

Planning Commission Hearing Date: September 9, 2025
Board of Commissioners Hearing Date: September 30, 2025

STAFF ANALYSIS

CASE NO.: TA-25-1247647		File ID #: 2025-0972
Address:	County-Wide	Commission District: ALL Super District: ALL
Request:	Application of the Director of Planning and Sustainability to Amend Chapter 27 To Establish a Definition, Regulatory Guidelines, and Development Standards for Data Centers in M (Industrial), M-2 (Heavy Industrial) and O-I (Office Institutional) zoning districts. This text amendment is County-wide.	
Applicant/Agent:	DeKalb County Planning & Sustainability Department	
Sections of the Zoning Ordinance Affected by the Amendment:	Chapter 27 of the Zoning Ordinance, to amend Section 4.1.3 (Use Table) to allow data centers in O-I, M, and M-2 zoning districts subject to certain supplemental regulations; and by adding to Article 9.1.3 – Defined Terms of <i>the Code of DeKalb County, as revised 1988</i> .	

STAFF RECOMMENDATION: Approval

The DeKalb County Planning & Sustainability Department is seeking to adopt an ordinance for regulations on data center developments, consisting of a physical room, building, or facility that houses infrastructure for building, running, delivering, or transmitting applications and services, or for storing and managing the data associated with those applications or service. The proposed ordinance defines ‘data centers’ in three capacities of **minor**, **major**, and **campus** - which is dependent on square footage, load capacity, and/or whether a substation is required for operation.

Major and campus data centers shall only be permitted in **Light Industrial** (M) and **Industrial** (M-2) zoning districts due to their scale, limited employment generation, and lack of public accessibility. These facilities are not compatible with Activity Centers or residential zoning districts.

Minor data centers will be permitted as accessory uses in **Office Institutional** (OI) zoning districts and permitted outright in **Office-Development** (OD) zoning districts to accommodate small-scale operations in higher intensity areas.

The proposed ordinance includes separation and buffer requirements, architectural standards, operational requirements, and supplemental assessments on water consumption, energy consumption, and tree preservation.

The purpose for these regulations ensures that any new and/or existing developments do not impose upon the health, wellbeing, and welfare of DeKalb County Residents. The proposed ordinance considers the impacts of data center development on the economic, social, and environmental aspects of DeKalb County.

Background

Over the last 10 years, the United States has seen a dramatic increase in data center development. Atlanta has seen major changes in the real estate market to prepare for the incoming demand. A study done with CBRE Research for North America Data Center Trends H1 2024 showed that Atlanta led all the primary markets for data centers with a 26% year-over-year increase in pricing, based on strong demand from AI providers, such as Google, Amazon, Microsoft, and X (CBRE Report).

Due to the High-Tech Data Center Equipment Tax Exemption (O.C.G.A. § 48-8-3(68.1)) allowed under House Bill 696 in 2018, many companies have been incentivized to build new data centers in Georgia. Early into 2024, the social media company X acquired a \$10.1 million tax-break to install new AI hardware in their data center environment in Atlanta. Additionally, more investments have been made by large corporations to transform Georgia into a high-tech hub. On January 6th, 2025, Amazon's cloud computing division, Amazon Web Services (AWS), released a statement on their plans to invest \$11 billion towards expanding their AI infrastructure and improve the efficiency of their cloud computing technology. Amazon has selected development sites in Butts and Douglas Counties, stating their expectations of creating 550 new high-skilled jobs (Reuters). There are currently two data centers located within DeKalb County. The first is a data center owned by DC Blox Atlanta located at 6 West Druid Hills Dr. NE, Atlanta, GA 30329. The facility is 3,350 sq ft and has been occupied since 2010. The second is INAP Data Center owned by Lincoln Rackhouse located at 40 Perimeter Center East, Atlanta, GA 30338. The facility is 88,000 sq ft and has been occupied since 2019.

The primary community concerns regarding data centers are the energy and water consumption, environmental impacts, land-use impacts, and noise pollution, particularly for hyperscale facilities (>500,000 sq ft). In 2023, data centers consumed about 4.4% of total US electricity and are expected to consume 6.7 to 12% of total US electricity by 2028 ([US Department of Energy](#)). In understanding the basic capacity necessary to support data centers in populated areas, it is important to evaluate their impact on the surrounding community. Municipalities worldwide will have to learn how to adapt to the significant intelligence investments and the pressure from cloud and AI providers for space.

Resource and Environmental Impact

Energy Consumption

According to the Atlanta Regional Commission, Atlanta has the most data center capacity under construction in the US at 1,289.1 Megawatts (MW). This number contributes to four times as many data centers under construction in comparison to the total existing inventory nationally ([ARC Data Centers](#)). For context, 1 MW is equivalent to one million watts of power, which is enough to power 650 homes. A small data center, which is about 20,000 sq ft uses the same amount of energy as 3,250 homes (ARC). On average, data centers exhaust 10 to 40 times more electricity per square foot than a typical office space (US Department of Energy). To compensate for this massive growth, Georgia Power has anticipated a 12,000-megawatt load that will triple by mid-2030 that will require a significant expansion in the state's energy capacity. Since 2022, Georgia Power has had to accommodate for new larger load customers, particularly data centers, with demand surging from 336 MW in 2021 to 2,197 MW in 2022 (Georgia Power, 2023 IRP Update).

Water Consumption

An important site selection criterion for data center locations is access to water, primarily through municipal or regional water utilities. For ideal high-density and high-performance computing, data centers can request 100,000 gallons to 3 million gallons of water per day, depending on the type of cooling system in place. Water cooling, consisting of an evaporative and closed-loop cooling, is a preferred method among hyperscale facilities

because it more efficient in absorbing and expelling heat from high-density centers. Hyperscale data centers can consume 550,000 gallons per day, while wholesale and retail data centers consume an average of 180,000 gallons per day ([Water Usage in DCs](#)). Comments from DeKalb County Watershed Management (DCWM) Department have highlighted the significant strain of wet cooling towers on DeKalb County's resources due to their high water consumption, reliance on a single water source, and the limitations stemming from the County's aging water infrastructure. DCWM have suggested that separation requirements between data centers can reduce the risk of localized pressure drops and preventing serious fire risks. Overall, a water impact study is necessary to assure that the County can accommodate for the overall water demand, water supply, and site-specific water infrastructure improvements. Although data centers can use a large amount of water daily many facilities have opted to find alternatives that consume less water, such as immersion cooling ([Yañez-Barnuevo, 2025](#)). Despite these efforts, data centers still require a lot of energy and water to function effectively - even more so at larger scales.

Land use

The average size for a data center is 100,000 sq ft (major classification), the equivalent of a city block. However, they are not limited to square footage and can be found in various layouts relative to site and space limitations (see Appendix A). Medium sized facilities can be between 2,700 and 6,900 sq ft (minor classification), which can represent Internal and Communication Service Providers, respectively. Larger establishments, such as the Colocation spaces and Hyperscale facilities (major or campus classifications), can have a minimum size of 11,000 to 30,000 sq ft. It is important to note that these are sizes for the average square footage per module and not the total square footage of the entire facility/campus. ([Berkeley Lab Energy Analysis & Environmental Impacts Division Report 2024](#)). Due to their relatively low employee-to-square foot ratio, parking requirements are minimal.

Noise levels

The primary sources of noise pollution that come from data centers is noise from server operation, cooling systems, grouping of the equipment, and building design that can emphasize the acoustics of the facilities. A typical data center can have noise levels that reach up to 90 decibels (dBA) near server areas when testing generators, however, a typical data center will operate at a noise level between 45 dB and 80 dB when no testing is occurring. The cooling systems emit low-frequency sounds that can be a nuisance to the surrounding environment over longer periods of time. To regulate noise levels when development abuts residential and conservation areas, a noise impact assessment will be required from the applicant/property owner to measure pre-operation ambient noise and provide acoustic mitigation strategies if noise level exceeds 60 dB during any hours of the day or night once equipment for data center development is in operation.

Planning Staff is collaborating with DeKalb County's Watershed Department to address water consumption concerns. Staff has also relied on key information from Georgia Power, Atlanta Regional Commission, and Data Center developers to ensure that regulations are conducive to the development goals of the County and the community. Therefore, it is the recommendation of the Planning & Sustainability Department that the text amendment application, which includes separation and buffer requirements, architectural standards, operational requirements, and supplemental assessments on water consumption, energy consumption, and tree preservation, be "Approved".

AN ORDINANCE TO AMEND CHAPTER 27, ARTICLE 4, SECTION 2 OF THE CODE OF DEKALB COUNTY, GEORGIA, AS REVISED 1988 TO ADD REGULATIONS FOR DATA CENTERS IN DEKALB COUNTY

Chapter 27 Article 4.2.64 DEVELOPMENT REGULATIONS ON DATA CENTERS IN DEKALB COUNTY

STATEMENT OF PURPOSE

The purpose and intent of the board of commissioners in establishing data centers as follows:

WHEREAS, to provide a definition for data centers as storage facilities housing servers for computing functions and their development in DeKalb County;

WHEREAS, to provide design and development standards for data centers to ensure that there is no discernable impact on adjacent properties or residential areas;

WHEREAS, to ensure that all data centers operate in compliance with applicable environmental standards and best practices within the O-D (Office Distribution), M (Light Industrial) and M-2 (Heavy Industrial) Districts, and to minimize any adverse impacts on neighboring residential, office, or commercial districts, including but not limited to acoustic waste, particle pollution, water usage, and energy consumption;

WHEREAS, it is desirable to promote development that minimizes environmental impact and integrates seamlessly with existing and planned land use of DeKalb County;

WHEREAS, to ensure that development of data centers remains compatible with all character areas and that their use fits within the appropriate character area designated in the 2050 Comprehensive Unified Plan.

NOW THEREFORE, BE IT ORDAINED by the Governing Authority of DeKalb County, Georgia, and be it hereby ordained by the Authority of same, that Chapter 27 of the Code of DeKalb County, as revised 1988, is hereby amended as follows:

Part I. ENACTMENT

By amending Section 27-4.1.3 (Land Use Table) to allow data centers in O-I, O-D, M, and M-2 zoning districts subject to certain supplemental regulations; and

By adding to Section 27. Article 9.1.3 – Defined Terms *of the Code of DeKalb County, as revised 1988, as follows:*

- a) **Data Center, Campus:** A singular development that has more than one (1) data center, or a physical room, building, or facility that houses infrastructure for building, running, delivering, or transmitting applications and services, or for storing and managing the data associated with those applications or services. A data center campus will have a minimum large load capacity of 45 MW, one (1) or more substations that operate within property lines or will have a minimum building complex of 500,000 square feet.
- b) **Data Center, Major:** A physical room, building, or facility that houses infrastructure for building, running, delivering, or transmitting applications and services, or for storing and managing the data associated with those applications or services. A major data center will have a minimum load of 5 MW, one or more substations that operate within property lines, or will be 20,000

square feet or larger. Major data centers are classified into four groups that vary in size and load: Medium Data Centers are between 20,000 and 100,000 square feet with a load between 5 and 10 MW; Large Data Centers are between 100,000 and 500,000 square feet with a load between 10 and 50 MW.

- c) **Data Center, Minor:** A physical room, building, or transmitting applications and services, or for storing and managing the data associated with those applications and services, which contains a threshold of less than 20,000 square feet, does not require a substation, or operates under 5 MW. A minor data center may include data centers as an accessory use if they are under 2,000 square feet.
- d) **High-Capacity Transit Stop:** A high-capacity transit stop is a designated location where transit vehicles designed to transport large volumes of passengers operate. These stops serve major public transportation modes such as Bus Rapid Transit (BRT), Commuter Rail Transit (CRT), Light Rail Transit (LRT), and Heavy Rail Transit (HRT).
- e) **Load:** The total power consumed by servers, storage, and other networking devices that operate within a data center site.
- f) **Large Load:** Defined by Georgia Power, per the [2025 Integrated Resource Plan](#) (p.35, Footnote 26), as an industrial load greater than or equal to 45 MW and commercial load greater than or equal to 115 MW.
- g) **Megawatt (MW):** The unit of measurement for electricity that is equivalent to one million watts. This is used to measure the total power consumption of data centers. (Ex. 1 MW is equivalent to one million watts of power, which is enough to power 650 homes.)
- h) **Substations:** An electric system facility that converts higher voltages to lower voltages within or separate from a data center to generate sufficient power at maximize efficiency; can operate independently for dedicated site once directly connected to transmission line.

By creating Section 27-4.2.64 -Data Center Supplemental Regulations of the Code of DeKalb County, as revised 1988, as follows:

1) Permitted Locations

- a. Minor data centers are permitted on parcels zoned Office-Institutional (O-I) as an accessory use if they are 2,000 square feet or smaller. Any other minor data centers up to 20,000 square feet with a load between 1 and 5 MW is permitted outright on parcels zoned in Light Industrial (M) and Heavy Industrial (M-2) districts.
- b. Minor data centers are permitted on parcels zoned Office-Distribution (O-D) within Future Land Use Character Areas of LIND (Light Industrial) or IND (Heavy Industrial).
- c. All major data centers and campus data centers are permitted in Light Industrial (M) and Heavy Industrial (M-2) districts with a special land use permit. Major data centers between 20,000 and 100,000 square feet are permitted in Office-Institutional (O-I) and Office Distribution (O-D) with a special land use permit.
- d. See Use Table 4.1, Exhibit 1.

2) Buffer Requirements

- a. Major data centers and campus data centers must maintain a minimum transitional buffer of 75' if abutting any non-industrial properties and enclosed by a freestanding wall or fence with a minimum height of 7 feet ([Section 5.4.5](#)) between land uses;

- b. All data centers will follow the transitional height plane standards from [Section 5.2.4](#).
- c. Facilities must provide a 10-foot-wide landscaped buffer with a minimum seven (7) foot high wall or fence and canopy trees planted at a rate of 1 tree per 30 feet;
- d. Screening requirements listed in this section beyond those otherwise required by the Zoning Ordinance will not apply to minor data centers in Office-Institutional (O-I) and Office-Distribution (O-D) zoned districts;
- e. Minor data centers in Office-Institutional (O-I) and Office-Distribution (O-D) zoned districts will follow transitional buffer requirements for designated districts from [Section 5.4.5](#).

3) Distance Requirements

- a. No new data center development shall be permitted within 3,960 feet (i.e., three-fourths of a mile) of the property line of any other data center development; ([Sec. 27-4.2.28](#))
- b. There shall be no more than 4 total **major** data centers within a 2 mile radius (10,650 feet).
- c. Data centers are not allowed where any part of the property line is within 2,640 feet of a high-capacity transit stop; (*Taken from the 2025 Code of Ordinances for the City of Atlanta, [SEC. 16-18U.003](#).*)
- d. Distance shall be measured from the nearest property line to the nearest property line.

4) Architectural Requirements

- a. A data center will have a minimum of thirty (30) percent of the width of the front façade of all buildings at the ground level consist of fenestration. Decorative windows, architecturally glazed windows and murals shall be permitted to count toward fenestration requirements, while maintaining appropriate security and operational standards for data center use; ([Sec. 27-4.2.35](#).)
- b. A minimum of ten percent (10%) of the non-primary façade area must incorporate decorative windows, architecturally glazed windows or murals, while maintaining appropriate security and operational standards for data center use; ([Sec. 27-4.2.35](#).)
- c. Where visible from a publicly accessible street or adjacent residential properties, the following materials shall not be utilized on the building facade: aluminum siding; corrugated steel; vinyl siding; plywood; pressed wood products; synthetic stucco; or unfinished concrete block.
- d. A development operating as a data center campus must apply architectural standards to all buildings on campus and must have unified landscape and architectural elements.
- e. Building height shall not exceed fifty (50) feet in Light Industrial (M) and Heavy Industrial (M2) and shall be measured from average finished grade (determined by averaging the elevations of finished grade around the entire footprint of the structure) to the top of the highest roof beams on a flat roof, to the deck level on a mansard roof, and to the average distance between the eaves and the ridge level for gable, hip, shed and gambrel roofs, unless a Special Land Use Permit (SLUP) is obtained to allow an increase in building height, for up to five (5) stories or seventy (70) feet.

5) Operation Requirements

- a. Substations, electrical yards, mechanical yards, and any other exposed equipment shall not be located between the building and a public street and must be screened from any

adjacent publicly accessible street, private street, or park; (Taken from the 2025 Code of Ordinances for the City of Atlanta, [Sec.16-36.011.](#))

- b. All lighting other than street and pedestrian lighting shall have 'dark sky' design - there shall be no spillover from the fixture onto surrounding properties (including the street). All lights and poles shall have a permanent black finish. ([Sec. 27-3.39.7 G\(b\)](#))

6) Noise Assessment Requirements and Maintenance Requirements

- a. Maximum permissible sound levels shall not exceed eighty 80 decibels (DB) in industrial areas and 70 decibels (DB) in commercial areas; (Reference [Sec. 16-305](#) for *DeKalb County Noise Ordinance*)
- b. Generator testing will only be allowed between the hours of 5:00pm and 8:00pm, with testing not exceeding two hours daily on weekdays; (*York County, VA, [Section 24.1-489.1\(e\)\(2\)](#)*)
- c. Except for generator testing or commissioning activities, generator use is limited to backup/emergency use only. (*Loudoun County Zoning Ordinance, [Sec 4.6-2.D\(8\)\(c\)](#)*)

7) Substation Requirements

- a. In the O-I districts, substations associated with the operation of a data center is allowed subject to the following requirements:
 - i. The substation shall be at least fifty (50) feet from the street right-of-way;
 - ii. The substation shall be screened with an eight (8) foot tall brick wall;
 - iii. The substation shall not involve the storage of vehicles or service equipment.
- b. In the O-D districts, substations associated with the operation of a data center is allowed subject to the following requirements:
 - i. The substation shall be at least fifty (50) feet from the street right-of-way;
 - ii. The substation shall be screened with an eight (8) foot tall brick wall;
 - iii. The substation shall not involve the storage of vehicles or service equipment.
- c. In the M and M-2 districts, substations associated with the operation of a data center is allowed subject to the following requirements:
 - i. The substation shall be at least fifty (50) feet from the street right-of-way;
 - ii. The substation shall be screened with an eight (8) foot tall brick wall from any adjoining property or publicly accessible street;
 - iii. The substation shall not involve the storage of vehicles or service equipment;

8) Cooling equipment

- a. All cooling, ventilation, and other exceptional equipment used to operate facility shall not be located between building and publicly accessible street;
- b. Mechanical and utility equipment will follow screening requirements for site and parking area landscaping; ([Sec. 27-5.4.6](#))
- c. All cooling and ventilation equipment within property boundaries will operate on a closed-loop system. (*York County, VA, [Section 24.1-489.1\(c\)](#)*)* **

9) Application and Special Land Use Permit Requirements

- a. Applicants shall submit a letter from the utility provider verifying that the applicant is in compliance with all policies, procedures, and guidelines established by the provider;

- b. A Noise Impact Assessment shall be required as part of the permitting process for any proposed data center development with commercial properties surrounding any major arterial street and a major or minor arterial street, residential zones, residential land use areas, and/or designated conservation zoned or conservation land use areas within 300 feet of their property line;
- i. The Noise Impact Assessment will define the scope of the assessment, including the geographic area, the noise sources to be studied, and the specific objectives of the assessment for the proposed development. The assessment will measure pre-operation ambient noise, or the existing background noise before any server equipment is installed and provide acoustic mitigation strategies if noise level exceeds 60 dB during any hours of the day or night once equipment for data center development is in operation.
([Chapter 18.10.010, City Code for City of Portland, Oregon](#))
- c. All applications for a Special Land Use Permit (SLUP) for a data center shall, in addition to any other application requirements of this code, provide the following information:
- i. Water consumption plan: outlining the total water requirement of the data center, including cooling needs, and any strategies to reduce or mitigate excessive water usage. The plan must demonstrate that the water usage will not significantly strain DeKalb County's water supply.
 - ii. Water conservation and sustainability plan: which includes measures to minimize the data center's impact on regional water resources, such as the use of water-efficient cooling technologies and closed-loop systems.
 - iii. Energy consumption plan: outlining estimates of peak electricity demand and strategies for mitigating strain on local power infrastructure, including proposed improvements or alternatives to minimize the need for additional transmission lines.
 - iv. Transmission line impact assessment: identifying the need for new or upgraded transmission lines to meet the data center's electricity requirements. This assessment must include the potential environmental impact on public land, including tree removal from county-owned land and rights-of-way.
 - v. Tree preservation reforestation plan: outlining efforts to minimize tree removal and enhance urban forestry efforts, especially when transmission lines cross public land or park areas.
 - vi. Stormwater management plan: which addresses how the site's development and operation will manage stormwater runoff, as well as any mitigation measures to prevent negative impacts on local water systems.
 - vii. Any additional information required by DeKalb County's Department of Watershed Management, Department of Fire Rescue, Department of Public Works, Code Compliance Administration, and Department of Planning & Sustainability.
([Special Use Permits Data Centers \(37303, Zoning & ZRB, Ordinance, City of Atlanta, Ordinance 25-O-1063\)](#))
- d. A Special Land Use Permit shall be required for any building expansion that equals or exceeds twenty (20) percent of building square footage.

10) Parking Requirements

- a. See Use Table 6.2 for Off-street Parking Ratios, Exhibit 2.

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Exhibit 1. Use Table 4.1, *Data Centers*

KEY:	P - Permitted use		SA - Special administrative permit from director of planning							
	Pa - Permitted as an accessory use		SP - Special land use permit from BoC (SLUP)							
Use	RE	RLG	OI	OIT	NS	C-1	C-2	OD	M	M-2
INDUSTRIAL										
Data Centers										
Data Center, Minor			Pa					P	P	P
Data Center, Major (in Industrial and Light Industrial Character Areas)			SP					SP	SP	SP
Data Center, Campus (in Industrial and Light Industrial Character Areas)									SP	SP
Data Centers, Major or Campus in all other Character Areas										

Exhibit 2. Use Table 6.2, *Off-street Parking Ratios***TABLE 6.2: Off-street Parking Ratios****Minimum and Maximum Parking Spaces****Industrial**

Use	Minimum Parking Spaces Required	Maximum Parking Spaces Allowed
Heavy and light industrial, data centers		One (1) space for each two thousand five hundred (2,500) square feet of floor area.