# FRESHWOTER

# Data centers and water use: What to consider

# The issue

As the use of artificial intelligence continues to rise, so does the demand for data centers. These large buildings full of computer servers can use massive amounts of electricity and water with hyperscale developments as large as 2.5 million square feet (the size of 20-25 Target stores) currently being proposed in Minnesota.

Equipment running 24 hours a day needs to be cooled, and water is often the preferred cooling method. A single data center can use 1 to 5 million gallons of water per day, as much as a small to medium size city. If not designed efficiently and sited properly, these projects may cause well interferences, ecological impacts, and limit future growth of nearby communities that depend on a sustainable water supply.

# Who is involved?

Typically a local unit of government (city or utility) is approached by a business or an economic development team with an ask to supply a volume of power and water to a site. Cities usually involve their economic development, planning and water utility teams. They may reach out to others for technical support, but may be limited by confidentiality or nondisclosure agreements.

The state economic development agency (MN DEED) is sometimes involved to facilitate early discussions. The Minnesota Department of Natural Resources (DNR) has regulatory oversight if the business applies for a water appropriation permit to secure a new groundwater well or surface water diversion. However, **these projects do not often trigger land use changes that require a formal environmental permitting process** with a public comment period like an Environmental Impact Statement (EIS) or an Alternative Urban Areawide Review (AUAR).

#### Example of a typical data center development process



# Goal for siting large water users

Large water use facilities need to be carefully sited in locations that have reliable and sufficient long-term water supplies. This is good for businesses, good for surrounding communities, and good for healthy ecosystems.

# **Challenges for municipalities and businesses**

- Data centers can be appealing to cities due to potential economic opportunities. However, in the race to quickly win a bid, important factors can be overlooked around the sustainability of long-term water supply at the specific location.
- Though Minnesota appears to have abundant water supplies on the surface, the volume of reliable water available for a large water user is dependent on the location.
- Improper siting may result in limited water supply, poor water quality, or water supply conflicts with surrounding users and environmental features.
- Additionally, local governments often sign nondisclosure agreements with developers early on, and this confidentiality may prevent coordination with other stakeholder groups. Therefore, the information needed to help cities and businesses site new facilities is not reaching the proper audiences during the decision-making process.

# **Questions to consider**

If you are evaluating a data center or new large water user in a specific location in Minnesota, here are the questions to ask early in the evaluation process:

- ✓ What are the water quality and quantity needs for the site?
- ✓ What is the water source? Is it at risk of depletion?
- Are there opportunities for reuse in a closed loop, or with stormwater or wastewater?
- ✓ Are there local waterbodies or private well owners that might be affected?
- Have you reviewed water level projections from a regional planning authority?
- ✓ Are there opportunities to co-locate a complementary industry or land use?
- Could you attract a business to share a water source, or reuse the water discharged from the data center for irrigation or other uses?

**Freshwater** is a Minnesota-based nonprofit organization working to inspire and empower people to value and preserve water. Since 1968, Freshwater has used science to engage communities on how to equitably improve water today and for future generations. Contact us at <u>freshwater@freshwater.org</u>, 651-313-5800.