

15.336.08: GEOTHERMAL GENERATING SYSTEMS:

A. Purpose: The purpose of this section is to manage the exploration, development and use of geothermal resources in Lyon County.

B. Other Permits: All geothermal projects shall be required to obtain all necessary permits from the regulatory agencies with authority over such developments including, but not limited to the State Division of Minerals, the State Department of Environmental Protection, the State Division of Water Resources, the State Health Department and the U.S. Bureau of Land Management prior to the issuance of any building/grading permits for the project.

C. Consultant Services: If required, outside consulting services for data and modeling reviews shall be the financial responsibility of the applicant. The applicant and County shall enter into an agreement regarding the fees and confidentiality prior to the chosen consultant's review of the data and modeling. The chosen consultant shall act as the County's designated agent.

D. Geothermal Exploration Project: A geothermal exploration project is for the purpose of evaluating the presence and characteristics of geothermal resources prior to starting a geothermal field development project.

1. Prior to commencing a geothermal exploration project, the developer shall provide Lyon County Community Development Department with a written notice of intent including the following:

- a. A description of the project including a map of appropriate scale showing the location of the proposed wells and effluent disposal.
- b. A description of the potential impacts to the local community and natural environment.
- c. Statement in which the applicant agrees to provide the County access to the data used to develop the conceptual aquifer model.

2. The Community Development Department shall not take possession of the written notice of intent; rather the applicant shall make the information available for inspection by County officials or their designated agents provided the County officials and/or designated agents agree not to disclose the information contained in the notice of intent or disseminate the information to the public.

E. Geothermal Well Field Gathering Systems And Power Generation Facilities: In order to establish a geothermal well field gathering system and/or power generation facility, the following items shall be submitted to the Community Development Department:

1. Monitoring Plan: A modeling plan shall be submitted in compliance with 40 CFR part 146 underground injection control program (unless waived by the County based upon the review of the conceptual aquifer model). Prior to commencement of any operations of the geothermal well field and power generating facilities, baseline data representation and collection shall be established to the satisfaction of the County. Projection of geothermal fluids use and injection will be presented to the County as well as a conceptual model. The monitoring plan must be approved by the County and their designated agent prior to the operation of the facilities.

2. Numeric Aquifer Model: A numeric aquifer model shall be submitted based on the collection of three (3) years of data following the commencement of operations. The numeric aquifer model shall be designed to show hydrogeological and thermal data to enable modeling of impacts of pumping and injection to the aquifer and potential mitigation actions. The model shall include data on the following:

- a. Thermal properties of the aquifer including local and large- scale impacts to local aquifers;
- b. Potential subsidence impacts based on analysis of existing and predicted conditions using the pumping and injection volumes proposed for the project;
- c. Changes in the radioactive characteristics from pumping (if any); and
- d. Groundwater aquifer physical and chemical changes before and after the project completion including pressure, temperature trends, volumes and water chemistry.

The County and their authorized representative will review and if necessary revise the numeric aquifer model.

3. Siting Of Geothermal Well Field Gathering Systems And Power Generation Facilities: Geothermal well field gathering systems and related power generation facilities shall be sited in areas with the appropriate zoning district as designated in the land use table contained in section 15.320.03 of this title. If necessary, a zone change application as described in chapter 220 of this title must be requested and approved prior to any permits for the geothermal well field system being issued.

4. Proximity To Domestic Wells: Geothermal temperature gradient and exploration/development test wells shall be located a minimum of three thousand feet (3,000') from any adjacent private domestic well(s) unless a lease agreement exists between the domestic well owner and the geothermal developer, or one-half ($1/2$) mile from State-permitted municipal and industrial or quasi-municipal and industrial purpose wells. A variance request as outlined in chapter 203 of this title from this separation standards may be submitted if supported by the outcome of the conceptual aquifer models results.

5. Minimum Standards: A geothermal well field gathering system and all related above-ground structures related to power generation shall comply with the following minimum standards:

a. Visual Appearance: Placement of facilities shall endeavor to minimize the visual impact of the development from surrounding properties and public rights-of-way.

b. Height Limits: The maximum height of structures shall comply with the maximum building height listed in the underlying zoning district as listed in chapter 330 of this title.

c. Screening And Lighting: Screening and/or buffering treatments may be required to mitigate visual and noise impacts. Where possible, all equipment shall be of a color that blends into the natural surroundings. Lighting shall include light shields that minimize light pollution by eliminating glare into adjoining properties and minimizes light visible from public rights-of-way.

d. Noise: Geothermal well field gathering systems' wells and power generation equipment shall not generate noise levels that exceed sixty five (65) dBA time weighted average as measured at the property line located closest to the wells and/or power generation equipment or one-half ($1/2$) mile from the facility, whichever is closer. Adjustments for ambient noise will be acceptable and irregular short periods of exceeding the sixty five (65) dBA standard in association with operational anomalies or maintenance is permissible. Acoustical shielding may be required for well heads and power generation equipment in order to comply with this development standard.

F. Geothermal Direct Use Wells: Geothermal direct use wells for commercial or industrial space heating, food dehydration, or other similar such uses shall be subject to the standards listed in this chapter and Nevada Revised Statutes 534A. (Ord. 603, 11-1-2018)