MEMORANDUM

Date: November 11th, 2026

To: City of Madison Heights Planning Commission [November 16th, 2026 Meeting]

From: Matt Lonnerstater, AICP – City Planner

Subject: Introduction – Zoning Text Amendments for Data Centers

Introduction

On August 24th, 2026, Madison Heights City Council adopted a 12-month moratorium on data centers which temporarily suspends the City from accepting, processing, approving, or issuing zoning approvals and permits for data center developments. The adopted moratorium provides the City with time to develop new zoning and development standards related to data centers, in which the current Zoning Ordinance is silent. The 12-month moratorium ends on August 24th, 2027, with the potential for a 120-day extension.

This memo provides a brief introduction to data centers, explains their potential impacts on communities, and overviews example data center zoning regulations from nearby communities.

Background

Data centers are facilities that support critical digital infrastructure and data storage for services such as cloud computing, Artificial Intelligence (AI), streaming platforms, and digital financial transactions. Typically running 24/7, data centers can house thousands of computer servers in facilities that range in size from small server rooms within existing buildings to "hyperscale data centers" requiring hundreds of thousands of square feet. In addition to computer servers and data storage systems, large or hyperscale data centers typically contain intricate cooling systems, power banks, transformers, and backup generators, the combination of which cause substantial impacts on adjacent properties and a community as a whole.

The demand for larger, specialized data centers is expected to increase due to recent surges in the use of AI, cloud computing, and streaming platforms. These large data centers, sometimes requiring multiple large buildings, may have the appearance of large warehouses, but their operational characteristics can be quite distinct. For example, data centers may have fewer employees and trip generation than warehouses, but require significantly more electricity, water usage, backup generation, utility coordination, security infrastructure, and site monitoring, often 24 hours per day.

Hyperscale Data Center in Hillsboro, Oregon



From a regulatory standpoint, zoning topics typically related to large or "hyperscale" data centers include but are not limited to: use definitions; site selection and review processes; water use; electricity use; noise considerations; security, safety and lighting; building design and screening; site decommissioning; and public input. These are briefly explained below to help establish the foundations of a potential zoning ordinance amendment:

Definitions

Due to the unique characteristics of data centers, new definitions should be established to differentiate data centers from general warehouses and other industrial-type uses, allowing them to be regulated as a distinct use. Definitions may include different tiers of data centers based on building square footage, ranging from small data centers all the way up to hyperscale data centers. Additional consideration should be given to either differentiate or exclude small server rooms within existing buildings from the definition of a data center, allowing them to be treated as an accessory use rather than a principal use subject to the full swath of data center regulations.

Site Selection and Review Processes

Due to their general warehouse-style appearances, many communities choose to limit large or hyperscale data centers to industrial zoning districts. Further, because of noise and vibration emanating from server rooms, air conditioning units, and generators, communities often enact minimum separations standards from residential uses or districts. A municipality may choose to regulate data centers "by right", with limited options for discretionary review or public input, or as a special land use requiring a public hearing and, potentially, public outreach prior to approval.

Water Use

Servers and data storage equipment produce a tremendous amount of heat. Large and hyperscale data centers (which can house tens of thousands of computers severs) therefore require intricate cooling systems. Many large data centers utilize liquid cooling methods, requiring significant amounts of water. A hyperscale data center can use somewhere between one and five million gallons of water per day – the equivalent of what 12,000 Americans use in an entire year.

More than 97% of the water used by major data center operators is purchased from municipal drinking water systems. Municipalities should consider requiring detailed water consumption studies, setting maximum daily use standards, requiring periodic monitoring reports, and adopting minimum efficiency commitments as part of any proposed data center development. Further, a municipality may consider requiring a "closed-loop" system which requires water recirculation as opposed to daily water draws from the municipal water system.

Electricity Use and Demand

Data centers consume large amounts of energy to power computer servers and data storage systems. In 2020 alone, data centers accounted for approximately one percent of global electricity consumption; this percentage has most likely increased since then. Further, air-cooled facilities rely on air conditioners and large fans which need to run 24/7, consuming large amounts of electricity on their own. If left unchecked, electricity used to power processing and storage hardware, air conditioning units, and other supporting equipment can cause a huge strain on energy infrastructure.

As part of data center review and approval, municipalities should encourage or require energy impact statements identifying anticipated peak demand, annual electrical consumption, letters of preliminary

approval from electrical providers, and information on backup generators, fuel storage, and batteries. Periodic monitoring and reporting should also be considered.

Noise

Server rooms are inherently noisy. Air conditioner units, generators, and transformers can generate additional noise and vibration that travels across property lines. While minimum residential setback requirements can help offset some of the impacts of noisy data centers on neighborhoods, additional standards on maximum decibel levels, equipment setbacks, vegetation and buffering, as well as time-based restrictions on generator testing should be considered to further mitigate noise and vibration impacts. Data Center approval should be conditioned upon the submittal of noise studies and plans for routine monitoring.

Security, Safety and Lighting

Data centers handle sensitive data, and many incorporate intensive security features into building and site design. Gated access points, high fencing, and bright lighting may be utilized to ensure site protection. Maximum lighting levels, security plans, and assurances regarding emergency access should all be accounted for in the review of a data center development proposal.

On the topic of safety, fire protection should also be taken into consideration. Lithium battery fires associated with data storage systems require specialized training and equipment. Fire suppression, emergency access points, fire lanes, and emergency coordination should all be accounted for during the review and approval process.

Building Design and Screening

Hyperscale data centers with footprints measuring in the range of hundreds of thousands of square feet can, understandably, result in large warehouse-style buildings with an imposing façade; this isn't good for community character. To combat this, regulations can include design standards to ensure that large data centers have some semblance of architectural compatibility with the community. Standards relating to façade design, window/transparency requirements, building materials, landscaping, and screening can have a huge impact on the appearance of the site and building, allowing them to blend in better with surrounding areas.

Consideration should be taken into account for the screening of exterior equipment, such as generators, transformers, and HVAC systems (both on the ground and rooftop) to ensure that they are screened from property lines.

Site Decommissioning and Restoration

Data centers don't last forever. IT infrastructure may need to be retired, relocated, or removed, and an abandoned 100,000 square foot hyperscale data center may not be able to be reutilized in an efficient manner. Municipalities may wish to require a decommissioning and site reuse/restoration plan to outline plans for when a data center gets abandoned, including plans for equipment removal, equipment disposal, hazardous material handling, building demolition or reuse, site stabilization and restoration, and assurance bonds/escrows.

Public Input

Large data centers are, understandably, a hot topic. Zoning regulations may set minimum public outreach requirements, such as requiring developers to put together a community information plan or hold community open houses prior to a formal public hearing

Examples of Data Center Regulations from Michigan Municipalities

Staff researched existing and proposed data center zoning regulations from various communities in Michigan to gauge how they address the aforementioned topics. Summaries from three of these communities (Wixom, Ferndale, and Summit Township (near Jackson)) are provided below. Wixom and Summit Township have both formally approved and adopted their ordinances, while Ferndale's ordinance is still under review.

DEFINITIONS

WIXOM

Data Center: A facility or group of buildings whose primary function is the housing, operation, and maintenance of computer servers, data storage systems, telecommunications equipment, and associated infrastructure used for the processing, storage, or transmission of digital information. Such facilities may include backup power generation, cooling systems, fuel storage, and security infrastructure. This term does not include server rooms or data-processing facilities that are accessory and incidental to a primary permitted use.

FERNDALE

Data Center: A building, portion of a building, group of buildings, or site used primarily for the processing, storage, hosting, management or transmission of digital data through computer servers, cloud-computing systems, telecommunications equipment, or related electronic information systems. The term includes colocation facilities, cloud-computing facilities, hyperscale computing facilities, server farms, and similar digital infrastructure operations, together with associated accessory generators, substations, transformers, switchgear, cooling systems, Battery Energy Storage Systems, fuel storage, telecommunications infrastructure, and support facilities.

A Data Center is a distinct principal land use and shall not be classified as an office, warehouse, research and development facility, manufacturing use, utility, or similar use.

The term does not include an accessory server room, information technology closet, or similar equipment area that exclusively serves another lawful principal use on the same site and does not provide data processing, hosting, storage, cloud computing, or related services to off-site parties.

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Data Center: Space and areas including rooms, buildings or multi-building facilities used to house IT infrastructure, especially computer systems to store, manage or process data and the ancillary equipment to provide stable power, cooling, and environmental support. The footprint of the data center, for determining its size classification and setbacks, shall include indoor space housing IT infrastructure and computers as well as any outdoor areas having equipment used to provide power (excluding substations), cooling and environmental support.

- Small data centers (< or equal to 10,000 sq. ft.)
- Medium data centers (10,001 to 50,000 sq. ft.)
- Large data centers (50,001 to 100,000 sq. ft.)
- Hyperscale data centers: Greater than 100,000 sq. ft.

ZONING DISTRICTS, APPROVAL TYPE, AND RESIDENTIAL SETBACK

WIXOM

- Permitted in M-1 and M-2 Industrial Districts as a Special Land Use.
- Data centers shall not be located adjacent to residentially-used or zoned properties. Principal structures and exterior mechanical equipment (including generators) shall be located at least 1,500 feet from residentially-zoned or used property line.

FERNDALE

- Permitted as a Special Land Use in the I-2 Industrial District.
- Data Centers shall be located at least 500 feet from any residential zoning district or residential use, public or private school, licensed childcare facility, hospital, medical clinic, nursing facility, other healthcare institution, public park, or religious assembly. Measured in a straight line from property line to property line.
- Structures shall be set back 100 feet from all property lines.

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- *Small Data Centers:* Conditional Land Use in the Agricultural district, C-1, C-2, C-3 commercial districts, and I-1 and I-2 industrial districts. Setbacks to meet zoning district minimums.
- *Medium Data Centers:* Conditional Land Use in Agricultural district, C-2, C-3 commercial districts, and I-1 and I-2 industrial districts. Setbacks to meet zoning district minimums.
- *Large Data Centers:* Conditional Land Use in the Agricultural district, C-3 commercial district, and I-1 and I-2 industrial districts. Building footprint shall be set back 100 ft. from the boundary of a residential district.
- *Hyperscale Data Centers:* Conditional Land Use in the Agricultural district and I-1 and I-2 industrial district. Building footprint shall be set back 300 ft. from the boundary of a residential district or any residential use.

WATER USE

WIXOM

Requires air-cooled facilities, hybrid, or closed-loop water systems. City shall set maximum daily or annual water usage limits as part of Special Land Use approval. The city may require non-potable or reclaimed water as a condition of approval. Requires applicant to submit a "Cooling and Water Use" plan. Requires documentation from the city/appropriate authority verifying water supply and wastewater capacity.

FERNDALE

Mandates a closed-loop system for cooling. Requires written confirmation from the water provider confirming the available capacity to serve the proposed facility. In addition, the city requires the submittal of a utility impact analysis, Water Conservation and Management Plan, and an Energy Efficiency and Sustainability Plan. The city can establish maximum peak water demand and sanitary discharge through Special Land Use review/approval.

SUMMIT TOWNSHIP

For server cooling, the data center must used closed-loop cooling systems or source water from the municipal system. The applicant must submit documentation that the public water authority has capacity to supply the water. Must submit documentation/assurance from public wastewater system. A "water feasibility plan" may be required.

ELECTRICITY USE AND DEMAND

WIXOM

Requires written documentation from the electric utility confirming system availability and any required upgrades, as well as the submittal of an "electrical demand statement" of estimated average/peak demand. Requires the submittal of a "Backup Power and Fuel Storage Plan". On-site renewable energy generation/usage is "encouraged." e.g. rooftop solar. Periodic third-party audits of utility usage.

FERNDALE

Requires written confirmation from each electric and telecommunications provider confirming capacity to serve the proposed facility. Further, requires the submittal of an Energy Efficiency and Sustainability Plan. The city will establish maximum approved peak electrical demand/consumption through the Special Land Use process. Requires annual reporting on electricity consumption and peak demand.

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Requires buildings to be US Green Building Council LEED BD+C Data Center rating system certified. Requires the submittal of an Energy Usage Plan containing annual electricity demand and consumption, energy supply sources, energy storage capacity, and back-up power. The applicant shall provide written assurances from the energy supplier that electric needs can be fulfilled.

NOISE

WIXOM

- Sets maximum daytime/nighttime noise limits:
  - Daytime at nearest residential property line: 55 dbA (ambient room noise)
  - Daytime at nearest institutional/public parks property line: 60 dba (background music)
  - Nighttime at residential property line: 45 dba.
  - Nighttime at institutional/public parks property line: 60 dbA
- Requires the submittal of a Noise Study, with strict substantive requirements.
- Requires both pre-construction and post-construction sound studies.
- Limits days/time of generator testing.
- Requires periodic third-party audits of noise.

FERNDALE

- Requires Acoustical Study with details on equipment operation, generator testing, tonal noise, low-frequency sounds. Both pre-construction and post-construction studies are required.
- Sets maximum noise limits:
  - Maximum 50 dbA at any property line; between 10 pm and 7 am, maximum 40 dbA.
- Contains standards for emergency generators, including limits on testing hours, silencers, acoustical enclosures, and emission control.

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- Sets maximum noise limits: Maximum 55 dbA at nearest outer wall of the nearest dwelling located on an adjacent property.
- Large and Hyperscale facilities require a pre-construction and post-construction noise study.
- Contains back-up power standards with limitations on use and maintenance times/hours.

SECURITY, SAFETY AND LIGHTING

WIXOM

Requires a Security and Access Plan with a description of proposed fencing, controlled access points, lighting, and coordination with emergency services. No additional standards on lighting.

FERNDALE

Requires a Security and Emergency Response Plan identifying perimeter security, access control, surveillance, emergency contacts, utility shutoffs, hazardous materials, fire suppression systems, emergency access routes, evacuation procedures, etc. Requires an Emergency Coordination Meeting prior to Occupancy. Lighting Must comply with Lighting standards contained elsewhere in Zoning Ordinance

SUMMIT TOWNSHIP

Requires "dark sky-friendly exterior" lighting solutions. No regulations pertaining to emergency access or response.

BUILDING DESIGN AND SCREENING

WIXOM

Requires exterior mechanical equipment to be fully screened by masonry walls, architectural panels, or evergreen landscaping. Additional rooftop equipment screening requirements. No building design requirements.

FERNDALE

Ordinance contains architectural and design standards. *"Buildings shall be designed to reduce their apparent scale and visual prominence from the right of way and adjacent property.*" Requires changes in wall planes, rooflines, materials, texture, color, etc., and prohibits blank walls. Requires perimeter screening and landscaping, and screening and enclosures for exterior and rooftop equipment.

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Large and hyperscale facilities must be designed so as to not contain repetitive or monotonous patterns. Requires architectural variation, change in building height, projections and step backs, and variety of colors and textures. The Planning Commission may require additional buffering/ screening.

SITE DECOMMISSIONING AND RESTORATION

WIXOM

Requires a Decommissioning Plan describing procedures for facility shutdown, removal of equipment, and restoration or reuse of the site.

FERNDALE

Requires a Decommmissioning and Site Restoration Plan addressing cessation of operations, removal of structures and equipment, disconnection and removal of utility infrastructure, disposal of hazardous materials, demolition, soil stabilization, restoration of site. Developer shall provide financial assurance for the cost of site decommissioning and restoration, updated every 5 years.

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Requires a Decommissioning Plan developed in consultation with an expert retained by the Township under the terms of the Project Technical Assistance Fund (described below).

OTHER CONSIDERATIONS

WIXOM

- Reporting/Operational Compliance: Requires Periodic third-party audits of noise and utility usage paid for and supplied by the applicant/developer.
- Required Parking: 1 space per employee at peak shift, plus up to 20 for visitors, corporate vehicles, and contractors.
- Infrastructure Mitigation: Where a Data Center requires on-or-off-site infrastructure or utility improvements, the Planning Commission shall require a development agreement, financial guarantees or applicant-funded improvements.
- Requires a Traffic and Delivery Analysis

FERNDALE

- Annual reporting: Requires annual reporting on electricity consumption and peak demand; annual and peak-day water use; sanitary discharge; cooling methods; generator testing; and sound monitoring, etc.
- Construction and Traffic: Requires the submittal of a Construction Logistics and Traffic Management Plan. The Planning Commission may require a separate Traffic Impact Study.

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- The ordinance requires the developer to set up a "Technical Assistance Fund" to pay for expertise needed by the Township to evaluate the project (e.g. sound and noise studies, architectural design, project decommissioning, environmental studies). For large/hyperscale projects, the minimum deposit is 1/10th of a percent of the estimated project cost or $150,000, whichever is greater.
- Community Outreach: Requires developers of large and hyperscale data centers to develop and implement a community information plan including the requirement that they develop a fact sheet, host a community open house, and propose community enhancements.

Planning Commission Discussion and Next Steps

Staff hopes that this memo will provide the Planning Commission with enough background information to guide a productive discussion at the November 16th meeting.

The adopted 12-month moratorium requires City Council to appoint a special "Data Center Commission" whose purpose is to undertake a comprehensive review of the city's ordinances as they relate to data centers. This commission consists of the Mayor, City manager, City Attorney, City Planner, CED Director, Planning Commission Chairperson, IT Advisory Committee Chairperson, and two at-large residents. While the Data Center Commission has not yet formally met, coordination between this committee and the Planning Commission will be required to ensure that the proposed ordinance, when drafted, fully aligns with the goals and expectations of each body. Staff will serve as the liaison between the Planning Commission and Data Center Commission.

After meeting with both the Planning Commission and Data Center Commission, staff will begin drafting ordinance language for review and comment by both bodies.

Attachments

Madison Heights Data Center Moratorium
Data Center Fact Sheet – National League of Cities

Zoning Practice – Data Center (2022)
Wixom Data Center Ordinance
Ferndale Data Center Ordinance (draft)
Summit Township Data Center Ordinance
Letter from Commissioner Olson