

Recommended Additions to Birmingham’s Proposed Data Center Ordinance

As Birmingham considers proposed zoning and operational standards for hyperscale data centers, the City has an opportunity to establish a balanced framework that supports economic development while protecting neighborhoods, infrastructure, natural resources, and public health. Data centers can bring investment and technological growth, but they also present challenges related to water usage, energy demand, noise, emissions, and long-term site management. The following recommendations are intended to strengthen the proposed ordinance through reasonable safeguards, operational standards, and accountability measures that support responsible and sustainable development.

(The following items are in addition to replacing the 500ft setback with the original 1000ft requirement and reinserting the special exception clause that would mandate public hearings to ensure greater transparency. Please include those two items in all communications with the City Council.)

Independent Baseline Testing of Air, Water, and Soil Conditions

The ordinance should require independent baseline testing of air, water, and soil conditions before construction begins as a condition of zoning approval, site plan approval, special exception approval, or certificate of occupancy. While the current draft addresses setbacks, water usage disclosures, and stormwater protections, it does not establish a scientific baseline that would allow the City or residents to measure future environmental impacts. Without this data, it may be difficult to determine whether future groundwater contamination, air emissions, or soil degradation are connected to large-scale industrial operations.

Testing conducted by a qualified third party, independent of the developer, would provide transparency, accountability, and an objective environmental record before operations begin. Independent baseline testing is not anti-development — it is responsible planning for facilities that may consume substantial amounts of electricity and water while operating around the clock.

Require Closed-Loop Cooling Systems

The ordinance should require the use of closed-loop cooling systems for all hyperscale data centers. While the current draft asks applicants to describe cooling systems and water conservation measures, it does not establish a mandatory operational standard. Closed-loop systems significantly reduce water consumption by recycling cooling water

rather than relying on constant withdrawal and discharge, helping protect Birmingham's long-term water supply and reducing strain on municipal infrastructure.

Mandating closed-loop cooling would also minimize wastewater discharge, reduce contamination risks, and lessen impacts on nearby neighborhoods and waterways. Birmingham has an opportunity to establish a forward-thinking ordinance that balances economic development with responsible resource management.

Generator Limits, Emissions, and Noise Standards

The ordinance should establish stronger protections related to backup generators and operational noise for all data centers, not just Micro facilities. Large-scale data centers can require extensive backup power infrastructure, including numerous industrial generators capable of producing significant noise and air emissions. Without clear standards, nearby residents could face ongoing impacts from testing operations, excessive noise, and concentrated emissions.

The ordinance should:

- Limit routine generator testing to weekdays between 9:00 AM and 5:00 PM;
- Require disclosure of generator numbers and aggregate capacity;
- Require compliance with all applicable federal and state emissions standards; and
- Establish enforceable daytime and nighttime decibel caps for generators, cooling systems, transformers, and other mechanical equipment.

These standards should be attached to zoning approvals, site plan approvals, special exceptions, or certificates of occupancy to help protect public health and surrounding neighborhoods.

Decommissioning Bond Requirement

The ordinance should require a reasonable decommissioning bond or other financial assurance mechanism before construction begins to protect taxpayers and surrounding communities from future cleanup and closure costs. Large-scale data centers often include substations, generators, cooling infrastructure, fuel storage systems, and other industrial equipment that may require costly removal or environmental remediation at the end of a project's operational life.

A decommissioning bond tied to estimated demolition, removal, and remediation costs would help ensure responsibility for site restoration remains with the operator — not the public.

Permit Revocation and Enforcement Provisions

The ordinance should include clear and enforceable compliance provisions to ensure operational standards are meaningful and enforceable. Existing laws provide some enforcement authority, but they are broad and not specifically tailored to industrial-scale data center operations.

A stronger ordinance should establish corrective action deadlines, escalating enforcement measures for repeated violations, authority for suspension or revocation of approvals after notice and opportunity to cure, and authority for the City to require operational modifications when necessary to protect surrounding communities.

If Birmingham is going to approve projects of this scale, it should also ensure it has meaningful tools to address violations if problems arise in the future.

Independent Monitoring and Verification

The ordinance should require independent monitoring and verification rather than relying solely on self-reported compliance from operators. Facilities of this scale can significantly impact water usage, air quality, noise levels, stormwater systems, and surrounding infrastructure over decades of operation.

Independent third-party monitoring for emissions, noise, water usage, and environmental compliance would provide transparency, accountability, and public confidence by ensuring operational standards are objectively measured rather than relying solely on information provided by operators.

These recommendations are not intended to prevent responsible economic development, but to ensure that Birmingham adopts a balanced and enforceable ordinance capable of protecting neighborhoods, infrastructure, natural resources, and taxpayers as large-scale data center development expands within the city. By incorporating reasonable operational standards, independent oversight, and meaningful enforcement mechanisms, Birmingham can establish a forward-thinking framework that supports innovation while ensuring long-term accountability, transparency, and community protection.