

Not All Data Centers Are the Same.

Seven very different kinds of buildings all get called “data centers.” Here is what they actually are — and what to watch.

Type of Data Center	Power	Water	Jobs	Tax Abatement	Community Impact
AI Factory <i>AI Data Center / AI Computing Campus</i>	EXTREME	EXTREME	MODERATE	HIGH	Greatest grid, water, heat, noise, and infrastructure exposure of any facility type.
Hyperscale <i>Cloud Computing Campus</i>	HIGH	HIGH	MODERATE	HIGH	Major grid and water demands. Heavy abatement requests.
Crypto Mining <i>Cryptocurrency Data Center</i>	EXTREME	HIGH	MIN.	LOW	Highest scrutiny: extreme power use, almost no local benefit.
Shared (Colo) <i>Colocation Facility</i>	MODERATE	MODERATE	MODERATE	MODERATE	Conventional industrial use. Standard zoning review.
Government <i>Government Data Center</i>	MODERATE	MODERATE	HIGH	MODERATE	Strong, stable employment. Limited tax base.
Private <i>Enterprise Server Room</i>	LOW	MIN.	LOW	LOW	Minimal community impact. Standard building permit.
Edge <i>Neighborhood Relay Facility</i>	LOW	MIN.	MIN.	LOW	Small footprint. Cooling-fan noise is the main concern.

The top row of the table is what is currently proposed for Oxmoor Valley. An AI Factory is closer in scale to a steel mill, refinery, or power plant than to a conventional office data center. The Birmingham Zoning Ordinance was not written with city-scale industrial infrastructure in mind — and yet that is the category under which it would be approved.

The Right Questions for an AI Factory.

These are the policy questions a steel mill, refinery, or power plant would face automatically. They should not be optional for a 300-megawatt AI Factory.

- ▶ **GRID & INFRASTRUCTURE** — Will any new power plants, transmission lines, or substations be required anywhere in the utility's service territory — and will those costs be added to the rate base recovered from all customers?
- ▶ **CAPACITY VS. OPERATING LOAD** — What is the binding, enforceable maximum operating capacity — not the engineered build-out capacity? Will the developer agree, in writing, that the facility will not operate above its initially-approved capacity for the life of the project without a new public hearing?
- ▶ **HEAT ISLAND** — What is the projected ambient temperature increase for homes, schools, and businesses within one mile? Note: "closed-loop" cooling does not eliminate waste heat — it rejects the same heat to the surrounding air. The heat still leaves the building.
- ▶ **NOISE** — What are the documented decibel levels at the property line, day and night? Has a pre-construction and post-construction acoustic study been required and made public? What about effects on wildlife, pets, and livestock?
- ▶ **WATER (BINDING CAP)** — What is the binding daily and annual water consumption cap, in gallons, written into the development agreement? Without a numerical cap, "closed-loop cooling" is a design preference rather than an enforceable protection.
- ▶ **WATER (DISCHARGE)** — What is the projected frequency and volume of cooling-system blowdown discharge? Where does it go? What chemicals (biocides, corrosion inhibitors) will be in the discharge?
- ▶ **WATER (EMERGENCY MODE)** — Under what specific conditions would the facility switch from closed-loop to evaporative cooling, and what protects the public water supply during a drought?
- ▶ **JOB & WAGES** — What is the binding, enforceable commitment on permanent local jobs and wages — separated from construction-phase headcount and marketing estimates?
- ▶ **INCENTIVES** — What tax abatements, utility rate concessions, infrastructure cost-shifting, or other public subsidies are being granted, and what is the calculated public return per dollar foregone?
- ▶ **ENVIRONMENTAL REVIEW** — What air quality, stormwater, emissions, and (where on-site power generation including fuel cells is proposed) combustion review has been required?
- ▶ **DECOMMISSIONING** — When this technology becomes obsolete or the operator leaves Birmingham, who is legally responsible for tearing down the facility and cleaning up the site? Is a decommissioning bond required, and at what amount? Without a bond, the answer is: the public.

If the answers to these questions are favorable, putting them in writing costs the developer nothing. If they are not, the public deserves to know that before construction proceeds — not after.

PUBLIC HEARING

Tuesday, June 9

Birmingham City Council

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