AN ORDINANCE OF UPPER ALLEN TOWNSHIP, CUMBERLAND COUNTY, COMMONWEALTH OF PENNSYLVANIA, AMENDING THE CODE OF UPPER ALLEN TOWNSHIP, CHAPTER 245 (ZONING), TO AMEND ARTICLE II, SECTION 245-2.1, WORD USAGE AND DEFINITIONS TO ADD DEFINITIONS RELATIVE TO DATA CENTERS AND BATTERY ENERGY STORAGE SYSTEMS; AMEND ARTICLE VII, SECTION 245-7.2, PERMITTED USES TO ADD DATA CENTERS, DATA CENTER ACCESSORY USES AND BATTERY ENERGY STORAGE SYSTEMS AS CONDITIONAL USES IN THE (IND) INDUSTRIAL DISTRICT; AMEND ARTICLE XIV SECTION 245-14 TO ADD SPECIFIC REQUIREMENTS FOR DATA CENTERS, DATA CENTER ACCESSORY USES AND BATTERY STORAGE SYSTEMS

ORDINANCE _____

BE IT ENACTED AND ORDAINED by the Board of Commissioners of Upper Allen Township, Cumberland County, Pennsylvania, and it is hereby enacted and ordained by authority of the same as follows:

Section 1 - Chapter 245, Article II, Land Use Definitions, §245-2.1. Word usage and definitions, Subsection B shall be **amended to add** the following definitions:

BATTERY ENERGY STORAGE SYSTEMS (BESS)
A use consisting of one or more devices, assemblies, systems, buildings, structures, or equipment areas capable of storing electrical energy for later use on-site or off-site through electrochemical, mechanical, thermal, or similar means, together with all associated equipment, transformers, switchgear, utility connections, fire suppression systems, safety systems, monitoring systems, and accessory facilities necessary for operation. A Battery Energy Storage System shall not include batteries contained within consumer products, standard motor vehicle batteries, or batteries customarily accessory to a residential solar energy system with an aggregate energy storage capacity of six hundred (600) kWh or less.

DATA CENTER

A use involving one or more buildings/premises, structures, or portions thereof primarily used for the processing, storage, management, transmission, exchange, hosting, or distribution of digital information through computers, servers, networking equipment, telecommunications equipment, cloud computing infrastructure, artificial intelligence infrastructure, or similar technologies and supporting equipment. This use shall also include cryptocurrency mining, blockchain transaction processing, and server farms. A Data Center may include Data Center Accessory Uses located on the same lot or as part of a unified development. This use does not include computer or telecommunication related equipment that is considered customarily accessory to an otherwise permitted use on the property, i.e., servers associated with an office building, both located on the same property. However, such uses shall be considered a principal Data Center use regardless of

how it is characterized if it exceeds 5,000 square feet in aggregate within a building, on a lot, or as part of a unified development, or is designed to operate independently of, or serve multiple unaffiliated users or customers.

DATA CENTER ACCESSORY USE
Ancillary uses or structures secondary and incidental to a Data Center use, including but not limited to: administrative, logistic, fiber optic, storage, and security buildings or structures, sources of electrical power such as emergency generators and batteries used to provide temporary power only when the main source of power is interrupted; utility lines, domestic and non-contact cooling water and wastewater treatment facilities, electrical substations, pump stations, water towers, mechanical equipment and environmental controls (air conditioning, water cooling and storage facilities, fire suppression, and related equipment), redundant/backup power supplies, redundant data communications connections, and high security infrastructure, measures, or systems when located on the same tract or assemblage of adjacent parcels developed as a unified development for a Data Center.

SENSITIVE RECEPTOR
Any residential use, school, preschool, child or adult day-care center, hospital, assisted-living facility, long term care facility, nursing home, personal care home, retirement community, treatment center, community center, place of worship, park (excluding trails), campground, or dormitory.

Section 2 – Chapter 245, Article VII, Industrial District (IND), §245-7.2, Permitted Uses, Table VII-1. shall be **amended to add** the following uses as a conditional use (C) in the industrial zoning district and numbered as follows:

Table VII-1
Industrial (IND) District

Use		Use Regulation	Specific Criteria
Nonresidential Uses			
3.5	Battery Energy Storage System (BESS)	C	§ 245-14.11.5
5.5	Data Center including Data Center Accessory Use	C	§ 245-14.20.5

Section 3 – Chapter 245, Article XIV, Specific Standards for Designated Uses, shall be **amended by adding** the following sections: §245-14.11.5, Battery Energy Storage Systems (BESS), and §245-14.20.5, Data Center and Data Center Accessory Use as follows:

§ 245-14.11.5, Battery Energy Storage Systems (BESS) Use. The following shall apply to all BESS Uses.

A. A BESS use shall be considered a principal use and require separate Conditional Use approval unless providing emergency backup power for a Data Center as specifically provided for in §245-14.20.5.

B. **Standards Applicable to Stand-Alone BESS**. When proposed as a principal use, a BESS comply with the following standards, which apply directly to stand-alone BESS facilities.

(1) Fire Safety. The BESS shall comply with National Fire Protection Association (NFPA) Standard 855, Installation of Stationary Energy Storage Systems, or successor standard, and shall include an automatic fire suppression and detection system with gas monitoring and clearly marked emergency shut-off locations accessible to emergency responders.

(2) Emergency Management. Prior to Conditional Use approval, the applicant shall submit an Emergency Response Plan meeting the applicable requirements of §245-14.20.5.D.(15), reviewed by the Township Fire Marshal and applicable emergency service providers, and including hazard-specific first-responder training.

(3) Setback and Separation. The BESS and associated equipment shall be located a minimum of one-hundred (100) feet from any public right-of-way and from the property line of any adjacent non-participating property, and shall comply with the enhanced setback requirements of §245-14.20.5.D.(1) where applicable.

(4) Screening and Buffering. Ground-mounted BESS equipment shall be screened and buffered in accordance with §245-14.20.5.D.(6)(b), including the required acoustic wall and landscape buffer screen.

(5) Noise and Vibration. The BESS shall comply with the noise and vibration standards of §245-14.20.5.D.(13).

(6) Exterior Lighting. Exterior lighting shall comply with §245-14.20.5.D.(7).

(7) Decommissioning and Financial Security. The BESS shall comply with the decommissioning and financial-security requirements of §245-14.20.5.D.(23), and the decommissioning obligation shall be recorded so that it runs with the land.

(8) Other Applicable Standards. The BESS shall comply with the hazardous-materials, fuel-storage/stormwater-hotspot, and other public-safety and environmental standards of §245-14.20.5.D. to the extent applicable to a stand-alone energy storage facility.

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C. **Modification of Standards.** Where a specific requirement referenced in Subsection B is, by its terms, applicable only to Data Center buildings or operations and has no reasonable application to a stand-alone BESS facility, an applicant may request a modification of that requirement. The applicant shall identify the specific requirement, explain why it has no reasonable application to the proposed BESS, and demonstrate that the modification will not diminish the protection of public health, safety, and welfare intended by this Section. The Board of Commissioners may grant such modification only upon express findings, supported by evidence of record, that these criteria are satisfied. This Subsection does not authorize the waiver or modification of the fire-safety, setback, separation, screening, noise, or decommissioning standards set forth in Subsection B.

§ 245-14.20.5. Data Center and Data Center Accessory Use. The following shall apply to all Data Centers, Data Center Accessory Uses.

A. Applicability.

(1) The provisions of this section shall apply to all Data Centers and Data Center Accessory Uses.

(2) A use meeting the definition of Data Center shall be regulated as a Data Center regardless of whether such use is described as an accessory use, ancillary use, support use, tenant use, component of another principal use, or by any other designation.

(3) Any Battery Energy Storage System associated with a Data Center shall comply with the applicable provisions of this section and §245-14.11.5.

B. **General; Approval Standard.** An applicant for a Data Center or Data Center Accessory Use conditional use shall demonstrate compliance with the specific, objective standards and criteria set forth in §245-14.20.5.D., Standards and Requirements, and with the general conditional use standards of the Zoning Ordinance (§ 245-19.14). An applicant who demonstrates such compliance shall be entitled to approval of the conditional use, subject to such reasonable conditions and safeguards as the Board of Commissioners may attach pursuant to Section 603(c)(2) of the Pennsylvania Municipalities Planning Code, unless a party opposing the application establishes, by credible evidence, a high degree of probability that the proposed use will generate an adverse impact on the public health, safety, and welfare that is greater than or different from the impact normally generated by uses of this type. The impacts identified below are the subjects addressed by the specific standards of §245-14.20.5.D. and by the studies and analyses required under §245-14.20.5.C.; they identify the matters as to which such evidence may be presented and considered, and do not constitute independent or discretionary criteria for denial:

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(1) Water capacity and water use impacts;

(2) Energy availability and energy-use impacts;

(3) Proximity to residential districts and uses; sensitive receptors;

(4) Noise, vibration, lighting, and visual impacts;

(5) Environmental impacts;

(6) Emergency response considerations;

(7) Traffic (construction and final) and infrastructure impacts;

(8) Natural and man-made hazards; and

(9) Property value impact.

C. **Conditional Use Submission Requirements.** To facilitate the Board of Commissioners' consideration of the potential impacts of the proposed Data Center use, the applicant shall submit, with the Conditional Use application, a comprehensive analysis demonstrating the ability of the proposed development to comply with the requirements of §245-14.20.5.D., Standards and Requirements in its entirety. The comprehensive analysis shall be accompanied by a to-scale conceptual site development plan (including site location, metes and bounds of tract, and contours of the site at intervals of five feet) and supporting technical documentation sufficient for the Township to evaluate the proposed layout, design, operational characteristics, anticipated impacts, and capacity for compliance with provisions outlined herein. The conceptual level of the site development plan and exhibits required by this subsection shall not reduce the level of detail required for any plan, study, analysis, or report specified in §245-14.20.5.D., Standards and Requirements. In addition to any plans, studies, analyses, reports, or exhibits required by §245-14.20.5.D., Standards and Requirements, the Conditional Use application shall include at a minimum, the following exhibits:

(1) **Existing Conditions Exhibit**. Identification of property boundaries, metes and bounds, easements, rights-of-way, existing structures, utility infrastructure, access points, topography, watercourses, wetlands, floodplains, woodlands, steep slopes, and other significant natural or man-made features.

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(2) **Land Uses Exhibit.** Identification of existing zoning districts, existing and adjacent land uses, any residential districts, sensitive receptors, and public rights-of-way located within one thousand (1,000') feet of the property boundary.

(3) **Site Plan Exhibit**. A to-scale site plan of the property depicting the proposed layout of the development, including proposed: principal buildings and structures; accessory buildings and structures; proposed building footprints; gross floor area of buildings; building heights; setbacks and buffer yards; parking areas and loading areas; internal circulation and access drives; emergency access routes; conceptual stormwater management facilities; utilities including but not limited to domestic water, fire line, domestic sewer, industrial wastewater, fiber, gas, electric (overhead and underground), and stormwater; proposed utility corridors and easements; proposed grading areas and limits of disturbance; areas of woodland preservation and reforestation; and other proposed site improvements.

(4) **Equipment Exhibit.** Identification of the conceptual location and general configuration of all proposed rooftop and ground-mounted mechanical, electrical, cooling, utility, backup power, fuel storage, communications, and other operational infrastructure, including but not limited to chillers, cooling facilities, dry coolers, substations, switchyards, transformers, switchgear, battery energy storage systems, emergency generators, fuel systems, and similar facilities.

(5) **Architectural Exhibit.** Preliminary architectural elevations, renderings, perspective views, or similar exhibits depicting the general building design, building massing, height, rooftop screening measures, facade treatments, and architectural character of the proposed development.

(6) **Buffer Exhibit.** A conceptual buffering and screening plan identifying proposed buffer yards, forested buffers, berm systems, acoustic walls, landscape screens, preserved woodlands, reforestation areas, and other visual and auditory screening measures intended to comply with the requirements herein. The submission shall include representative plan views and cross-sections depicting proposed relationship between buildings, operational areas, buffer yards, berms, screening elements, residential zoning districts, and sensitive receptors.

(7) **Sightline Analysis**. A visual impact and sightline analysis depicting the visibility of principal buildings, accessory uses and structures, rooftop equipment, rooftop screening structures, utility infrastructure, and other above-ground facilities from public rights-of-way, residential zoning districts, and sensitive receptors. The analysis shall include building elevations, perspective renderings, photo simulations, line-of-sight exhibits, or

other visual representations sufficient to demonstrate compliance with the architectural, screening, buffering, and visual impact mitigation requirements of this Ordinance.

(8) **Other Required Studies and Plans.** Certain sections within §245-14.20.5. D., Standards and Requirements, require additional requirements including plans, studies, analyses, reports, or exhibits that must be submitted with the Conditional Use application. Without limiting the foregoing, the Conditional Use application shall include: the Water Supply and Water-Use Impact Analysis (§245-14.20.5.D.(9)); the Wastewater Disposal and Treatment Analysis (§245-14.20.5.D.(10)); the Thermal Impact Mitigation Plan (§245-14.20.5.D.(11)); the Pre-Construction Sound and Vibration Study (§245-14.20.5.D.(13)); the Emergency Response Plan (§245-14.20.5.D.(15)); the PNDI Receipt and any required clearance letters (§245-14.20.5.D.(25)); and, for any project not Land Development approval (such as the retrofit of an existing building), the Decommissioning Plan (§245-14.20.5.D.(23)(b)). All other plans, analyses, exhibits, and reports required by any provision of §245-14.20.5.D. shall likewise be included with the Conditional Use Submission as noted in the corresponding section(s) herein.

(9) **Compliance Exhibit.** A design compliance exhibit consisting of plans, diagrams, renderings, cross-sections, tables, and supporting narratives sufficient to demonstrate compliance with applicable design, height, setback, buffering, screening, lighting, noise, and operational requirements of §245-14.20.5.D., Standards and Requirements. The design compliance exhibit shall include an Ordinance Compliance Matrix listing each applicable requirement of §245-14.20.5.D., Standards and Requirements and identifying the specific design feature, mitigation measure and corresponding plan sheet, study, report, or exhibit demonstrating compliance.

(10) **Compliance Statement.** A written narrative describing how the overall proposed development is anticipated to comply with the requirements of §245-14.20.5.D., Standards and Requirements and other applicable provisions of this Ordinance.

(11) **Additional Information**. The Township may require additional plans, studies, analyses, cross-sections, modeling, renderings, reports, or technical documentation reasonably necessary to evaluate compliance with this section and to protect the public health, safety, and welfare.

(12) **Land Development Plan Application**. As part of a Preliminary and Final Land Development application, detailed plans, cross-sections, exhibits, elevations, reports, and other final analysis, modeling, and technical documents associated with the materials listed herein shall be required to verify compliance with the Conditional Use approval. This shall also include a Compliance Matrix to facilitate review as required above.

(13) **Expansion, Intensification, and Change of Use.** Any expansion, intensification, change in operational capacity, change in cooling technology, increase in water or energy demand, increases noise, or environmental impacts beyond the parameters established during the original approval process, regardless of whether building square footage increases or addition of accessory infrastructure including the type and amount of backup generators, beyond what is approved shall require a new Conditional Use approval. Approval of a Data Center shall not create a vested right to expand or modify the use beyond the scope expressly authorized by the Township.

D. **Standards and Requirements.** The following standards and requirements shall apply to all Data Center and Data Center Accessory Uses. These provisions shall apply in addition to all applicable regulations of the underlying Zoning District. In the event of a conflict between the provisions of this section and any other provision of this Ordinance, the more restrictive provision shall be applied, unless otherwise stated.

(1) **Lot Area, Setbacks, Street Frontage, and Lot Coverage Requirements**.

(a) The minimum lot area, street frontage, and lot coverage shall comply with § 245-7.3. A., B., and C., as outlined in Article VII, Industrial (IND) District.

(b) The minimum setback requirements shall comply with § 245-7.3. D. as outlined in Article VII. Industrial (IND) District except in the following situations:

i. Enhanced Residential and Sensitive Receptor setbacks. Where any property line of a Data Center or Data Center Accessory Use:

1. Abuts or is located within 500 feet of any residential zoning district boundary, a minimum setback of two hundred fifty (250') feet shall be provided; or

2. Abuts or is located within 500 feet of a lot containing any Sensitive Receptor, regardless of the zoning district in which the Sensitive Receptor is located, a minimum setback of two hundred fifty (250') feet shall be provided.

3. Within such setback, a minimum two hundred-foot-wide (200') Enhanced Forested Buffer shall be established in accordance with §245-14.20.5.D.(4), and shall extend along the length of the affected property line.

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4. The required enhanced forested buffer may be located within the required setback area and shall count toward satisfaction of the setback requirement.

5. The increased setback and enhanced forested buffer requirements of this subsection shall not apply to sensitive receptors located within the Industrial (IND) District.

6. Where the provisions of this subsection and subsection (ii) both apply, the requirements of this subsection shall govern.

ii. Enhanced Agricultural, Village, Commercial, Office, and Institutional setbacks. Where any property line of a Data Center or Data Center Accessory use abuts or is located within 300 feet of an agricultural, village, commercial, office, or institutional zoning district, and the requirements of subsection (i) are not applicable, a minimum setback of one hundred fifty (150') feet shall be provided.

1. Within such setback, a minimum one hundred-foot-wide (100') Enhanced Forested Buffer shall be established in accordance with §245-14.20.5.D.(4) and shall extend along the length of the affected property line.

2. The required enhanced forested buffer may be located within the required setback area and shall count toward satisfaction of the setback requirement.

iii. Measurement Standards. For purposes of determining compliance with the setback requirements of this Section:

1. Distances to any residential zoning district boundary shall be measured from the nearest property line of the lot containing the proposed Data Center or Data Center Accessory Use to the nearest residential zoning district boundary); and

2. Distances to a Sensitive Receptor shall be measured from the nearest property line of the lot containing the proposed Data Center or Data Center Accessory Use to the property line of the lot on which the Sensitive Receptor is located.

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3. Distances to Agricultural, Village, Commercial, Office, and Institutional Zoning Districts shall be measured from the nearest property line of the lot containing the proposed Data Center or Data Center Accessory Use to the applicable zoning district boundary.

4. Where multiple setback requirements apply, the most restrictive setback and Enhanced Forested Buffer requirement shall govern.

iv. Purpose. The setback and Enhanced Forested Buffer requirements of this section are intended to provide visual separation, noise attenuation, lighting mitigation, emergency-response separation, and compatibility between Data Center development and surrounding properties.

v. Modification. Where an applicant demonstrates that the combined application of the setback and Enhanced Forested Buffer requirements of this subsection would leave insufficient developable area to permit a Data Center or Data Center Accessory Use of reasonable size on a lot otherwise eligible under this Chapter, the Board of Commissioners may reduce the required setback and/or buffer width to the minimum extent necessary to permit reasonable development, provided the applicant demonstrates, and the Board finds upon evidence of record, that the modified setback and buffer will provide substantially equivalent visual, acoustic, lighting, and safety mitigation through alternative design measures. Any such modification shall be incorporated into the conditions of approval.

(c) Setback and Buffer Area Restrictions.

i. No uses, principal buildings, accessory uses, accessory structures, accessory buildings, loading areas, parking areas, generators, substations, cooling equipment, fuel systems, utility yards, and other operational uses associated with the development shall be located within the required minimum setback and/or any required landscape buffer yard including the enhanced forested buffer, except that a guard station, entrance gate, and access drives or utilities may traverse that area in a perpendicular manner when necessary to provide access to the interior portion of the site.

1. No fencing and/or other obstructions shall be located within the required minimum setback or on the property line of the subject development. Any fencing necessary for security, including chain-link or industrial protective fencing, shall be located behind the

minimum setback line and/or any required landscape buffer yard including the Enhanced Forested Buffer, whichever is farthest from the property line, except where necessary for the site security fence to connect to a security booth or controlled entrance. Barbed wire fencing of any kind is not permitted on the subject property.

2. The intent is for the setback and associated landscape buffers to be free of fencing and/or other obstructions and to function as a continuous unrestricted open area to serve as greenbelt perimeter and wildlife corridor around the site.

(2) **Future Industrial District Rezonings**.

(a) The setbacks in this section are based on the Industrial District (IND) boundaries as shown on the Official Upper Allen Township Zoning Map in effect on the date of adoption of this ordinance.

(b) If land is subsequently rezoned to Industrial District (IND) after the effective date of this ordinance, the minimum setback for a Data Centers and Data Center Accessory Use property line located adjacent to:

i. Any residential zoning district boundary or lot containing a sensitive receptor shall be one thousand (1,000) feet; or

ii. Any agricultural, commercial, village, institutional, or office zoning district boundary shall be five hundred (500) feet.

iii. The minimum Enhanced Forested Buffer requirements shall remain the same as established in §245-14.20.5.D.(4).

(3) **Height.**

(a) The maximum height of any principal building or structure shall not exceed sixty-six (66) feet, inclusive of all rooftop appurtenances and rooftop accessory uses. Any increase in principal building or structure height above thirty-five (35) feet shall require each side yard to be increased by two (2) feet for every one (1) foot of added building height, and in the case of more than one principal building on a single lot, the separation distance between buildings shall be increased by two (2) feet for every one (1) foot of added building height. Such height increases shall also require expanded landscape screening and buffer yard plantings containing, at a minimum,

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Type 3 Buffer Yard plantings as established in Chapter 220-5.13, except when the facility is otherwise required to comply with the Enhanced Forested Buffer Requirements as set forth herein. Accessory building or structure heights shall be in accordance with §245-16.2.

(b) Building height shall be measured from the average finished grade surrounding the building to the highest point of the roof, parapet, rooftop enclosure, screening structure, or other rooftop appurtenance.

(4) **Enhanced Forested Buffer Requirements.**

(a) Purpose. The purpose of the Enhanced Forested Buffer is to provide a substantial visual and physical transition between Data Center development and adjacent properties; reduce the visual prominence and perceived scale of buildings and infrastructure; mitigate lighting, noise, and operational impacts; preserve community character; and promote compatibility between land uses.

(b) Performance Standard.

i. The Enhanced Forested Buffer shall be designed to achieve visual opacity at maturity and substantially screen buildings, rooftop equipment, parking areas, loading areas, generators, substations, cooling equipment, fuel storage facilities, and other operational infrastructure from residential zoning districts, Sensitive Receptors, and other adjacent zoning districts.

ii. Minor views of upper building portions above the mature tree canopy shall not constitute noncompliance where the overall screening objective has been achieved.

(c) Base Industrial (IND) District Requirements.

i. Buffer and screening requirements shall apply as required in this Ordinance and the Subdivisions and Land Development Ordinance for properties within the Industrial (IND) District, except as required in association with the increased minimum setbacks established in section §245-14.20.5.D.(1)(b), above.

ii. Where an Enhanced Forested Buffer is required pursuant to §245-14.20.5.D.(1)(b), the requirements of this subsection shall supersede the otherwise applicable buffering requirements of this Ordinance and the Subdivision and Land Development Ordinance.

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(d) General Buffer Design Standards.

i. Buffers shall extend along the full length of the applicable property line and be designed as dense, visually opaque, four-season screens.

ii. Buffers and screens shall combine existing healthy vegetation, preserved woodland, evergreen and deciduous plantings, understory vegetation, structural shrubs, naturalized landforms, and berms to create a layered, year-round screening system that achieves visual opacity at maturity while maintaining a natural woodland appearance.

iii. Plant material may be arranged in staggered rows, clusters, groves, woodland thickets, or other naturalized configurations. Uniform spacing shall not be required. Straight rows shall not be permitted/allowed.

iv. The applicant shall demonstrate that the planting scheme creates multiple vegetation strata sufficient to establish a natural woodland appearance and visual opacity at maturity.

v. The minimum required buffer width may overlap the minimum required setback.

vi. The planting layers and berms shall be designed to account for the full minimum width of the required buffer and associated linear length when achieving the screening intent.

(e) Buffer Components.

i. Woodland Preservation. The preservation of existing mature woodland shall be prioritized whenever feasible as mature vegetation provides immediate screening benefits that cannot be replicated by newly planted material.

ii. Vegetative Layering. The buffer shall include mixed canopy, understory, evergreen, and shrub layers with plant materials distributed throughout the buffer in a manner that creates year-round visual screening and a natural woodland edge. Other layers and grouping include:

1. Canopy Tree Layer
2. Understory Tree Layer
3. Evergreen Screening Layer
4. Structural Shrub Layer

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5. Groves, staggered rows, naturalized groupings, informal planting masses, woodland thickets, and other configurations to create a woodland appearance.

iii. Berms. Berms shall be naturalized in appearance, continuous or segmented, follow irregular alignments, include horizontal and vertical variation, avoid long straight berm segments, and create a woodland edge though the incorporation of one or more principal screening berms and such additional secondary berms as necessary to achieve the intent of this section. The following shall be considered in the design:

1. Maximum side slope: 3:1
2. Height range: 8 - 15 feet
3. Minimum berm top width: 15 feet
4. No straight berm segments exceeding 150 feet.
5. Principal screening berm and secondary berms

iv. Planting Requirements. No specific planting pattern shall be required provided the applicant demonstrates compliance with the minimum plant quantities and intended screening objectives.

1. Rates. Plant material shall be provided at the following minimum rates per 100 linear feet of buffer length and shall be replicated and layered throughout the required buffer to achieve a continuous visual screen across the full buffer width. Planting shall not be limited to a single planting line along one edge of the buffer.

a. Large Evergreen Trees: 8 large evergreen trees a minimum of 10 feet in height at time of planting

b. Small Evergreen Trees: 10 small evergreen trees a minimum of 6 feet in height at time of planting

c. Canopy Shade Trees: 3 canopy shade trees with a minimum of 2.5-inch caliper at time of planting

d. Understory Trees: 3 understory/ornamental trees with a minimum of 2-inch caliper for single-stemmed varieties at time of planting and 8 feet in height for multi-stemmed varieties

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e. Structural Shrubs: 25 structural shrubs with a minimum 3-gallon container size at time of planting

i. 70% of the shrubs shall be evergreen

2. Existing Vegetation and topography. Where existing vegetation and terrain/topography is proposed to remain and meet the intent of the buffer, the location, type, and documented health of trees to remain shall be identified and shall be clearly specified on the Landscape Plan to be considered for credit toward the planting requirements herein. The applicant shall demonstrate through visual impact and site line analysis that the intent of the buffer will be achieved.

3. A minimum of fifty percent (50%) of the required evergreen trees shall consist of species expected to achieve a mature height of at least forty (40) feet. The overall planting design shall be sufficient to achieve substantial year-round visual screening within five (5) years of installation and visual opacity at maturity.

4. The applicant shall demonstrate that substantial visual screening will be achieved within five (5) years of installation and visual opacity at maturity.

(f) Species Diversity Mandate. To ensure long-term buffer survival and prevent monoculture blight, no single plant species shall comprise more than thirty-three percent (33%) of the total plant count within the buffer.

i. Native species are encouraged though non-invasive species suitable for the site may also be utilized to achieve the intent of the screen. Fast-growing but structurally weak or disease-prone species, such as Leyland Cypress (Cupressus × leylandii) or Callery/Bradford Pear (Pyrus calleryana), are strictly prohibited.

ii. Dead, diseased, or damaged plant material shall be replaced within the next planting season.

(g) Alternative Design Compliance. The Board of Commissioners may consider alternative provisions to the standards in this section. Applicants must submit a written justification along with a layout demonstrating the alternative creates equal or superior visual screening, buffering, and mitigation performance. Review by a third-party Registered Landscape Architect selected by the Township shall be required at the expense of the applicant making the request. Any approved design alternatives shall be formally integrated into the final development record and conditions of approval.

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(h) The Applicant shall demonstrate through the Sightline Analysis and Compliance Exhibit that the proposed Enhanced Forested Buffer will achieve the performance standards established herein.

(i) Installation Timing. All required buffer and screening plant material shall be installed following initial site grading so that early growth shall begin during construction. More specifically, whether development occurs in a single phase or multiple phases, the complete perimeter buffer and screen areas must be installed following the installation of the erosion and sedimentation control measures for the initial phase of construction and be completed prior to the installation of any utilities or building footers. The requirement for the early perimeter buffer and screen installation is to ensure that adjacent properties receive immediate and continuous protection from visual and other impacts throughout the project's buildout.

(j) Financial Security. The Applicant shall provide financial security (cash escrow, bond, or letter of credit) prior to Land Development approval to ensure that the requirements of this subsection are satisfied. A surety agreement for landscape maintenance shall be provided in the amount needed to establish the plant material, and following the establishment of plant material, to maintain the landscape required by the approved landscaping plan for five years after the initial installation. The amount of the surety shall be in the amount of at least 125% of the buffer installation costs as approved by the Township Engineer. Once the landscaping has been successfully established, the surety amount may be reduced to that needed to maintain thereafter. The surety will be fully released within five years if plant material is successfully established as inspected and recommended for release by the Township Engineer.

(k) Maintenance. All buffers shall be maintained by the owner(s) in perpetuity for as long as the property remains improved. Any tree that dies or shows signs of severe decline, loses its structural opacity, or no longer contributes to the required visual screening function shall be replaced by the developer and/or owner or shall be considered in violation of the zoning ordinance.

(l) The Setback and Buffer Restriction requirements set forth in §§245-14.20.5.D.(1)(c), shall apply.

(5) **Principal Building Facades.**

(a) Purpose. The purpose of this section is to reduce the visual impacts of large building masses, promote compatibility with adjacent land uses, enhance community

character, and improve the appearance of building facades through the use of architectural articulation, varied building materials, and massing techniques.

(b) Applicability. Where buildings are proposed to be greater than thirty-five feet (35') in height, the standards of this section apply to all principal facades that:

i. face or are oriented towards a public street; or

ii. are located within two hundred and fifty (250') feet of a lot line adjoining any residential, agricultural, commercial, village, institutional, and office zoning district boundary.

(c) Architectural Treatments. Principal building facades shall incorporate architectural treatments designed to reduce the appearance of uninterrupted building mass and visual monotony. Each applicable facade shall incorporate a minimum of three (3) of the following architectural elements:

i. Changes in building materials, colors, textures, or patterns;

ii. Roofline variation, parapet articulation, or changes in building height;

iii. Architectural recesses, projections, reveals, or similar façade articulations;

iv. Horizontal or vertical architectural banding or integrated accent features;

v. Building step-backs, massing offsets, or other dimensional variations;

vi. Decorative or architecturally integrated screening elements;

vii. Distinct treatment of building entrances and administrative office components

(d) Facade Articulation. For any principal building facade exceeding three hundred (300) linear feet in length, facade offsets, recesses, projections, or comparable architectural treatments shall be provided at intervals not exceeding one hundred fifty (150) linear feet.

(e) Compliance with subsection (c) shall not exempt a building from the articulation requirements of subsections (d) and (f).

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(f) No uninterrupted wall plane exceeding one hundred fifty (150) feet in length shall occur without architectural articulation.

(g) Building Materials and Colors.

i. No single building material shall comprise more than eighty (80) percent of any principal building facade

ii. No single color, texture, or exterior surface pattern shall comprise more than eighty (80) percent of any principal building facade.

(h) Material Palette and Glare Mitigation. All exterior materials shall be non-reflective or low-reflectance in order to minimize glare impacts on adjoining properties and public rights-of-way.

(i) Where a building has more than one principal facade, such facades shall be consistent in terms of design, materials, details, and treatment.

(j) Administrative Office Entrances. Each principal building containing administrative or permanent staff offices shall provide a clearly identifiable primary entrance. Such entrance shall be differentiated from the remainder of the facade through architectural accents, material transitions, color variations, projections, recesses, canopies, or other similar design features.

(k) Alternative Design Compliance. The Board of Commissioners may consider architectural alternatives to the standards in this section. Applicants must submit a written justification along with matching north, south, east, and west elevations proving the alternative creates equal or superior architectural interest. Review by a third-party architect selected by the Township shall be required at the expense of the applicant making the request. Any approved design alternatives shall be formally integrated into the final development record and conditions of approval.

(6) **Equipment.** In order to provide visual screening and mitigate noise levels, rooftop and ground-mounted equipment shall be fully enclosed or fully screened as outlined below:

(a) Roof Mounted Equipment.

i. All rooftop mechanical, electrical, cooling, ventilation, communications, utility, backup power, and other sound producing equipment shall be screened by architecturally integrated structures such as parapet walls, mechanical penthouses, rooftop enclosures, acoustic barriers, or similar screening elements compatible with the principal building design.

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ii. Screening shall be provided on all sides of rooftop equipment to the maximum extent practicable while maintaining manufacturer-required ventilating, airflow, fire safety, emergency access, and maintenance access.

iii. Where necessary to achieve compliance with noise and vibration standards of §245-14.20.5.D.(13), rooftop screening structures shall incorporate acoustic mitigation measures including, but not limited to, acoustic barriers, acoustic panels, baffles, acoustic louvers, silencers, or similar treatments.

iv. The height of all rooftop equipment, parapet walls, mechanical penthouses, acoustic barriers, rooftop enclosures, screening structures, and other rooftop appurtenances shall be included in the maximum permitted building height.

v. Rooftop equipment that is or will be visible above the parapet wall shall be set back from the exterior or parapet wall a distance no less than the height of said equipment.

vi. Rooftop equipment and associated screening shall be designed as an integral component of the building architecture including the color palette and glare mitigation and shall not appear as temporary, incidental, or stand-alone additions.

(b) Ground Mounted Equipment.

i. All ground-mounted mechanical, electrical, cooling, utility, backup power, and other sound-producing equipment, including but not limited to chillers, cooling equipment, dry coolers, air-cooler condensers, substations, switchyards, transformers, switchgear, emergency generators, fuel systems, battery energy storage systems, and similar facilities, shall be fully enclosed where technically feasible. Where represented as technically infeasible, the applicant shall demonstrate through manufacturer specifications or engineering documentation that the full enclosure is mechanically, operationally, electrically, or functionally infeasible. Where full enclosure is demonstrated to be infeasible, the equipment shall be fully screened by either of the following means:

1. Located interior to the site and fully screened/surrounded by principal data center buildings; or

2. A landscape buffer screen and acoustic wall that shall substantially obscure ground-level views of the equipment and mitigate equipment noise.

a. The acoustic wall shall extend above the highest portion of the equipment being screened by a minimum of 3 feet unless

an acoustical engineer demonstrates that an alternative height provides equivalent or greater screening and noise mitigation. The acoustic wall materials shall have non-reflective finishes and colors compatible with the principal building and surrounding site improvements.

b. Landscape buffer screen with a minimum width of fifteen (15) feet shall be provided along the exterior perimeter of all ground-mounted equipment and increased to a minimum of twenty (20) feet in width for generators, substations, switchyards and the like. The buffer shall be designed to break up the flat vertical plane of the acoustic wall and must meet the following minimum planting density per one hundred (100) linear feet:

   i. Staggered Evergreen Screen. A minimum of twelve (12) evergreen trees per 100 linear feet arranged in a double-staggered rows. Evergreen trees shall be a minimum height of eight (8) feet at the time of planting and must reach a mature height of at least twenty (20) feet.

   ii. Structural Shrub Layer. A minimum of twenty (20) continuous structural shrubs shall be planted per 100 linear feet along the front base of the tree line to mask the lower 4 to 6 feet of the acoustic wall. Shrubs shall be a minimum container size of three (3) gallons and a minimum height of twenty-four inches at the time of planting.

   iii. Species Diversity Mandate. To ensure long-term buffer survival and prevent monoculture blight, no single plant species shall comprise more than thirty-three percent (33%) of the total plant count within the buffer.

   iv. Native species are encouraged though non-invasive species suitable for the site may also be utilized to achieve the intent of the screen. Fast-growing but structurally weak or disease-prone species, such as Leyland Cypress (Cupressus × leylandii) or Callery/Bradford Pear (Pyrus calleryana), are strictly prohibited.

   v. When an undulating earthen berm ranging from three (3) to five (5) feet in height with a maximum 3:1

slope is integrated into the screen, the minimum required height of evergreen trees at planting may be reduced to 6 feet.

vi. Dead, diseased, or damaged plant material shall be replaced within the next planting season.

vii. Alternative Design Compliance. The Board of Commissioners may consider alternative provisions to the standards in this section. Applicants must submit a written justification along with a layout demonstrating the alternative creates equal or superior landscape buffer and mitigation design. Review by a third-party Registered Landscape Architect selected by the Township shall be required at the expense of the applicant making the request. Any approved design alternatives shall be formally integrated into the final development record and conditions of approval.

ii. Where necessary to achieve compliance with noise and vibration standards of §245-14.20.5.D.(13), variable-speed fans, acoustic barriers, enclosures, silencers, attenuators, acoustic louvers, or other mitigation measures shall be utilized as determined by a qualified acoustical professional and/or qualified vibration professional as applicable.

iii. All equipment, enclosures, screening structures, acoustic barriers, and associated facilities shall utilize non-reflective finishes and colors compatible with the principal building, surrounding site improvements, and overall site design. Bright, fluorescent, reflective, or highly contrasting finishes shall be prohibited. Any security gates, access points, and maintenance openings shall be designed to minimize visual and acoustic impacts.

(7) **Exterior lighting.** In addition to the requirements of §245-16.10, all outdoor lighting associated with a Data Center or Data Center Accessory Use shall comply with the following standards:

(a) A master lighting and photometric plan shall be provided detailing the fixtures and location of all exterior lighting proposed.

(b) Illumination at any property line adjoining a Residential, Agricultural, Village District, or Sensitive Receptor shall not exceed 0.1 footcandle.

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(c) Illumination at any property line adjoining a non-residential zoning district shall not exceed 0.5 footcandle.

(d) Exterior lighting fixtures shall not be mounted higher than twenty (20) feet on a building wall, measured from the average finished adjacent grade, nor more than twenty-five (25) feet above average grade when mounted on poles, unless a greater height is approved by the Board of Commissioners upon a demonstration that the alternative height reduces the number of fixtures required, minimizes light trespass, and provides equal or superior compliance with the standards in this section. All lighting fixtures shall be full-cutoff fixtures designed to direct light downward and toward the interior of the site and to prevent direct illumination and glare of adjacent properties, public rights-of-way, residential zoning districts and sensitive receptors. No fixture shall emit light at or above the horizontal plane.

(e) Dark Sky Standards. The applicant shall demonstrate compliance with Dark Sky principles through the lighting and photometric plans. Outdoor lighting shall:

i. Utilize full-cutoff or fully shielded fixtures;

ii. Be directed downward and away from adjacent properties, public rights-of-way, and the night sky;

iii. Use the minimum illumination necessary to provide safe and secure operations;

iv. Utilize automatic controls, motion sensors, timers, dimming systems, or other methods to reduce lighting levels when areas are not actively occupied;

v. Utilize lamps with a correlated color temperature (CCT) of 3,000 Kelvin or less unless otherwise required for public safety or security purposes; and

vi. Prevent glare, light trespass, and sky glow to the maximum extent practicable

vii. Avoid cool, blue-white light, which is more disruptive to nocturnal wildlife and human circadian rhythms. Warmer light is less likely to be scattered by the atmosphere, reducing sky glow.

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viii. Non-essential architectural accent lighting shall be turned off between 11:00 p.m. and 6:00 a.m., except where required for safety, security, or emergency operations.

(f) At the time of Conditional Use application, the applicant shall submit a conceptual lighting plan identifying the anticipated location, height, and type of proposed exterior lighting and measures proposed to minimize off-site glare and light trespass.

(g) Prior to final Land Development approval, the applicant shall submit a Master Lighting Plan and Photometric Plan demonstrating compliance with the Conditional Use approval and the standards of this Section.

(8) **Parking Requirements**. Data Center and Data Center Accessory Use shall provide a minimum of one parking space for each employee on peak shift, plus one space per vehicle stored on site, plus five spaces for guest parking. Refer to Section 245-17.9 for loading and unloading space requirements.

(9) **Water Supply and Cooling Requirements.**

(a) Prior to Conditional Use approval, a water supply and water use impact analysis/plan shall be prepared by a professional engineer licensed to practice in the Commonwealth of Pennsylvania.

i. The analysis shall identify projected water demand, proposed water source, peak and average usage, initial-fill and testing volumes, conservation measures, reuse or recycling measures, monitoring and leak-detection measures, and potential impacts on public water systems, private wells, groundwater, surface waters, and other users.

ii. The analysis shall include an ongoing monitoring and reporting plan, acceptable to the Township, to verify continued compliance with this section.

iii. The applicant must demonstrate that the proposed cooling method will not adversely affect public water supplies, groundwater, or neighboring users.

(b) **Water.** Except as expressly permitted as an exception in Subsection (d) below, potable water, groundwater, untreated raw water, private wells, and surface water withdrawals shall not be used for Data Center industrial processes or cooling

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systems. Nothing in this subsection shall be construed to authorize routine consumptive or evaporative water use for cooling systems.

(c) **Reclaimed Water Connection.** If permitted, municipal reclaimed water capacity and distribution line, commonly known as "purple pipe," is available to serve the subject property, and connection is approved by the Township and/or another reclaimed water provider, the applicant, owner, or operator may connect to such line and use reclaimed water for any approved non-potable water use associated with the Data Center, including initial filling, flushing, pressure testing, hydrostatic testing, maintenance, landscape irrigation, or other non-potable use approved by the Township and the Pennsylvania Department of Environmental Protection (DEP). Reclaimed water shall not be used for routine consumptive or evaporative cooling-system operation, and nothing in this subsection shall be construed to authorize any cooling method or water use otherwise prohibited by this Chapter. The full cost of extending reclaimed water infrastructure to the subject parcel and making all required connections shall be borne entirely by the applicant, owner, or operator. If the use intends to be served by a permitted reclaimed water supply, the applicant shall submit documentation from the public utility certifying that the capacity is available and the applicable public utility will-serve the public water or reclaimed water as described herein.

(d) **Exceptions.** The restrictions set forth in Subsection (b) above shall not apply to:

i. A public water utility provider performing a one-time, nonrecurring water supply for the initial filling, flushing, pressure testing, and hydrostatic testing of a closed-loop cooling system, provided that such volume is metered, approved, and scheduled by the applicable public water utility provider. If the use intends to be served by a public water supply, the applicant shall submit documentation from the public utility certifying that the capacity is available and the applicable public utility will-serve the public water.

ii. Ordinary domestic water needs, limited to drinking water, food preparation, handwashing, restroom use, and sanitary facilities for on-site employees, contractors, visitors, and occupants.

iii. Mandatory emergency fire suppression systems and other water use required by applicable fire, building, or life-safety codes.

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(e) **Cooling System Requirements.** Once-through cooling systems and high-loss evaporative cooling systems that use potable water as the primary source are prohibited. Data centers shall utilize one or more of the following:

i. Air-cooled systems;

ii. Closed-loop liquid cooling;

iii. Direct-to-chip cooling;

iv. Immersion cooling;

v. Two-Phase liquid cooling;

vi. Hybrid systems designed to minimize water loss;

vii. Or other emerging technologies that demonstrate less or equal water and energy usage as the above technologies and minimize thermal impacts.

(f) The applicant shall provide a sworn statement prepared by a professional engineer licensed in the Commonwealth of Pennsylvania certifying that the proposed cooling system complies with the requirements of this Section. The Township may require independent third-party review at the applicant's expense.

(g) **Chemical Handling, Glycols, and Containment**. The applicant shall describe inspection, maintenance, leak detection, and containment procedures sufficient to protect groundwater, surface waters, and stormwater infrastructure.

(h) **Groundwater Monitoring.** Where groundwater contamination is reasonably anticipated due to site conditions, cooling-system design, chemical use, fuel storage, or other factors, the Township may require groundwater monitoring, testing, reporting, or related protective measures as recommended by the Township Engineer or other qualified professional.

(10) **Wastewater Disposal and Treatment.** Prior to Conditional Use approval, the applicant shall submit a wastewater disposal and treatment analysis/plan prepared by a professional engineer licensed to practice in the Commonwealth of Pennsylvania. The analysis shall identify projected wastewater volumes and characteristics, disposal methods, treatment needs, capacity of receiving systems, required permits and approvals, and potential impacts on public and private wastewater infrastructure. The analysis shall demonstrate compliance with all applicable Township, County, Commonwealth of Pennsylvania, and Federal laws, regulations, permits, and approval requirements.

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(a) Where wastewater generated by the proposed use will be conveyed to a public sewer system or private wastewater disposal system, the analysis shall identify the quantity and characteristics of all wastewater generated on-site and the proposed method of conveyance, treatment, and disposal.

i. If the use will rely upon a private wastewater disposal system, the analysis shall demonstrate that the proposed system has sufficient capacity and will not adversely impact groundwater, surface waters, adjacent properties, or other environmental resources. All required approvals from the Sewage Enforcement Officer, Pennsylvania Department of Environmental Protection, and any other applicable agency shall be obtained.

ii. If wastewater will be conveyed to or treated by a public wastewater system, the applicant shall submit written documentation from the applicable authority certifying that adequate conveyance and treatment capacity exists to serve the proposed use. If upgrades, expansions, improvements, or other infrastructure modifications are required to accommodate the proposed use, all associated costs shall be borne by the applicant, owner, and/or operator.

iii. If chemical treatment, additives, corrosion inhibitors, anti-freeze solutions, glycols, anti-scale agents, or similar materials are utilized, the applicant shall demonstrate compliance with all applicable pre-treatment requirements of the receiving wastewater authority and regulatory agencies. The Township may require on-site pre-treatment facilities, monitoring, sampling, reporting, or other measures necessary to prevent adverse impacts to wastewater conveyance and treatment facilities.

(b) The discharge of untreated wastewater to any storm sewer, stormwater management facility, drainageway, groundwater, or surface water is prohibited unless expressly authorized by an applicable permit issued by the appropriate regulatory agency.

(c) Routine discharge from cooling systems, cooling-system blowdown, or other industrial-process wastewater shall be prohibited unless expressly authorized by this Chapter and approved by all applicable regulatory agencies.

(11) **Thermal Impacts.** Prior to Conditional Use approval, the applicant shall submit a Thermal Impact Mitigation Plan prepared by a professional engineer licensed to practice in the Commonwealth of Pennsylvania. The Plan shall evaluate potential off-site thermal

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impacts associated with the proposed use and identify measures necessary to avoid, minimize, or mitigate such impacts. The Plan shall include, at a minimum, the following:

(a) Identification of the primary sources of potential off-site thermal impacts, including heat plumes, heat discharge, and localized heat island effects, under representative seasonal conditions.

(b) Description of design measures intended to avoid, minimize, or mitigate thermal impacts, including but not limited to equipment siting, screening, landscaping, cool roofs, green roofs, heat barriers, building orientation, paving reduction, or other site design measures.

(c) Evaluation of feasible opportunities for waste heat reuse and beneficial recovery. Where waste heat reuse is determined to be infeasible, the applicant shall identify the reasons therefore and describe alternative mitigation measures proposed to minimize off-site thermal impacts. (e.g., vegetation or green roof and/or site design modifications).

(d) Where required as a condition of approval, the Plan shall include proposed monitoring, verification, reporting, and corrective measures necessary to evaluate the effectiveness of thermal impact mitigation measures.

(e) The Plan shall demonstrate that thermal impacts from the proposed use will not create adverse effects on adjacent properties, public rights-of-way, agricultural operations, vegetation, or sensitive receptors.

(12) **Fuel Storage and Generator Areas.** Any onsite fuel storage tanks, generator fuel yards, and associated fueling facilities shall be considered stormwater management hot spots.

(a) The applicant shall submit a Stormwater Hotspot Management Plan as part of the Land Development and Stormwater Management Plans demonstrating compliance with all applicable federal, state, and local requirements and addressing, at a minimum, the following:

(b) Source isolation, containment, and stormwater management controls designed to prevent contact between stormwater and fuel storage, transfer, and generator equipment;

(c) Secondary containment for tanks, piping, and fueling areas in accordance with applicable regulations;

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(d) Stormwater collection, treatment, and management measures designed to prevent the discharge of petroleum-contaminated runoff to storm sewers, stormwater management facilities, groundwater, or surface waters;

(e) Measures to prevent direct infiltration of untreated runoff from stormwater hotspot areas;

(f) Spill prevention, emergency response, and containment procedures, including consistency with any required Spill Prevention, Control, and Countermeasure (SPCC) Plan; and

(g) Physical safeguards, monitoring, and operational measures necessary to protect public health, safety, groundwater resources, and environmental quality.

(h) Measures to prevent spills or releases during fuel delivery, transfer, fueling, maintenance, and other fuel-handling activities.

(i) Any fuel storage shall be in accordance with applicable PADEP requirements and other state and federal regulations.

(13) **Noise and Vibration.**

(a) **Applicability.** All Data Center noise and vibration standards established within Chapter 181 (Peace and Good Order), Article II (Noise Disturbance), Section 181-2.9, shall govern and control the objective noise limits, performance metrics, and technical enforcement procedures applicable to all Data Center Uses, Data Center Accessory Uses, and the operational components of Battery Energy Storage Systems (BESS) proposed or operating within the Township.

(b) **General Coordination.** The applicant shall demonstrate compliance with all applicable standards set forth in Chapter 181 (Peace and Good Order), Article II (Noise Disturbance), Section 181-2.9, including all dBA, dBC, tonal, impulsive, and vibration thresholds, and any other factors reasonably required as part of the conditional use process. Compliance shall be demonstrated in accordance with the predictive modeling requirements of the Pre-Construction Study, the field-testing verification protocol requirements of the Post-Construction Study, and the successful implementation of any required structural or operational mitigation.

(c) **Pre-Construction Acoustic and Vibration Study Requirements.** Submission of a comprehensive Predictive Acoustical and Vibration Modeling Analysis shall

constitute a mandatory component of the initial Conditional Use application. The study shall be prepared by an Institute of Noise Control Engineering (INCE) Board Certified Engineer and an ANSI National Accreditation Board certified Vibration Professional using applicable ANSI/ASA/ISO standards, successor industry codes, to demonstrate, with a reasonable degree of professional engineering certainty, proactive compliance with the dBA limits, dBC caps, the fifteen (15) dB C-minus-A delta, prominent discrete tone thresholds, and vibration parameters established within Chapter 181 (Peace and Good Order), Article II (Noise Disturbance), Section 181-2.9, either natively or through the inclusion of appropriate engineering, structural, or architectural design mitigation measures. The predictive analysis models shall not leave an un-mitigated exceedance of any threshold set forth in Section 181-2.9. The study shall include the following:

i. **Ambient Baseline Study.** To establish a legal baseline, the application must include an Ambient Baseline Study detailing continuous field measurements taken over a minimum of seven (7) consecutive days at all relevant Receiving Property boundaries and sensitive receptors. The study must utilize one-third (1/3) octave band frequency screening to isolate existing ambient sound profiles.

ii. **Existing Ambient Noise Source Mapping**. The analysis must feature a comprehensive side-by-side tabular and graphical comparison mapping the pre-construction ambient baseline levels, characterizing and identifying noise inputs from any adjacent high-volume transportation corridors, highway networks, rail lines, or established industrial noise sources, against the baseline limits and the Adjusted Limit Formula established in Chapter 181 (Peace and Good Order), Article II (Noise Disturbance), Section 181-2.9. This analysis shall demonstrate, with a reasonable degree of professional engineering certainty, how the facility intends to maintain to the tonal, impulsive, and low-frequency exclusions that are barred from ambient adjustments.

iii. **Three-Dimensional Predictive Modeling.** The predictive model shall incorporate ISO 9613-2 acoustic standards, and peer-reviewed vibration propagation protocols to evaluate the anticipated representative maximum operational capacity of the proposed facility infrastructure, inclusive of scheduled cooling loads and automated preventative maintenance testing cycles, operating under meteorological assumptions including downwind propagation, and ISO-conservative conditions. To ensure year-round

compliance, the modeling software shall execute distinct seasonal variations reflecting representative weather extremes, including:

1. A peak summer meteorological profile characterizing cooling system fan speeds and chiller velocity under full facility load during high thermal conditions; and

2. A winter "leaf-off" environmental profile assuming zero sound attenuation or shielding contribution from deciduous vegetation, tree lines, or seasonal foliage between the facility boundary and all surrounding Receiving Properties

iv. **Geotechnical Vibration Integration.** Ground-borne vibration wave propagation modeling shall utilize site-specific geotechnical boring logs and soil condition data captured from the subject property to maximize predictive modeling reliability for with the VdB and Peak Particle Velocity (PPV) thresholds established in Chapter 181 (Peace and Good Order), Article II (Noise Disturbance), Section 181-2.9.

v. **Simultaneous Peak Operation Assumption.** All noise evaluations, studies, modeling, and compliance determinations shall assume the concurrent operation of all generators, cooling systems, mechanical equipment, and other noise-producing devices operating at maximum rated capacity, unless a more restrictive operating condition is otherwise approved or authorized via Conditional Use approval.

(d) **Mandatory Building and Site Layout Design and Pre-Permit Mitigation Integration.** Mandatory Building Design and Pre-Permit Mitigation Integration. If the predictive modeling indicates that full-scale operation of the proposed facility has the potential to exceed any threshold established within Chapter 181 (Peace and Good Order), Article II (Noise Disturbance), Section 181-2.9, or cause a cumulative background noise increase greater than three (3) dBA over the verified baseline, the applicant shall, at a minimum, integrate structural acoustic and vibration mitigation into the physical building design, and execute civil site layout optimizations. Such layout optimizations may include, but are not limited to, enhanced buffer landscaping, architectural building orientation adjustments, the strategic relocation of ground-mounted equipment, or any other professionally engineered spatial layout modification necessary to satisfy the compliance thresholds of Section 181-2.9. Construction plans, land development plans, and architectural blueprints

submitted for building permit approval must explicitly depict appropriate, industry-accepted mitigation measures, such as:

i. Industrial mufflers, hospital-grade silencers, or active acoustic louvers integrated directly into building ventilation, intake, and exhaust paths where necessary to control airborne sound propagation.

ii. Structurally sound acoustic barriers, perimeter noise walls, or localized equipment enclosures matching or exceeding the height of the primary noise-producing assets to interrupt direct line-of-sight sound paths.

iii. Equipment orientation directives that position major noise-producing components, such as, but not limited to, chiller yards, Data Center infrastructure, Data Center Accessory Uses, and BESS infrastructure, away from adjacent residential zones, utilizing the bulk of the primary building structure where practicable as a natural acoustic shield.

iv. Continuous isolation pads, structural dampening springs, inertia bases, or similar technology beneath heavy cooling equipment, transformers, and emergency backup generators to minimize ground-borne vibration transmission in compliance with Chapter 181 (Peace and Good Order), Article II (Noise Disturbance), Section 181-2.9.

(e) **Post-Construction Verification and Temporary Certificate of Occupancy Protocol.**

i. **Issuance of Temporary Certificate of Occupancy (TCO).** Post construction verification is required prior to the issuance of a final Certificate of Occupancy (CO). The Township Building Code Official may authorize the issuance of a TCO for a maximum period not to exceed ninety (90) calendar days. This TCO shall grant administrative authorization for the applicant to energize the facility, activate testing or operational server infrastructure, and cycle all cooling networks to execute mechanical commissioning, inclusive of the mandatory post-construction acoustic and vibration testing under representative operational loads.

ii. Compliance Testing Window. Within sixty (60) calendar days of the issuance of the TCO, the applicant shall submit to the Township an as-built Post-Construction Study. If it is determined by the as-built study that there is a violation of the requirements set forth in Chapter 181 (Peace and Good

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Order), Article II (Noise Disturbance), Section 181-2.9, the owner/operator shall promptly remediate the violation to achieve compliance as further described below.

iii. **Simultaneous Operation Assumption.** All noise evaluations, studies, and compliance determinations shall assume the concurrent operation of all generators, cooling systems, mechanical equipment, and other noise-producing devices operating at maximum rated capacity, unless a more restrictive operating condition is required by approval.

iv. **Post-Construction Study Requirements.** The Post-Construction Study shall:

1. Be conducted by an Institute of Noise Control Engineering (INCE) Board Certified Engineer and an ANSI National Accreditation Board certified Vibration Professional using applicable ANSI/ASA/ISO standards, successor industry codes. At a minimum, the Noise Measurement Standards and Procedures established in Chapter 181 (Peace and Good Order), Article II (Noise Disturbance) shall apply.

2. Demonstrate compliance with all applicable noise and vibration regulations set forth in Chapter 181 (Peace and Good Order), Article II (Noise Disturbance), Section 181-2.9. Compliance shall be demonstrated using objective sound level limits expressed in A-weighted decibels (dBA) and C-weighted decibels (dBC), measured and evaluated in accordance with standardized methodologies acceptable to the Township.

3. Include sound measurements taken at or within the boundary of representative Receiving Properties where sound levels are expected or measured to be highest, including any additional locations designated by the Township based on community feedback.

4. Include measurements taken during normal operations, peak cooling load, and during the operation of emergency generators under load.

5. Address low-frequency noise impacts, including compliance with the baseline dBC caps and the fifteen (15) dB C-minus-A maximum

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delta set forth in Chapter 181 (Peace and Good Order), Article II (Noise Disturbance), Section 181-2.9.

6. Address continuous ground-borne and structurally induced vibration impacts utilizing the precise testing protocols, measurement axes, and numeric velocity thresholds established within Chapter 181 (Peace and Good Order), Article II (Noise Disturbance), Section 181-2.9.

7. Identify all measurement locations, instrumentation used, calibration documentation, testing methodology, operational conditions during testing, and meteorological conditions in accordance with standard industry practices or equivalent technical protocols accepted by the Township.

8. Provide the Township Engineer, designee, or independent third-party consultants with reasonable, unrestricted access to monitoring data, equipment specifications, and facility operating conditions to verify testing data.

v. **Transition to Final Certificate of Occupancy.** A final, permanent Certificate of Occupancy shall not be issued by the Township, nor shall any remaining financial security be released, until the Post-Construction Verification Study has been formally reviewed, and it has been confirmed that the facility operates in total compliance with all standards established within Chapter 181 (Peace and Good Order), Article II (Noise Disturbance), Section 181-2.9. This determination of compliance shall be made jointly by the Township Building Code Official, the Township Engineer, and the Township Zoning Officer, based upon independent testing, analysis, and data verification Institute of Noise Control Engineering (INCE) Board Certified Engineer and an ANSI National Accreditation Board certified Vibration Professional using applicable ANSI/ASA/ISO standards, successor industry codes agreed upon by the Township, at the cost and expense of the facility owner, operator, or developer.

vi. **Remediation Plan for Non-Compliance.** In the event that the Post-Construction Verification Study reveals a violation of any single metric or standard established under Chapter 181, Article II, Section 181-2.9, the facility shall be deemed in non-compliance with its Conditional Use approval. The owner or operator shall submit a comprehensive engineering

remediation plan within fifteen (15) calendar days of the formal violation finding. The plan shall be prepared by a qualified acoustical and/or vibration professional, at the owner/operator's expense, and must identify appropriate operational or physical mitigation measures, such as reducing equipment loads, modifying fan cycling schedules, or designing localized secondary acoustic barriers, necessary to bring the facility into immediate compliance with this Code.

vii. **Execution of Remediation and Expiration of Temporary Certificate of Occupancy (TCO).**

1. Operational Mitigation. Immediately upon a documented out-of-compliance finding, and no later than the submittal of the 15-day engineering remediation plan, the owner or operator shall implement immediate operational mitigation measures, including reducing equipment load, modifying mechanical cycling, or taking non-compliant components offline, to minimize the active sound or vibration impact on surrounding Receiving Properties during the structural cure period.

2. Interim Mitigation Mandate. If initial monitoring or complaints indicate a probable violation, the Township may order interim operational modifications or temporary curtailment of specific noise-producing activities to stabilize community impacts until structural modifications are complete.

3. Physical Mitigation Window. All physical, structural, or mechanical sound and vibration mitigation measures identified within the approved remediation plan shall be fully constructed, installed, and operational within ninety (90) calendar days of the formal violation finding. Following installation, the facility must pass a mandatory independent re-testing audit consistent with the Post Construction Study, funded entirely by the owner/operator.

4. Conditional Extension. Upon a showing of good cause by the owner or operator, demonstrating that long engineering lead times, specialized manufacturing delays, or weather extremes prevent installation within ninety (90) days, the Building Code Official, with concurrence of the and the Board of Commissioners may grant a single extension not to exceed thirty (30) additional calendar days.

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This extension shall be conditional upon the facility maintaining strict compliance with the interim operational mitigation measures.

5. Permit Expiration and Uniform Construction Code (UCC) Stop-Work Order. If the facility fails to achieve compliance with all thresholds established under Chapter 181 (Peace and Good Order), Article II (Noise Disturbance), Section 181-2.9 upon mandatory independent re-testing at the conclusion of the mitigation window, or if the applicant fails to fully install the remediation equipment within the mandated timelines, the TCO will be subject to revocation.

6. Continuous Enforcement Authority. The timing, execution, or review of the Post-Construction Verification Study shall not preclude or delay immediate enforcement actions or the assessment of penalties by the Township at any time upon the identification of a noise or vibration violation. The applicant shall provide reasonable, unrestricted access to monitoring data, equipment logs, and active operating conditions to the Township Engineer or designated consultants.

7. Complaints and Modifications. The Township reserves the right to require additional, independent noise and vibration testing at the owner's expense upon receipt of formal, written citizen noise or vibration complaints filed with the Township, or following the material modification, replacement, or addition of any mechanical equipment, cooling systems, or electrical infrastructure.

(14) **Hazardous Materials.** Any aboveground or underground storage tank utilized for the storage of fuel, flammable liquids, or otherwise hazardous materials (including secondary diesel storage for emergency generators) shall be set back a minimum of 200 feet from the perimeter property line of the subject development tract, except where a greater setback is required by a more stringent standard established herein. This 200-foot setback restriction shall apply to the tank structure itself, its associated containment dikes, and all high-volume fuel transfer or filling manifolds. This requirement shall be in addition to, and shall not supersede, all applicable Pennsylvania Department of Environmental Protection (PADEP) and National Fire Protection Association (NFPA) safety standards.

(15) **Emergency Management.** Prior to Conditional Use approval, the applicant shall submit an Emergency Response Plan (ERP) prepared by a qualified professional in coordination with applicable emergency service providers. The ERP shall evaluate and address potential emergencies associated with the proposed Data Center and Data Center Accessory Uses,

including but not limited to fire protection, hazardous materials, fuel storage, refrigerants, battery energy storage systems, emergency power systems, spill prevention, emergency access, utility isolation, emergency communications, training, and incident response. The ERP shall demonstrate that adequate procedures, personnel, and resources are available to protect public health, safety, and welfare. The Emergency Response Plan shall be reviewed by the Township Fire Marshal, Township emergency management personnel, and applicable emergency service providers prior to Conditional Use approval

(a) **Purpose.** The purpose of the plan is for the applicant to demonstrate compliance with best practices for emergency management. At a minimum, the ERP shall provide:

(b) **Evidence of Contacting First Responders.** The applicant shall provide evidence of consultation with local first emergency responders and county emergency coordinators to ensure that the ERP is in alignment with acceptable operating procedures, capabilities, and resources prior to conditional use approval.

(c) **Emergency Services Impact Assessment.** Evaluate the impact (positive and negative) of the proposed data center and accessory uses on township emergency services and fire protection. Outline a plan for equipment purchasing, maintenance, ongoing training, staffing, if deficiencies are determined.

(d) **Detailed Procedures.** Include procedures for fire suppression, evacuation, ventilation, containment, emergency notification, and incident response sufficient to protect public health, safety, and welfare.

(e) **Annual Fire Safety Inspections.** Include provisions for annual fire safety inspections demonstrating compliance with fire safety standards to be performed by a qualified professional on behalf of the Data Center and Data Center Accessory Uses.

(f) **Training and Equipment.** The owner/operator shall provide the Township fire department and neighboring Township responders with annual training on firefighting procedures, methods, and possible hazards specific to the designed and built system.

i. As part of the annual training, the owner/operator shall communicate with Township fire department to identify any special equipment that may be required to fight a fire at a Data Center and Data Center Accessory Use in order to meet NFPA standards.

ii. The owner/operator shall identify any specialized equipment reasonably necessary for emergency response and shall provide, fund, or otherwise make available such equipment as required by the Board of Commissioners

upon recommendation of the Fire Marshal and emergency service providers.

iii. Training shall be provided to the responding fire companies and emergency responders at the expense of the owner/operator, and the fire departments shall be trained in their use. Fire Hydrants and Fire Pumps must be utilized and maintained on site in accordance with NFPA standards and guidelines, Township requirements, and approved by the authority having jurisdiction.

(g) **Emergency Situation Communications**. If the Data Center and/or Data Center Accessory Use experiences a failure, fire, leakage of hazardous materials, or other extraordinary or catastrophic event, the owner/operator must notify the Township and Emergency Management Coordinator immediately, but no later than two (2) hours after the extraordinary or catastrophic event. A written follow-up detailing the incident and steps taken to remedy the situation must be provided to the Township and Emergency Management Coordinator within eight (8) hours of the event.

(h) **Hazardous Materials.** Include a detailed map of hazardous material storage, a 24/7 emergency contact hotline, and a description of a "Public Alert System" used to notify residential properties with a 1,000 foot radius of an onsite emergency that poses a potential off-site impact. The applicant shall provide evidence that first-due responders (including Automatic & Mutual Aid agencies) have been made aware of potential for hazardous materials on site and any concerns addressed as part of the plan.

(i) **Fuel Storage.** Provide a statement attesting that all federal and state laws with respect to fuel storage shall be met. This statement shall accompany a Spill Prevention Plan showing at a minimum fuel storage locations, separation distances, containment, leak detection, shutoffs, access routes and security measures. All on-site fuel tanks for generators shall be considered a Stormwater Management Hot Spot. A narrative shall be provided demonstrating how the hotspots will be addressed in stormwater management and land development planning.

(j) **Fire Suppression.** Include fire suppression systems designed specifically for any proposed battery storage or any other device or group of devices capable of storing energy in order to supply electrical energy at a later time and demonstrate compliance with National Fire Protection Association (NFPA) Standard 855, Installation of Stationary Energy Storage Systems, or similar standards.

(k) **Automatic Fire Suppression and Detection.** Include at a minimum an automatic fire suppression and detection system that includes gas monitoring in compliance with NFPA standards.

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(l) **Electrical Shut Off.** Each building must be equipped with a Knox Emergency Electrical Shut-off, to be accessible by fire and emergency personnel in the event of an emergency in order to isolate power to building areas.

(m) **Access.** Design to include at least two (2) means of ingress/egress to the site that are accessible by emergency vehicles and evaluate overall suitable access for emergency equipment to circulate within the site including access to hydrants, etc. Any proposed site access drive shall be a hard-top surface installed for use as fire and emergency vehicle access extending a minimum of 30 feet from the building or structures of concern as identified by the Township and capable of supporting up to forty-five tons. The access drive shall be maintained at all times. Additionally, a minimum 30-foot-wide paved cartway shall be constructed between buildings to accommodate fire and safety vehicles in the event of an emergency; this standard may be required to be increased based on the overall proposed design. These provisions may be modified based on the specifics of the project at the time of Conditional Use approval and incorporated into the findings of fact.

i. Emergency access shall be designed in accordance with applicable fire code, International Fire Code, NFPA standards, Township requirements, and recommendations of the Fire Marshal.

(n) **Security.** The facility shall maintain security measures sufficient to restrict unauthorized access during construction and operation.

(o) **Radio Coverage.** Ensure there is adequate radio coverage for emergency responders within all on-site buildings and facilities, based on existing coverage levels of the township public safety radio communications system exterior to on-site buildings. The applicant shall install enhancement systems, as needed, to achieve compliance.

(p) **Emergency Contact Information**. 24-hour emergency contact signage that is visible at the main entrance of each Data Center building shall be provided. Such signage shall include the company name, the owner/representative's name, the telephone number, and corresponding local power company's name and telephone number.

(q) **Annual Public Safety Meeting.** Annually, the owner/operator will participate in a public safety meeting to review their emergency response plan and emergency management information. The Township may require periodic drills or exercises where warranted based on facility characteristics and emergency response needs such as an annual drill simulating an extraordinary or catastrophic event in

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conjunction with the Township fire department, county public safety personnel, neighboring responding fire departments and operator's facility staff.

(r) **Annual Reports**. The owner/operator must submit a report on or before the 1st of January of each year that includes all of the following:

i. Current proof of insurance shall be a policy of liability insurance in an amount not less than twenty- five million dollars ($25,000,000), naming Upper Allen Township as an additional insured;

ii. Verification of financial security;

iii. A summary of all complaints, complaint resolution, and extraordinary events and how the complaints or issues were reconciled; and

iv. List of updated emergency contact information.

(16) **Electricity Capacity and Power Generation.**

(a) If the applicant proposes to obtain electric service from a public utility or electric transmission provider, the applicant shall submit written documentation from the applicable provider indicating that sufficient transmission and distribution capacity is available, or can reasonably be made available, to serve the proposed Data Center. The documentation shall identify any known infrastructure improvements required to provide service and shall describe any known impacts on electric service availability attributable to the proposed use.

(b) Onsite power generation facilities shall not be permitted as part of a Data Center operation.

(c) This provision shall not apply to emergency backup generators or standby power systems authorized as part of a Data Center or Data Center Accessory Use.

(17) **Emergency Backup Power Sources.**

(a) All emergency power generators and battery energy storage systems shall be limited to emergency, backup, testing, maintenance, and safety-related operations expressly authorized by this Section.

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i. Diesel-fired emergency generators shall comply with applicable U.S. Environmental Protection Agency Tier 4 emission standards and shall be equipped with sound attenuation measures necessary to comply with the noise standards of this Chapter.

ii. Emergency energy generator that uses diesel, gasoline, or other fossil fuel shall be used only at the following times:

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

2. During routine maintenance, readiness testing, inspections, and other activities necessary to ensure reliable operation, provided such operation does not exceed 100 hours per calendar year unless otherwise required by applicable federal or state regulations.

3. If an emergency situation directly affects the health and safety of residents, emergency repairs shall be made immediately.

iii. The owner/operator shall notify the Township as soon as practicable, but no later than twenty-four (24) hours following any emergency event requiring extended generator operation and shall provide any relevant reports prepared by service providers upon request.

iv. The owner/operator shall submit an annual report to the Township by January 31 of each year documenting generator operating hours for the preceding calendar year.

v. Generator testing shall occur between the hours of 10:00 am and 3:00 pm Monday through Friday, excluding federal and state holidays, except during a bona fide emergency or when otherwise required by a federal or state agency.

vi. The use of generator or battery energy storage for peak shaving or supplying power to the grid is prohibited.

vii. The location of emergency generators and battery energy storage systems shall be oriented internally within the site and away from public rights-of-way, adjacent residential zoning districts, and sensitive receptors to the maximum extent practicable. Screening, buffering, landscaping, or other mitigation measures shall be utilized to minimize visual and noise impacts

viii. Battery storage or any other device or group of devices capable of storing energy in order to supply electrical energy at a later time, shall demonstrate compliance with the National Fire Protection Association (NFPA) standards, specifically NFPA Standard 855, Installations of Stationary

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Energy Storage Systems, or similar standards. All such systems must include fire suppression systems designed specifically for battery storage, be UL-certified including UL 2941 (Standard for Cybersecurity of Distributed Energy and Inverter-Based Resources), and follow hazardous material handling protocols.

ix. Battery energy storage systems and emergency generators shall be located a minimum of fifty (50) feet from any public right-of-way or the property line of any adjacent non-participating property. A minimum twenty-five-foot-wide buffer yard and screen shall be provided in accordance with §245-14.20.5.D.(6)(b).

x. Battery energy storage systems shall be identified on all land development plans and emergency response plans and shall include clearly marked emergency shutoff locations accessible to emergency responders.

xi. Disclosure of the full generator inventory is required.

xii. Disclosure of the fuel storage capacity is required.

xiii. Any expansion of the generator inventory requires a new conditional use proceeding/hearing.

(18) **Electronic Waste Management (E-Waste and Recycling).** A plan shall be prepared demonstrating that routine waste, electronic equipment, batteries, hazardous or regulated materials, recycling, storage, transportation, and disposal will be handled and disposed of in accordance with applicable law at an approved disposal site.

(19) **Hazardous Materials Plan**. The Owner/operator shall provide the Township with a Hazardous Materials Plan to the reasonable satisfaction of the Township and in compliance with Federal and/or State Laws.

(20) **Air Quality**. The owner/operators shall provide a statement attesting that all federal and state laws with respect to air emissions shall be met, including the submission of copies of all air quality permits from PADEP.

(21) **Construction Traffic and Roadway Protection**. In addition to the traffic impact study and transportation requirements of Chapters 220 and 245, the following construction traffic and roadway protection requirements shall apply:

(a) **Truck Routes.** The owner/operator shall submit a plan identifying proposed construction truck routes. Proposed routes shall utilize roadways capable of accommodating anticipated construction traffic and shall be designed to minimize impacts on Township roads, residential neighborhoods, schools, and other sensitive

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land uses. The owner/operator shall coordinate proposed hauling routes and construction schedules with the applicable school district(s) to minimize conflicts with school transportation operations.

(b) **Construction Transportation Plan.** Prior to commencement of construction, the owner/operator shall submit a Construction Transportation Plan and enter into a Road Maintenance Agreement acceptable to the Township Engineer and Public Works Director addressing potential damage to Township roads.

(c) **Financial Security**. Prior to commencement of construction, the owner/operator shall provide financial security, in a form acceptable to the Township, for potential damage to Township roads resulting from construction activities. The amount of such security shall be determined by the Township Engineer.

(d) **Pre-Construction Roadway Survey.** Prior to commencement of construction, the owner/operator shall provide a video and written documentation of the condition of Township roads identified for construction access. The survey shall be subject to review by the Township Engineer and shall be used to determine any damage attributable to construction activities.

(22) **Power Lines.** All power transmission or other lines, wires, or conduits from a Data Center, and Data Center Accessory Use to any building or other structure must be located underground at a depth that complies with current National Electrical Code standards, except for power switchyards or the area within a substation.

(23) **Decommissioning.**

(a) Prior to Land Development approval, the applicant shall submit a Decommissioning Plan prepared by a qualified professional for review by the Township Engineer and Township Solicitor. The Decommissioning Plan shall demonstrate the applicant's ability to comply with all applicable decommissioning requirements and shall include provisions for site restoration, removal of equipment and structures, disposal or recycling of materials, estimated decommissioning costs, and the financial security required by this Section.

(b) If a land development plan is not required, such as when retrofitting an existing building, all applicable requirements shall be satisfied during the Conditional Use phase.

i. The Decommissioning Plan shall include the following:

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1. The anticipated useful life of the Data Center and Data Center Accessory Uses;

2. A detailed estimate of decommissioning and site restoration costs in current dollars, including contingency costs;

3. A schedule and timeline for decommissioning activities;

4. A description of the financial security proposed to ensure funding for decommissioning and site restoration;

5. A schedule for updating decommissioning cost estimates and financial security no less frequently than every three (3) years and prior to any transfer of ownership;

6. A detailed scope of work describing removal of structures, equipment, accessory facilities, utilities, fuel storage facilities, batteries, E-waste, refrigerants, generators, mechanical systems, and other related improvements and equipment specifically used for Data Centers, Data Center Accessory Uses, and battery energy storage;

7. Procedures for the removal, recycling, or disposal of hazardous materials in accordance with applicable federal, state, and local requirements;

8. Procedures for safely disconnecting and capping utility connections; and

9. A site restoration plan demonstrating how disturbed portions of the site will be stabilized, revegetated, or otherwise restored to support future lawful use and redevelopment of the property.

(c) Determination of Abandonment:

i. The owner or operator shall submit written notification to the Township if operations are permanently ceased. A Data Center shall be deemed abandoned when it has not been in active operation for a period of twelve (12) consecutive months.

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ii. The Township shall notify the owner in writing of the preliminary determination of abandonment and allow the owner thirty (30) days to respond.

iii. If the owner fails to respond or demonstrates that the facility has not been abandoned, the Township shall issue a final determination of abandonment.

(d) Decommissioning Process:

i. Decommissioning shall commence within sixty (60) days of final determination of abandonment.

ii. All decommissioning work shall be completed within one hundred eighty (180) days of commencement unless a written extension is approved by the Township. Upon request of the owner/operator or assigns, and for a good cause, the Township Board of Commissioners may grant a reasonable extension of time to complete the decommissioning. All decommissioning expenses are the responsibility of the owner, operator, successor, or assigned.

iii. All batteries, fuels, refrigerants, coolants, hazardous materials, and other regulated materials shall be removed from the site and managed in accordance with applicable federal, state, and local requirements.

iv. Data Center building, foundations and subsurface structures shall be removed in their entirety; or to a depth sufficient to accommodate future redevelopment of the site as approved by the Township.

v. All underground utilities shall be removed in their entirety unless otherwise approved by the Township.

(e) Financial Security:

i. Prior to the issuance of grading and building permits, the applicant shall provide financial security in the form of a cash escrow account, performance bond, irrevocable letter of credit, or other security acceptable to the Township.

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1. The financial security shall be in an amount equal to one hundred twenty-five percent (125%) of the total estimated decommissioning and restoration costs.

2. Financial security shall remain in effect until decommissioning and restoration are completed to the satisfaction of the Township.

3. The financial security shall be reviewed and updated prior to any sale of the property or transfer of ownership and/or every three (3) years (whichever shall occur first) to account for inflation and changes in estimated costs.

4. If the owner fails to complete decommissioning within the specified period, the Township may draw upon the financial security to complete the decommissioning and restoration.

5. The approved Decommissioning Plan shall be recorded in a form acceptable to the Township Solicitor so that its obligations run with the land.

(f) Forms of financial assurance:

A cash escrow account, irrevocable letter of credit from a financial institution chartered or authorized to do business in Pennsylvania and regulated and examined by a Federal Agency or the Commonwealth, surety bond executed between the grantee and a corporate surety licensed to do business in Pennsylvania, or other form of financial security as may be acceptable to the Township.

(g) Transfer of Ownership:

i. The requirements of this Section shall run with the land and shall be binding upon future owners, successors, and assigns.

ii. Prior to transfer of ownership, the new owner shall provide updated financial security to the satisfaction of the Township.

iii. Any transfer of ownership shall not relieve the owner or operator of responsibility for compliance with this Section until all required approvals

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have been obtained and replacement financial security has been accepted by the Township.

(24) **Cease Operation and Site Restoration.** Upon cessation of operations, abandonment, or commencement of decommissioning activities, the owner or operator shall:

(a) Conduct any environmental assessment reasonably necessary to identify contamination or environmental conditions associated with operation of the facility and decommissioning activities. Prioritize the recycling or responsible disposal of decommissioned hardware and materials to reduce environmental impact and partner with certified e-waste recycling facilities to ensure proper handling and recycling of electronic components.

(b) Remove, recycle, or properly dispose of electronic equipment, batteries, fuels, refrigerants, coolants, hazardous materials, and other regulated materials in accordance with applicable federal, state, and local requirements.

(c) Maintain comprehensive documentation of the decommissioning process, including records of data sanitization, hardware disposal, and environmental compliance. Retain audit trails to demonstrate adherence to best practices and regulatory requirements.

(d) Notify Township public safety and emergency management personnel of any changes in facility occupancy, operating status, or decommissioning activities.

(25) **Threatened and Endangered Species**.

(a) PNDI. A Pennsylvania Natural Heritage Program study (PNDI Receipt) dated within two (2) years of the submission of an application for conditional use/special exception or subdivision and land development, whichever is first, as well as any state agency clearance letters required thereby, shall be provided to the municipality.

(b) Compliance. The applicant shall comply with all measures directed by the clearance letters to avoid, minimize, or mitigate impacts to endangered, threatened, and special concern species and their habitat.

(26) **Riparian Forest Buffer Area.** Data Centers and Data Center Accessory Uses are subject to the requirements of this Section must satisfy the stricter of the requirements of this Section, or of 25 Pa. Code 102.14, Riparian Buffer Requirements.

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(a) For purposes of this Section, a riparian buffer is an area of permanent vegetation along a waterway that is left undisturbed to allow for the natural succession of native vegetation. A riparian forest buffer is a type of riparian buffer that consists predominantly of native trees, shrubs, and forbs, providing at least 60% uniform canopy cover.

(b) Where the project site contains, is along, or is within 150 feet of a perennial or intermittent river, stream, creek, lake, wetland, floodplain, pond, or reservoir, whether natural or artificial, the use will be subject to the requirements of this Section and shall, in accordance with the requirements of this subsection, do one of the following:

i. Protect an existing riparian forest buffer

ii. Convert an existing riparian buffer to a riparian forest buffer

iii. Establish a new riparian forest buffer

iv. Where a riparian forest buffer exists, it shall be left intact to meet the width requirements in subsections (d) and (e). An existing riparian forest buffer need not be altered to establish individual Zones 1 and 2 under subsection (g).

(c) Riparian buffers that consist predominantly of native woody vegetation that do not satisfy the composition requirements for a riparian forest buffer in subsection (a) or the width requirements in subsections (d) and (e) shall be enhanced or widened, or both, by additional plantings in open spaces around existing native trees and shrubs to provide at least 60% uniform canopy cover for the required width and shall be composed of zones in accordance with subsection (g). On sites without native woody vegetation, a riparian forest buffer providing at least 60% uniform canopy cover shall be established to meet the width requirements in subsections (d) and (e) and be composed of zones in accordance with subsection (g).

(d) The width of the riparian forest buffer shall be a minimum of 100 feet on each side of the water body as measured from the top of the bank. The boundary of the buffer shall follow the natural streambank or shoreline.

(e) Measured within the 100-foot buffer, the following additional distances shall be added to the minimum width of the riparian forest buffer:

i. 10 feet if the average slope is 10-15%,

ii. 20 feet if the average slope is 16-17%,

iii. 30 feet if the average slope is 18-20%,

iv. 50 feet if the average slope is 21-23%,

v. 60 feet if the average slope is 24-25%, or

vi. 70 feet if the average slope exceeds 25%.

(f) In the case of the presence of a nontidal wetland or vernal pond wholly or partially within the riparian buffer area, an additional 25 feet shall be added to the width of the riparian forest buffer area for that portion of the buffer area along the wetland, floodplain, or pond.

(g) A new riparian forest buffer or a converted riparian forest buffer shall be composed of zones as follows:

i. Zone 1 shall begin at the top of the streambank or normal pool elevation of a lake, pond, or reservoir and occupy a strip of land 50 feet in width, measured horizontally on a line perpendicular from the top of the streambank or normal pool elevation of a lake, pond, or reservoir. Predominant vegetation must be composed of a variety of native riparian tree species identified in Appendix C.1 of the PA Department of Environmental Protection Guidance Document 394-5600-001, entitled Riparian Forest Buffer Guidance.

ii. Zone 2 shall begin at the landward edge of Zone 1 and occupy an additional strip of land a minimum of 50 feet in width, measured horizontally on a line perpendicular from the top of the streambank or normal pool elevation of a lake, pond, or reservoir. Predominant vegetation must be composed of a variety of native riparian trees and small tree/shrub species identified in Appendix C.1 of the PA Department of Environmental Protection Guidance Document, 394-5600-001, entitled Riparian Forest Buffer Guidance.

(h) No earth disturbance, land development, or storing or stockpiling of materials shall occur within the riparian forest buffer area.

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(i) In the management of riparian buffers, noxious weeds and invasive species shall be removed or controlled to the greatest extent possible.

(j) Existing, converted, and newly established riparian buffers, including access easements, must be protected in perpetuity through deed description, conservation easement, permit conditions, or any other mechanisms that ensure the long-term functioning and integrity of the riparian buffer.

(k) The riparian buffer shall be designated on the final subdivision and/or land development plan.

Section 4 – **Severability**. The provisions of this Ordinance are severable. If any section, subsection, sentence, clause, or provision of this Ordinance is held to be invalid, unlawful, preempted, or unconstitutional by a court or agency of competent jurisdiction, such decision shall not affect the validity of the remaining provisions of this Ordinance, which shall remain in full force and effect. The Board of Commissioners hereby declares that it would have enacted this Ordinance, and each section, subsection, sentence, clause, and provision thereof, irrespective of the fact that any one or more sections, subsections, sentences, clauses, or provisions be declared invalid.

Section 5 – **Repealer**. All ordinances or resolutions or parts thereof, insofar as they are inconsistent herewith, shall be and the same are hereby repealed.

Section 6 – **Effective date**. This ordinance shall become effective immediately.

ORDAINED AND ENACTED INTO ORDINANCE this ____ day of _____, 2026.

WITNESS:

_____
Secretary

TOWNSHIP OF UPPER ALLEN

_____
Eric Y. Fairchild, President
Board of Commissioners

ATTESTED this ___ day of _____, 2026

_____
Joshua D. Bonn, Solicitor
Upper Allen Township

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