Summit Township Proposed Zoning Ordinance Amendments for Data Centers

PREFACE

The following draft zoning ordinance amendment is designed to address the increasing attention to data centers. Data centers have become a flashpoint largely due to massive hyperscale centers being proposed like the Oracle data center in Washtenaw County's Saline Township. Also, data centers are associated with Artificial Intelligence (A-I) which, on its own, has become controversial.

A-I aside, data centers are becoming increasingly necessary to manage a broad range of computer driven technical applications our society and economy depend upon including search engines, real time access to electronic health records, banks transactions, logistics systems, manufacturing applications such as smart assembly lines, and emergency services. Additionally, the explosion of personal mobile devices and their applications over the past two decades has significantly increased the demand for data management. When one takes and stores a photo, uses GPS, streams a show, or when a student accesses an online portal for homework, a data center is involved. Data management and the speed of processing required have and will continue to be an important component of our economy and society.

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The Township recognizes that our current ordinance provisions do not address the reality of today's data centers. The ordinance now defines a data center simply as *"a location housing one or many large computer systems and related equipment concerned with building, maintaining, or processing data and providing other data processing services"*. In terms of where they are allowed, the ordinance provides for data centers as Permitted Uses (uses-by-right) in all commercial districts and as a Conditional Use in the office and industrial districts.

There has been public opposition to data centers in some communities including, in some situations, citizens calling for data centers to be prohibited all together. However, excluding legitimate uses of property is contrary to Michigan's Zoning Enabling Act. While a Township may regulate the location of land uses, it cannot prohibit them where there is a demonstrated need for the use and the use is lawful.

Summit Township is approaching its proposed regulation of data centers in the zoning ordinance by assuring that the three principal concerns of data centers will be addressed, being: (1) the impact on water resources, (2) the demand for electricity and (3) the noise attributed to cooling systems, transformers, HVAC equipment, and backup generators**.**

1. Water: The ordinance will require cooling be accomplished with a closed-loop system or municipal water. An exception is provided for advances in technology and best practices, as they emerge, if municipal water or treatment capacity does not exist and water/energy efficiency exceeds other options, but then only using ground water, not surface water, with oversight by EGLE.

2. Electric Demand/Consumption: Summit Township will defer electric demand and consumption issues to the Michigan Public Service Commission (MPSC) and require a data center developer to provide assurances from the energy supplier that the electric needs can be fulfilled for the project. Michigan utility rates are based on a "cost-of-service" model whereby costs associated with service would be fully borne by the data center developer. The principal Michigan distribution utilities (Consumer Energy and DTE Energy) have additionally established contract standards that assure data centers will be responsible for all costs associated with their service.
3. Noise: Noise will be addressed with yard setbacks, buffer areas and screening. Additionally, data centers will specifically be required to meet the same 55 db(A) average hourly decibels level required by the State of Michigan for solar farms, wind farms and battery energy storage projects under PA 233. Larger data center projects will be required to provide a pre-construction noise study to determine anticipated noise and potential attenuation measures. (Note: Increasingly data centers are incorporating noise control measures in their design by housing equipment indoors or within acoustically treated enclosures and by utilizing advanced low-noise cooling technologies.)

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As with other complex land uses, the Township intends to address what is appropriate for local control while referring the application of other standards, monitoring and oversight to the federal, state and local agencies tasked with the responsibility for their respective regulatory matters. In this regard:

- Setbacks for small and medium sized data centers will be as currently specified in the zoning ordinance for the respective zoning district where they will reside. Setbacks for large centers will recognize current ordinance setbacks but additionally require the setback be 100 ft from residential districts and any residence in an AG-1 (agricultural) District. Setbacks for hyperscale centers will recognize current setbacks for the applicable district but additionally require a setback of 300 ft from residential districts and any residence in an AG-1 (agricultural) District. This 300 ft setback is the same as provided for in Michigan's PA 233 of 2023 for solar farms and battery energy storage systems.
- Noise is also deferred to standards established in PA 233.
- Electricity pricing and regulations are deferred to the Michigan Public Service Commission (MPSC).
- Water/wastewater capacity issues will be addressed by the Township Department of Public Works, and quality issues will be deferred to the Michigan Dept of Environment, Great Lakes and Energy (EGLE) or successor agency and, where appropriate, to the Jackson County Health Department.
- Screening and buffer requirements are provided for in the zoning ordinance.

DATA CENTER ORDINANCE PROVISIONS

§ 150.006 DEFINITIONS.

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.

The definition uses the "footprint" of the complex to determine the data center size.

(1) ***SMALL,* data centers ≤10,000 sqft**. *Typical fast-food restaurant 5,000 sqft, typical "dollar store" 10,000 sqft, Examples: Burger King (McDevitt) 4,000 sqft, Family Dollar (Weatherwax) 9,000 sqft.*

(2) ***MEDIUM*, data centers >10,000 sqft and ≤50,000 sqft**. *Examples: Weatherwax Pharmacy 12,500 sqft, Polly's Ferguson Corners 30,000 sqft, former Summit Lanes 45,000 sqft*

(3) ***LARGE*, data centers >50,000 and ≤100,000 sqft**. *Examples: former US 127 tennis club (now indoor storage) 64,000 sqft, typical football field 80,000 sqft,, Optimist Ice Arena 90,000 sqft*

(4) ***HYPERSCALE*, data centers >100,000 sqft**. *Examples: Home Depot 105,000 sqft, Sams Club 140,000 sqft, E Michigan Meijer 225,000 sqft, Westwood Mall 600,000 sqft*

Text in blue intended for comparison and examples purposes -- not to be included in the zoning ordinance amendments.

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§ 150.145 PERMITTED AND CONDITIONAL USES.

The following uses are permitted (P) or conditional (C) within the zoning districts. Conditional uses require approval by the Township Board according to the procedures in §§ 150.250 *et seq.*

	Permitted and Conditional Uses	*AG-1*	*RNF-1*	*RS-1*	*RS-2*	*RU-1*	*RU-2*	*RM-1*	*RM-2*	*MH-1*	*O-1*	*C-1*	*C-2*	*C-3*	*I-1*	*I-2*	
50	Data centers	Current Zoning Ordinance Provisions →									C	P	P	P	C	C	50
↓ Proposed Amendments Specify Conditional Use Status ↓																	
50a	Data centers - Small	C	-	-	-	-	-	-	-	-	-	C	C	C	C	C	
50b	Data centers - Medium	C	-	-	-	-	-	-	-	-	-	-	C	C	C	C	
50c	Data centers - Large	C	-	-	-	-	-	-	-	-	-	-	-	C	C	C	
50d	Data centers - Hyperscale	C	-	-	-	-	-	-	-	-	-	-	-	-	C	C	

Current ordinance specifies where data centers are Permitted and Conditional Uses. These will be deleted from amended ordinance.

Proposed amendments specify data centers as Conditional Uses only in the respective districts.

§ 150.257 ADDITIONAL DEVELOPMENT REQUIREMENTS FOR CERTAIN USES.

(N) *Data Centers*

(1) Setbacks

(a) The footprint of **small and medium-size data centers** must meet the lot setback provisions and the transition strip requirements for the respective zoning district where they will be located.

(b) The footprint of **large-sized data centers** must meet the lot setback provisions for the respective zoning district where they will be located, except where abutting a residential district, the setbacks from the footprint must be 100 ft to the boundary of such residential zoning district. Additionally, the transition strip requirements for the respective district where the data center will be located must be met.

(c) The footprint of **hyperscale data centers** must meet the lot setback provisions for the respective zoning district where they will be located, except the setback from the footprint must be 300 ft from the boundary of a residential zoning district and 300 ft from a residence in the AG-1 agricultural district. Additionally, the applicable transition strip requirements for the respective zoning district where the data center will be located must be met.

300 ft setback for hyperscale centers is based on those set by State of Michigan or battery energy storage systems (BESS).

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(2) Water and Wastewater

(a) Generally, for server cooling, data centers must use closed-loop cooling systems or source all water from a municipal water system.

Provision for cooling used in HB 6138, but recognizing that ground water could be viable in a hybrid system given the abundant aquifers of the region.

(b) If the proposed source of water is from a public system, the applicant shall submit documentation that the public authority has the capacity to supply the water.

(c) If wastewater is to be conveyed and/or treated by a public system, the applicant shall submit documentation certified by the public authority that it has the capability to support the conveyance and treatment needed.

(d) Recognizing that technology is evolving and new best practice are always emerging, where sufficient municipal water or treatment capacity does not exist, a hybrid or alternative means of cooling data centers with **ground water** resources will be considered where it can be demonstrated to the satisfaction of state and federal environmental agencies and the Township that:

Due to the "headwaters" hydrology of Summit Twp, only ground water will be an alternative in such a hybrid alternative.

1. Less water and/or energy is used than would be expected from a conventional closed-loop system.

2. The hybrid or alternative system shall have an independently verified Water Usage Efficiency (WUE) or a successor equivalent standard of less than or equal to **1.0L/kWh** (an established standard being the ratio of a data center's total site water usage in liters to the IT equipment energy consumed in kWh over the same time period).

WUE is an industry standard with 1.0L/kWh recognized as very good for evaporative cooling systems.

3. The water consumed and the wastewater discharged meet all environmental standards established at the time of the application (currently equivalent to an EGLE issued NPDES permit under the National Pollutant Discharge Elimination System, or any successor requirements).

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4. If the data center sources ground water outside a municipal system and/or discharges wastewater to other than a municipal system, the applicant shall provide a water feasibility study prepared by a qualified professional. The purpose of the water feasibility study is to determine if an adequate supply of water is present to support the proposed data center's water use and to evaluate its effects on the quantity and quality of water in aquifers, wells or nearby surface waters. The study shall include, but not be limited to the following:

a. Calculations of the projected water consumption and wastewater discharge, including seasonal fluctuations.

b. A geologic map of the area with a radius of at least one mile from the site property boundary.

c. The location of all existing and proposed wells within 1,000 feet of the site property boundary with a notation of the capacity of all high-yield wells.

d. The location of all surface waters within 1,000 feet of the site property boundary and all known point sources of pollution.

e. A determination of the long-term safe yield from the ground water source.

f. The identification of chemical and thermal characteristics of wastewater discharge.

g. Identification of the system and processes by which water will be recycled or released into surrounding water bodies or the groundwater table.

h. A determination that the proposed water supply and wastewater discharge systems pose no adverse impacts on the quantity and quality of water in wells, streams, and the groundwater table.

i Other information and determinations deemed necessary to professional consultants retained by the Township as provided for under the Project Technical Assistance Fund [150.257(N)(7)(a-b)].

(3) Primary Power

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(a) Projects shall be designed and constructed to be certified under the current USGBC LEED BD+C: Data Center rating system, or equivalent successor design standard at time of application.

This is a LEED standard specific for data centers

(b) The applicant for a data center shall provide an Energy Usage Plan with the Conditional Use application. The Energy Usage Plan shall include, but not be limited to the following:

1. Annual electricity demand and anticipated consumption

2. Energy supply sources that will be utilized

3. Energy storage capacity (if applicable)

4. Proposed sources of back-up power

5. Other information deemed necessary by a consultant retained by the Township as provided for under the Project Technical Assistance Fund [150.257(N)(7)(a-b)].

(c) The applicant must provide assurances from the energy supplier that the electric needs can be fulfilled for the project as specified in the Conditional Use Permit

(4) Back-up Power

(a) Diesel generators shall meet Tier 4 emission standards of the U.S. Environmental Protection Agency or established successor standards at the time of an application.

(b) Electric generator emissions shall be monitored by the Michigan Department of Environment, Great Lakes, and Energy (EGLE) Air Quality Division (or successor agency) with oversight and delegated authority from the U.S. Environmental Protection Agency (EPA) for air quality standards that include the following or their successor standards:

Reliance on EGLE (or its successor) and US EPA for air quality

1. New Source Performance Standards (NSPS) -- standards for new stationary sources of air pollution pertinent to emission limits, monitoring requirements, and control technologies for new or modified sources,

2. National Emission Standards for Hazardous Air Pollutants (NESHAP) -- standards to reduce emissions for hazardous air pollutants (HAPs) such as benzene, mercury, and vinyl chloride to the lowest achievable levels.

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(c) Emergency energy generation that uses diesel, gasoline, or another fossil fuel shall be used only at the following times:

1. When the primary source of energy is not available due to an emergency outage.

2. During routine maintenance, or readiness testing for a short duration of time and capped at 100 hours per year.

3. Routine maintenance testing of back-up fossil fuel-powered generators is restricted to the hours of 9 am through 3 pm Monday through Friday.

(e) Use of back-up power for peak shaving or supplying power to the grid is prohibited.

(5) Noise

(a) A data center shall not generate a maximum sound in excess of 55 average hourly decibels as modeled at the nearest outer wall of the nearest dwelling located on an adjacent property. Decibel modeling shall use the A-weighted scale as designed by the American National Standards Institute.

This 55 dB(A) threshold and phrasing is the same as used for solar and wind farms and battery energy storage systems (BESS) in Michigan's PA 233.

(b) Large and hyperscale projects shall prepare a pre-construction noise study prepared by an acoustical engineer establishing baseline noise and vibration levels and addressing noise mitigation strategies to be employed as necessary for the project.

(c) Back-up generation testing and operations during outages will be exempt from these levels.

(6) Community Outreach

(a) Prior to the conditional use permit hearing before the Planning Commission, developers of **large scale and hyperscale data centers projects** shall develop and implement a community information plan including, but not limited to:

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1. A fact sheet of pertinent information about the project, including a summary of the information to be included as part of the community open house and/or meeting described below.

2. Informational community open house(s) and/or meeting presentation(s) to inform citizens of the scope of their project and the means to address potential concerns which include, but are not limited to:

a. The means intended to maintain the temperatures of servers and equipment within acceptable ranges including specifying open and closed loop cooling if applicable,

b. Energy consumption and the source, certainty and security of electric supply,

c. Noise and noise attenuation,

d. Employment and economic value to the community

e. Community Enhancement Initiatives proposed – Increasingly data center developers are advancing initiatives including grants, training, infrastructure upgrades, and sustainability projects to enhance

economic development and public benefit to communities, ensuring that their project will also act as a catalyst for local innovation, education, and social well-being.

(7) Project Technical Assistance Fund

(a) A data center applicant must deposit or otherwise provide satisfactory guarantees for an initial "technical assistance fund" to support expertise needed by the Township to evaluate the project. The fund shall be used for expertise not resident with salaried Township staff including, but not limited to, legal, energy, planning, zoning, accounting, sound and noise attenuation, architectural and aesthetic design, project decommissioning, environmental, and engineering specialties. Should disbursements from the fund cause it to be depleted to less than 25% the applicant must return the fund to at least 25% of the original required deposit or guarantee. The amounts of the deposit or guarantees shall be:

Text in blue intended for examples purposes - not to be included in the zoning ordinance amendments.

1. For small and medium-scale projects, one-tenth of a percent of the estimated project cost or $15,000, whichever is greater. (Example: $2,500,000 = $25,000)

2. For large and hyperscale scale projects, one-tenth of a percent of the estimated project cost or $150,000, whichever is greater. (Example: $25,000,000 = $250,000)

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(b) The technical assistance fund and its accounting for credits/payments to the Township or to individuals and/or firms directly shall be managed by an independent accountant. The fees for these fund management services shall be an expense payable by the "technical assistance fund".

(8) Additional Buffer and Screening Requirements: The Planning Commission, at its discretion and based on the nature of land uses surrounding a proposed data center, may require additional buffer distances and screening to visually and/or acoustically segregate the data center from neighboring properties.

(9) Lighting: Data centers must implement dark sky-friendly exterior lighting solutions.

(10) Facility Design: Large and hyperscale data centers must submit plans indicating the facility will be designed to avoid repetitive or "monotonous" patterns caused by minimal architectural variation. Design features may include but not be limited to changes in building height, step-backs, recesses, offsets, textures and colors to break up repetitive patterns.

(11) Environmental and Community Impact Analysis: The Planning Commission, at its discretion and/or based on advice of retained environmental consultants, may require an environmental and/or community impact analysis to be prepared.

(12) Decommissioning Plan: Large and hyperscale data center developers shall prepare a decommissioning plan in consultation with an expert retained by the Township under the terms of the Project Technical Assistance Fund.

(a) The plan shall include, but not be limited to addressing removal of equipment, environmental remediation, and site restoration to pre-development condition or a designated use.

(b) The Township reserves the right to require escrow, a bond or other guarantee to assure funds are available for decommissioning.