Mr. Torresi questioned this definition of structure in relation to a geothermal well, but the City Attorney concurred that a geothermal well is considered a structure in the context of the easement. Therefore, staff denied the request to place a geothermal well within the Conservation Easement.

The referred letter indicates that Lots 14 through 24 have large, unbuildable areas covered by the Conservation Easement. According to the Final Plat, lot areas range from 15,042 to 29,368 square feet. Net buildable areas on these lots outside of the Conservation Easement and Public Utility Easements range from 10,812 to 19,497 square feet.

As part of the referral, City Council asked about locations where the City already has pipelines or other utilities that already go under City easements. After using the City's GIS to do an analysis of the City's utility infrastructure in comparison to existing environmental-type easements throughout the community, staff found there are a few locations where sanitary sewer pipe and manholes exist within these boundaries. These are primarily along College Creek and Clear Creek, which are expected locations since the lowest areas provide the best route for gravity sewer mains.

As for private utilities such as gas mains and communications lines, the City's GIS does not include locations of these utilities. These utilities are primarily located within the roadway right-of-ways, public utility easements, or within private easements obtained by the private utility company. Any private utility being installed, maintained, etc., within the right-of-ways or public utility easement are required to obtain approval from Public Works through issuance of a right-of-way permit.

Staff has identified two basic options for responding to this request.

Option 1:

Deny the request. This option has the greatest likelihood of insuring that the integrity and water quality of Ada Hayden Lake is improved and protected through establishment of an undisturbed conservation easement area planted in native prairie mix. This option would accept the interpretation that a geothermal well meets the definition of structure as defined in the Municipal Code, Chapter 23 Subdivisions.

If Option 1 is selected, no further action is needed by City Council, since staff has already denied this request. Affected home owners would need to install geothermal systems outside of the conservation easement area.

Option 2:

Approve the request. This option would allow for the installation and, when needed, maintenance of the geothermal systems within the conservation easement area. It should be acknowledged that there may be future environmental impacts with the need to repair and maintain these geothermal wells. Even though staff previously denied this request, the easement language specifically allows for the City Council to grant an exception to the prohibition to construct any structures within the conservation easement.

If Option 2 is selected, this item should be placed on a future meeting agenda for City Council approval.