Section 100 Data Centers

Intent: Provide regulations and standards for Data Center developments and address the following:

- Ensure compatibility with surrounding land uses,
- Ensure quality design and architecture,
- Address the unique accessory uses associated with Data Centers,
- Ensure the capacity for public services and adequate infrastructure to support the Data Center now and into the future.

Section 200 Definitions

Community Noise Equivalent Level (CNEI): The 24-hour A-weighted average sound level from midnight to midnight, obtained after the addition of 5 dB to sound levels occurring in the evening from 7 PM to 10 PM and after the addition of 10 dB to sound levels occurring in the night between 10 PM and 7 AM.

Data Center: A facility used primarily for the storage, management, processing, and transmission of digital data, which houses computer or network equipment, systems, servers, appliances and other associated components related to digital data operations. The facility may also include air handlers, power generators, water cooling and storage facilities, utility substations, and other associated utility infrastructure to support sustained operations at the Data Center.

Data Center Accessory Use: Ancillary uses or structures secondary and incidental to a Data Center use, including but not limited to: administrative, logistical, fiber optic, storage, and security buildings or structures; sources of electrical power such as generators used to provide temporary power when the main source of power is interrupted; electrical substations; domestic and non-contact cooling water and water discharge treatment facilities; water holding facilities; pump stations; water towers; environmental controls (air conditioning or cooling towers; fire suppression, and related equipment), and security features, provided such Data Center Accessory Uses/structures are located on the same tract of land. The use shall not include energy generation systems used or intended to be used to supply power to the Data Center during normal operations.

Data Center Principal Building: A building that contains the office and/or data storage functions of a Data Center.

Footcandle: Enough light to saturate a one-foot square with one lumen of light.

Ground Mounted Mechanical Equipment: Accessory uses such as air conditioner units, generators, transformers, or other related equipment.

Sensitive Receptors: Schools, preschools, day care centers, in-home daycares, health facilities such as hospitals, long term care facilities, retirement and nursing homes, community centers, places of worship, playgrounds, parks (excluding trails), campgrounds, prisons, dormitories, parcels zoned residential and any residence where such residence is not located on a parcel zoned for industrial or commercial, or any other like uses as determined by the Zoning Administrator.

Section 300 Data Centers: General Provisions

A. Applicability. Section 100 applies to Data Center Uses. In addition to any other applicable requirements of Section --- (Municipality's Site Plan Review Procedures). Applicants must submit materials at the time of submission of Site Plan that include any information necessary to evaluate conformance with standards in Section 100. Conditional or final Site Plan approval is Contingent upon the applicant demonstrating conformance to standards in Section 100 and other applicable standards in the Zoning Ordinance.

1. *(Optional)* Any Data Center proposal that exceeds the dimensional requirements in this section must submit a proposal through the Data Center Planned Unit Development (DPUD) process in Section ---. (See attached Model DPUD Ordinance)

A DPUD may be one strategy to address large developments that have multiple principal buildings and various accessory uses.

B. Zoning: Data Centers are a permitted special use in the following _____ Zoning District(s).

C. Lot Size: Minimum/Maximum __acres.

D. Lot Coverage: Maximum ___%

E. Building Size: Total Maximum _____ square feet

F. Maximum Number of Principal Buildings: _____ Principal Buildings

As an alternative to a DPUD, using tiered Dimensional Standards in this section could be used to address various size Data Center developments.

G. Maximum Height: The maximum building height for Data Centers shall be _____ feet.

H. Safety: Data Centers shall provide the following:

1. An operations agreement setting forth the parameters of the operation, the name and contact information of the operator, the applicant's inspection protocol, emergency procedures, and general safety documentation.

2. A plan for managing any hazardous waste, and proof of compliance with County, State and Federal Regulations.

3. A fire protection plan, which identifies the fire risks associated with the Data Center; describes the fire suppression system that will be implemented; identifies a system for continuous monitoring, early detection sensors, and appropriate venting; and explains all other measures that will be implemented to prevent, detect, control, and suppress fires and explosions; identifies the water sources that will be available for the local fire department to protect adjacent properties.

4. The equipment used in any Data Center operation shall be housed in a metered, electrically grounded, and pre-engineered metal-encased structure with a fire rating designed to resist an internal electrical fire for at least 30 minutes. The

containment space shall contain baffles that automatically close in the event of fire, independent of a possible electric system failure.

5. Any Data Center use proposing battery storage or any other device or group of devices capable of storing energy in order to supply electrical energy at a later time, whether the energy is stored for use on-site or off-site, shall demonstrate compliance with National Fire Protection Association (NFPA) Standard 855, Installation of Stationary Energy Storage Systems, or similar standards and must include fire suppression systems designed specifically for battery storage.

6. A Data Center must contain an internal fire suppression system that shall be reviewed and tested once every twelve (12) months by a third-party contractor approved by the fire chief.

7. Extraordinary Events. If the Data Center experiences a failure, fire, leakage of hazardous materials, personal injury, or other extraordinary or catastrophic event, the applicant or operator must notify the Township within 24 hours.

I. **Environmental and Community Impact Analysis**: Prior to the commencement of the [Special Use Hearing or Site Plan Review], the applicant shall provide an environmental and community impact analysis. The environmental and community impact analysis shall include:

1. A narrative description of the nature of the on-site activities and operations, including the market area served by the facility, the hours of operation of the facility, the total number of employees on each shift, the times, frequencies, and types of vehicle trips generated, the types of materials stored and the duration period of storage of materials.

2. The potential for public nuisance to residents resulting from operations and truck traffic, including noise, glare, light, and visual obstacles, exists.

3. An evaluation of the potential impacts of the proposed use, both positive and negative, upon:
    a. Emergency services and fire protection,
    b. Noise Impact Statement
    c. Lighting
    d. Water supply,
    e. Sewage disposal,
    f. Solid waste disposal,
    g. School facilities and school district budget, and
    h. Municipal revenues and expenses.

4. Any environmental impacts that are likely to be generated (e.g., odor, noise, smoke, dust, litter, glare, heat islands, vibration, electrical disturbance, wastewater, stormwater, solid waste, etc.) and specific measures employed to mitigate or eliminate any negative impacts. The applicant shall further furnish evidence that the impacts generated by the proposed use fall within acceptable levels, as regulated by applicable laws and ordinances.

J. Environmental Assessment

Any Environmental Impact Assessment, Environmental and Community Impact Analysis, or similar documentation required under this Ordinance is intended solely to assist the Township in evaluating land use compatibility, site design, and potential off-site impacts within the Township's zoning authority. Such submittals shall not be construed as imposing additional regulatory standards beyond those expressly set forth in this Ordinance, nor shall they be used to require compliance with standards that are otherwise regulated exclusively by state or federal law.

An Environmental Impact Assessment shall be performed. The assessment shall be prepared by a professional engineer, ecologist, environmental planner, or other qualified individual. An assessment shall include a description of the proposed use, including location, relationship to other projects or proposals, with adequate data and detail for the (Municipality) to assess the environmental impact. The assessment shall also include a comprehensive description of the existing environment and probable future effects of the proposal. The description shall focus on the elements of the environment most likely to be affected as well as potential regional effects and ecological interrelationships. At a minimum, the assessment shall include an analysis of the items listed below regarding the impact of the proposed use and the mitigation of any such impacts. The assessment shall also include a detailed examination of public resources most likely impacted by the development plan and include the following focus areas:

1. Air pollution impacts emissions from vehicle operations, including from truck engines during idle time. The applicant shall identify all stationary and mobile sources of fine particulate matter (PM2.5), volatile organic compounds, and nitrogen oxides at the site. The applicant shall specify best management practices for preventing and reducing the concentration of air-polluting emissions at the site. The owner or operator of the facility shall have anti-idling signs prominently posted in areas where 15 or more trucks may park or congregate. Developer shall acquire all necessary air quality permits from EGLE Air Quality Division.

2. A site plan of the property indicating the location of proposed improvements, flood plains, wetlands, waterways and cultural and historic resources on the property and within 500 feet of the boundaries of the property.

3. Evidence that the disposal of materials will be accomplished in a manner that complies with state and federal regulations.

4. A stormwater management plan will be required.

5. Environmental Compliance: Data Center shall provide proof of compliance, including compliance with Part 31, Water Resources Protection, of the Natural Resources and Environmental Protection Act; (MCL 324.3101 et. seq.; Part 91, Soil Erosion and Sedimentation Control (MCL 324.9101 et. seq.) and any corresponding County ordinances; Part 301, Inland Lakes and Streams, (MCL 324.30101 et. seq.); Part 303, Wetlands (MCL 324.30301 et. seq.); Part 365, Endangered Species Protection (MCL 324.36501 et. seq.); and any other

applicable laws and rules in force at the time the Township considers the application.

K. Complaint Resolution Plan: A plan for resolving complaints from the public or other property owners concerning the construction and operation of the Data Center, which is subject to the Township's review and approval.

L. Power Generation: Routine or primary power generation is prohibited. Emergency backup generators are permitted for accessory uses.

(Optional) Power generation from renewable energy sources, i.e. solar or wind, serving the Data Center may be permitted as accessory uses if expressly authorized by the zoning district and provided such systems do not function as the primary power source for routine operations. Maximum _____ Kilowatts/Megawatts.

M. Additional Information: Applicant will provide any additional information or documentation requested by the Planning Commission, Township Board, or other Township representative.

N. General Site Design Standards

1. **Loading Bay Location.** Loading bays are permitted to be located on only 1 façade.

2. **Parking.** The following parking standards shall be applied to Data Centers.
   a. Applying the parking requirements for office that exist in the ordinance, but only to the portion of the Data Center building that is actually utilized for office space; or

   b. Requesting a staffing plan from the Data Center developer and allowing such data to inform the minimum number of needed parking spaces.

3. **Perimeter Fencing/Security Fences** shall not exceed ___ feet in height above ground and shall be of high-quality design and materials.

4. **Data Center Electric Utility Substations**
   a. Must include year-round opaque landscaping or a screen wall a minimum of ____ feet in height to minimize visual impact.

   b. Electric Utility Substations on the same property as the Data Center they serve must be located on the side or rear of a Data Center Principal Building so they are screened from public view and must not be located in a required front yard. On-site substations do not require a buffer or screening between the Data Center Principal Building and the substation.

   c. When feasible power lines should be buried and strongly encouraged.

   d. The Data Center Electric Utility Substation shall be subject to applicable zoning district setback requirements. Setbacks shall be measured from

the edge of the compound containing the substation to the property boundary of the lot it occupies.

5. **Setbacks and Building Massing Adjacent to Residential.** The following requirements apply when a proposed Data Center is to be located on a property adjacent to property with Sensitive Receptors, including when the Data Center property is adjacent to residential property that are separated by public or private road.

    a. **Minimum Parking Setback.** Parking must be setback at least 50 feet from the common property line, provided existing forest and other natural screening exists within 50 feet of the lot line, and such forest and screening remains undisturbed or enhanced in accordance with Section ---- (Municipality section on screening); or, if no forest or natural screening exists, berms are provided at least 10 feet in height constructed to a maximum 2:1 slope on either side of the crown edge, and 10-foot-tall fencing and plantings are placed on top of the berm;

    b. **Minimum Setback for Structures.** Structures must be setback at least _____ feet from the common property line;

    c. **Change in Building Height.** If a building is located within 400 feet measured from the property line adjacent to property with Sensitive Receptors, any building façade facing the adjacent property must include a change in building height at a minimum interval no less frequent than every 150 horizontal linear feet or no less frequent than 3 times the average height of the building; and

    d. **Building Step-Back.** If a building is located within 400 feet measured from the property line with Sensitive Receptors, the building envelope must provide a step-back of no less than 15 feet from the building wall at a height point that begins at the top of the second story of the building or 40 feet, whichever of the 2 is lower.

6. **Location and Screening of Data Center Mechanical Equipment.** All ground level and roof top Data Center Mechanical Equipment must meet the following standards: Data Center Mechanical Equipment must be shown on any proposed Site Plan and must be fully screened on all sides. Such visually solid screen must be constructed with a design, materials, details, and treatment compatible with those used on the nearest Principal Façade of a building;

    a. **Perforation for Ventilated Screening.** As determined by the Zoning Administrator, screening for Data Center Mechanical Equipment may incorporate perforated surfaces on screening walls as necessary to permit ventilation of Data Center Mechanical Equipment;

    b. **Separation from Residential.** Ground mounted Data Center Mechanical Equipment must be separated from adjacent property that has Sensitive Receptors by a principal building.

c. **Ground Mounted Prohibited in Front Yards.** Ground mounted Data Center Mechanical Equipment must not be located in any required front yard.

d. **No Screening Requirements Adjacent to Industrially Zoned Property.** As determined by the Zoning Administrator, Data Center Mechanical Equipment located in a manner found to have no adverse impact on adjacent properties zoned Industrial or Light Industrial, is not required to be screened pursuant to Section ---(Location and Screening of Data Center mechanical Equipment) except that such Data Center Mechanical Equipment must be screened from any existing or planned public road.

J. Utilities. Nothing in this Ordinance shall be construed to regulate or restrict public utilities, transmission lines, or substations in a manner inconsistent with the jurisdiction of the Michigan Public Service Commission or applicable state or federal law.

Zoning standards applicable to Data Center accessory structures and site layout shall be limited to land use compatibility, setbacks, screening, and site design and shall not regulate utility operations or service provision.

Data Centers are subject to Utility requirements pursuant to the following standards.

1. Data Center shall provide evidence there is water capacity to support Data Center and estimated usage.

2. Data Center shall provide evidence that there is energy capacity to support Data Center.
    a. Adequate capacity is available on the applicable supply lines and substation to ensure that the capacity available to serve the other needs of the service area is consistent with the normal projected load growth envisioned by the provider,

    b. Utility supply equipment and related electrical infrastructure are sufficiently sized and can safely accommodate the proposed use,

    c. Any system designed for cooling and operation of the facility (electricity, water, or other means) will be adequate and will not negatively impact the surrounding region,

    d. All cooling and ventilation equipment within property boundaries must operate on a closed-loop system,

    e. The use will not cause electrical interference or fluctuations in line voltage on and off the operating premises, and

f. Prior to approval of the certification of completion or occupancy, the applicant shall provide the municipality with written verification that the electrical work has passed a third-party final inspection.

3. Data Center shall provide an annual report on water and power usage to the Township Zoning Administrator.

O. Noise:

1. CNEI

a. The Community Noise Equivalent Level (CNEI) at the boundary of the property containing a Sensitive Receptor shall not exceed 60 dBA.

b. The CNEI at the boundary of any developed property not containing a Sensitive Receptor shall not exceed 70 dBA.

Option: To use the existing Municipality's Noise Requirements and reference the section number here or modify the model language as necessary.

c. Sound that is produced for not more than a cumulative period of one (1) minute in any hour may exceed the standards above by up to ten (10) dBA.

d. The maximum sound levels listed above do not apply to emergency alerts, emergency work to provide electricity, water, or other public utilities when public health or safety is involved, snow removal, or road repair.

2. A noise reduction barrier or device may be required at the discretion of the Zoning Administrator when it is inconclusive that noise level tests do not conform to acceptable noise levels.

3. The limitations of Section --- (Noise) shall not apply to any Sensitive Receptors that are established adjacent to the Data Center after the date of issuance of a certificate of completion or occupancy for the applicant's operation.

P. Generator Noise Adjacent to Residential. For Data Centers on property adjacent to property with Sensitive Receptors the following standard applies to generator testing, subject to State and Federal Regulations or permits issued for the property:

a. Generator testing is limited to between 5:00 p.m. and 7:00 p.m. between May 1 and September 30;

b. Generator testing is limited to between 11:00 a.m. and 5:00 p.m. between October 1 and April 30; and

c. Except for generator testing or commissioning activities, generator use is limited to backup/emergency use only.

K. Light and Glare. Data Centers must meet the following standards:

i. Data Centers must include a photometric plan that shows all exterior lighting, including any security lighting; and

ii. Maximum illumination under Section --- (Light and Glare) includes any security lighting.

iii. The illumination projected onto a Property with Sensitive Receptors shall at no time exceed 0.1 footcandle, measured line-of-sight and from any point on the receiving residential property.

L. ***(Optional) Decommissioning Plan*** *or Plan to mitigate impacts if the project discontinues.*

M. **Landscaping /Buffering/Screening**. Data Centers adjacent to property with Sensitive Receptors must include an enhanced buffer yard with required plantings located on an earthen berm with a grade no steeper than 2:1. The minimum height of the berm abutting adjacent property is 10 feet and abutting public/private roads is 10 feet.

Option: To use the existing Municipality's Landscaping, Buffer, and Screening Ordinance Requirements and reference the section number here.

a. Where the combined footprint of the principal structure or structures is less than 100,000 square feet:
   i. A minimum 100-foot buffer yard shall be provided along the entire length of any public street frontage of any property upon which the Data Center is located and along any property line which abuts or is within 500 feet of an property that has Sensitive Receptors.

   ii. A minimum 50-foot buffer yard shall be provided along any property line adjacent to a non-residential use or zone.

b. Where the combined footprint of the principal structure or structures exceeds 100,000 square feet:
   i. A minimum 500-foot buffer yard shall be provided along the entire length of any public street frontage of any property upon which the Data Center is located and along any property line which abuts or is within 500 feet of property that has Sensitive Receptors.

   ii. A minimum 50-foot buffer yard shall be provided along all other property lines.

c. Utilities should be located outside of buffer yards to the maximum extent feasible to maintain a cohesive buffer yard, protect landscaping, and preserve open space. Utilities should be co-located when feasible to minimize the number of utility crossings through the required buffer yard, particularly when such crossings cannot be avoided.

d. Use of existing vegetation for landscaping and screening is strongly encouraged and may be substituted for new berms and plantings if approved by the Planning Commission.

e. The required number of plant units shall be calculated in accordance with other municipal screening requirements.

f. Buffer yards along roadways shall be measured from the street right-of-way line.

g. Where a lot line drainage or utility easement is required, the buffer yard shall be measured from the inside edge of the easement.

h. Buffer yards shall not include environmental encumbrances such as, but not limited to, wetlands, wetland transition areas, riparian buffers, and flood hazard areas as may be imposed by outside agencies.

i. The buffer yard shall include a dense landscape buffer consisting of the following.
    i. One (1) large evergreen tree per 25 linear feet of buffer. The size of large evergreen trees shall be a minimum of eight (8) feet in height at the time of planting. Narrow/upright evergreen species may also be used within buffers at a ratio of 3:1. No more than 25% of the total required large evergreen species can be substituted with narrow/upright species.

    ii. One (1) canopy (shade) tree per 75 linear feet of buffer. The size of canopy (shade) trees shall be a minimum of 2 ½ inch caliper at the time of planting.

    iii. One (1) ornamental/flowering tree per 50 linear feet of buffer. The size of ornamental/flowering trees shall be a minimum of eight (8) feet in height for multi- stemmed varieties, or 2 ½ inch caliper at the time of planting for single-stemmed varieties.

    iv. Five (5) shrubs per 25 linear feet of buffer. Shrubs shall be fully branched and a minimum of three (3) feet in height at the time of planting. Shrubs shall be a combination of evergreen and deciduous species, with a minimum of 50% evergreen.

j. The landscape buffer shall be located along the outer edge of the buffer yard.

k. Plant material within buffer plantings shall meet the following requirements:
    i. Be resistant to diesel exhaust.

    ii. Not identified on the most current MDNR invasive species or watch lists.

    iii. Be hardy within USDA hardiness Zones 5 and 6.

    iv. Shall be planted on the top and the exterior of any berm in order to provide effective screening.

v. Shall be arranged in groupings to allow for ease of maintenance and to provide a natural appearance.

vi. Shall provide a diversity in plant species, such that no one species accounts for more than 25% of each plant type.

vii. The plantings shall be arranged to provide a complete visual screen of the property at least 12 feet in height, measured in addition to the height of any required berm, within three (3) years.

l. The buffer yard may be located within the required building setback lines. No impervious surface is permitted within the buffer yard aside from access drives, sidewalks, and associated improvements

M. Façade Standards.

a. Principal Façade

i. Applicability. Principal façade requirements apply to all building facades that face adjacent existing or planned public roads or that face an adjacent property with Sensitive Receptors.

Option: To use the existing Municipality's Façade Standards and reference the section number here.

ii. Requirements.

1. Principal façades of a building must incorporate the following standards at horizontal linear intervals that may vary in frequency but must be no less frequent than every 150 horizontal linear feet or no less frequent than 3 times the average height of the building:
    a. Fenestration or Fenestration and (Optional) Green wall; and
    b. A change in 1 of the following design elements:
        i. Building material;
        ii. Pattern
        iii. Texture
        iv. Color; or
        v. Accent materials.

2. **Consistent Design**. When a building has more than 1 Principal Façade, the Principal Façades of such building must be consistent in terms of design, materials, details, and treatment.

3. **Fenestration.** Each Principal Façade of a building must include Fenestration as follows:
    a. **Fenestration Surface Coverage of the Façade.** Fenestration must comprise at least 30% of the total surface coverage area of the Principal Façade.

b. **Distributed Fenestration Coverage.** Fenestration provided to meet the following:
    i. Each placement or bay may count towards no more than 7.5% of such total surface coverage area.
    ii. Required 30% total surface coverage area of the Principal Façade must be located in separated, individual placements or clustered bays; and

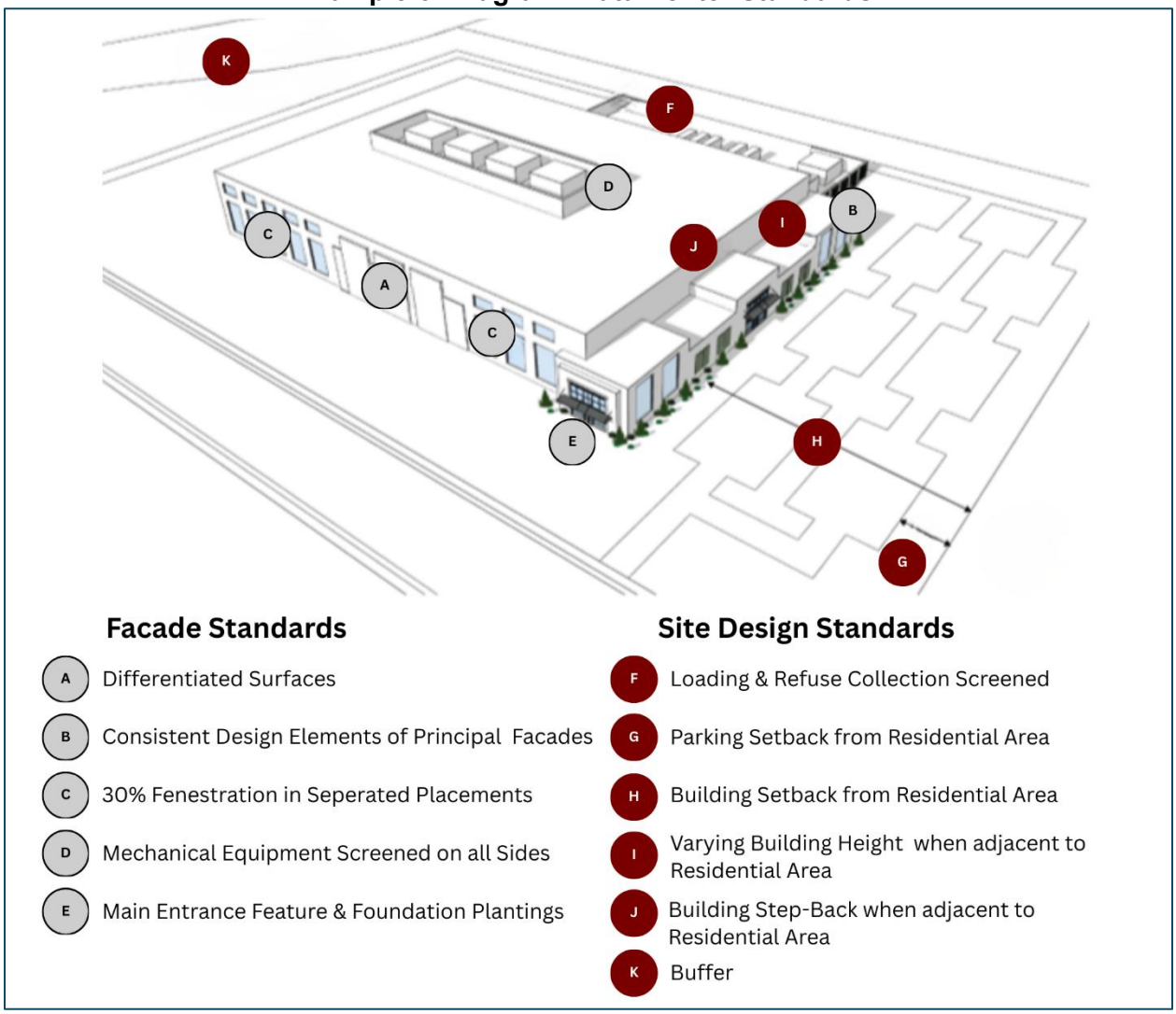
c. **Fenestration Coverage Pattern.** The placement pattern of individual or clustered bays of Fenestration must be distributed horizontally and vertically across the Principal Façade; and

d. **Fenestration Consistent Design with Principal Façade.** The Fenestration must be compatible with the other design, materials, details, and treatment used on the same Principal Façade.

4. **Green-Wall Treatment.**
    a. A Green-Wall Treatment may be provided in lieu of up to half of the Fenestration Surface Coverage of the façade requirement of Section --- (Fenestration Surface Coverage of Façade above)
    b. Requirements. Green-Wall Treatments must provide the following:
        i. **Maintenance.** The owner, or the owner's agent, is responsible for the repair, replacement, and maintenance of the Green-Wall for the duration of the use;
        ii. **Distributed Green-Wall Surface Coverage.** Green-Wall areas must be provided to meet up to half of the required 30% total surface coverage area of the Principal Façade of a building; and
        iii. **Green-Wall Coverage Pattern.** The Green-Wall areas must be distributed horizontally and vertically across the Principal Façade.

N. Severability In the event of a conflict between this Ordinance and any applicable state or federal law or regulation, the state or federal law shall control. The invalidity of any provision of this Ordinance shall not affect the validity of the remaining provisions

Example of Diagram--Data Center Standards



Source: Loudoun County Zoning Ordinance Data Center Standards

Sources

Façade, Setbacks & Diagram
Loudoun County, VA: Data Center Ordinance:
https://online.encodeplus.com/regs/loudouncounty-va-crosswalk/doc-viewer.aspx#secid-859

General Guidelines and Parking Standards
Urban Land Institute. “Local Guidelines for Data Center Development.” Washington, D.C.: Urban Land Institute, 2024. https://knowledge.uli.org/-/media/files/research-reports/2024/uli-data-center-whitepaper_hm_2024-11-12_final-final-round.pdf

Model Ordinance, General Guidelines, Definitions, Environmental Impact Analysis, Buffer & Landscape Standards
York County , Planning Commission Model Ordinance-
https://www.ycpc.org/DocumentCenter/View/5537/Data-Centers-Model-Ordinance-PDF

Safety, Environmental Compliance
Cohoctah Township, Planning Commission Draft Ordinance & Discussion
https://mccmeetings.blob.core.usgovcloudapi.net/cohoctahmi-pubu/MEET-Packet-f50395a2ff174bb0bcb470ffe8652664.pdf