

Overlay District for Data Centers Brantley County Board of Commissioners

DRAFT

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Overlay District

The Overlay District for Data Centers is established to provide for the development of data centers, research and development facilities, and associated accessory uses only. This district shall provide areas specifically suited for data processing, storage, and technology infrastructure facilities of varying scales, from small, single-building operations to large multi-building campus development. Such uses typically require access to electrical and communications utilities, enhanced cooling systems, and secure environments. They may generate visual, noise, or utility impacts that distinguish them from conventional industrial activity. The land uses with additional accessory uses shall be set forth as shown below:

Definitions

Closed-Loop Cooling System: Chilled air that is injected into small, targeted individual server racks. The system restricts airflow to a small area and directs it toward the IT equipment.

Cooling Tower: A system that removes heat from the IT equipment by using evaporative cooling, circulating water to dissipate heat, and maintaining optimal temperatures.

Dark Sky Design: The practice of creating outdoor lighting that minimizes light pollution and maximizes visibility of the night sky. Fixtures are designed to direct light downward to the ground rather than upward to the sky, reducing glare and improving visibility.

Data Center Campus: Used for offices, educational, or industrial environments. Provides widespread connectivity and user convenience. A singular development that has more than one (1) data center, or a physical room, building, or facility that houses infrastructure for building, running, delivering, or transmitting applications and services, or for storing and managing the data associated with those applications or services. A data center campus shall be at least 500,000 square feet.

Data Center, Major: A physical room, building, or facility that houses infrastructure for building, running, delivering, or transmitting applications and services, or for storing and managing the data associated with those applications or services. A major data center shall be between 100,000 and 500,000 square feet.

Data Center, Medium: A physical room, building, or facility that houses infrastructure for building, running, delivering, or transmitting applications and services, or for storing and managing the data associated with those applications or services. A medium data center shall be between 20,000 and 100,000 square feet.

Data Center, Minor: A physical room, building, or facility that houses infrastructure for building, running, delivering, or transmitting applications and services, or for storing and managing the data associated with those applications or services. Minor data centers shall

be under 20,000 square feet and do not require a substation. A minor data center may be included as an accessory use if it is under 2,000 square feet.

Fire Suppression: A proactive approach to fire safety that detects fires early and applies measures to control or extinguish them.

Geothermal (Power) Energy Source: Geothermal energy is a renewable resource with a range of potential uses, from heating and cooling enabled by thermal storage properties just tens of feet deep to reliable, flexible electricity generation from heat found thousands of feet, or even miles, below the surface.

Foot-Candle: The illuminance on the inside surface of a one-foot-radius sphere from a point source of one candela at its center. Also defined as one lumen per square foot.

Gray Water: Water that is not potable but is used for non-potable purposes, such as cooling systems.

High-Density Load Service: An electrical service with a monthly average demand exceeding 300 kilowatts or an average power density of 250 kilowatt-hours per square foot per year.

Lithium-Ion Battery Suppression: The process of preventing the formation and growth of lithium dendrites within batteries.

Lithium Dendrites: Needle-like structures of lithium metal that can grow uncontrollably, posing significant safety risks and degrading battery performance.

NFPA Standards: Safety Standards for fire sprinklers in data centers. These standards ensure data centers have appropriate fire detection and suppression systems to mitigate fire risks effectively.

Nuclear Regulatory Commission: An independent agency responsible for regulating the civilian use of nuclear materials and ensuring safety in nuclear energy operations. It oversees the licensing and operation of nuclear reactors and facilities, ensuring compliance with safety standards and regulations.

Public Service Commission: A regulatory body that oversees utilities, including electric, gas, and water services, which are essential for data centers. The PSC ensures that these utilities provide reliable service to data centers within their jurisdiction, often setting rules and rates that affect operational costs and infrastructure development.

Server Farm: A collection of interconnected servers designed to handle large-scale computing tasks and services, usually collocated in a single physical facility, and work together to provide shared resources, such as web hosting, database management, and application hosting.

Small Nuclear Reactor (SMR): A compact nuclear power plant designed to provide reliable, low-carbon energy to data centers. These reactors can be deployed with a smaller footprint than traditional nuclear plants, making them suitable for the energy-intensive needs of modern data centers.

Sound Attenuation: The gradual loss of sound intensity as it travels through a medium, primarily due to absorption and scattering. Sound attenuation is usually measured in **decibels (dB)**, which quantify the reduction in sound energy.

Transitional Buffer: A designated area that serves as a protective barrier between different land uses or developments. A gradual shift in land use that minimizes conflicts and negative impacts on adjacent communities.

Permitting Requirements:

A committee shall be established to review the plans for a proposed Data Center and ensure that all requirements of this ordinance are met. They will also monitor required report submittals and related activities to ensure the Data Center remains in compliance with these regulations. The committee shall include one member from the Brantley County School Board, one member from the Development Authority, one member from the Brantley County Planning Commission, and two members from the Brantley County Board of Commissioners. The County Commission shall appoint the committee.

- (a) A DRI (Development of Regional Impact) Process shall be followed. This must be submitted to the SGRC (Southern Georgia Regional Commission) in Valdosta, Georgia, before any building permit or rezoning application is submitted.
- (b) A Land Disturbance Permit shall be applied for through the Georgia Soil and Water Conservation Commission (GSWCC)-Satilla River Conservation District and shall follow the manual for Erosion and Sediment Control in Georgia requirements before any building permit or land clearing.
- (c) The applicant shall be required to apply for the Overlay District for the subject property to meet the requirements of this ordinance. The zoning district for the Overlay District to be applied to shall be subject to approval of the Planning Commission and the Board of Commissioners. Approval is subject to a public hearing and the zoning process through the Brantley County Planning Commission and the Board of Commissioners.
- (d) A business license (Occupation Tax) must be obtained before operations commence. Upon renewal, the owner and/or operator must provide all application

documentation demonstrating annual compliance with and monitoring of all application requirements.

- (e) The applicant must submit an electrical impact assessment (Energy Consumption Plan) from the local power provider, ensuring sufficient capacity without disrupting the service area. This shall also include a Transmission Line Impact Assessment. This will occur after the zoning permit is approved. If the proper zoning is already in place, this will then occur during permitting approval.
- (f) The applicant must submit a sound study (Noise Impact Assessment) showing that all of the Georgia Public Service Commission Data Center Rules and Regulations will be met. This will occur during the permit stage.
- (g) The applicant must submit a proposed Water Consumption and Sustainability Plan. This shall include an analysis of raw water requirements and the specified quantity. It shall also include a fire flow demand assessment. If public water is used, a letter from the Public Works Department indicating sufficient capacity to serve the proposed Data Center shall be attached. This will occur during the permit stage.
- (h) The applicant shall submit a plan detailing the methods to reduce water demands. The plan shall also include how operations will be altered during water disruptions, significant drought events affecting water supplies for critical facilities, or emergency periods of water shortage.
- (i) The applicant shall submit a Sewer Update Plan. This will occur during the permit stage.
- (j) The applicant shall submit a stormwater drainage plan during the permitting stage.
- (k) The applicant must submit a Lighting Plan. This will occur during the permitting stage.
- (l) The applicant shall submit a Tree Preservation Plan. This will occur during the permitting stage.
- (m) If the proposed site will have wetlands on the property, proof of permitting from the Army Corps of Engineers will be required.
- (n) Proof of compliance with fire safety codes (including fire suppression), lithium battery suppression, and all environmental standards must be submitted before permit approval.
- (o) The applicant shall submit a traffic study for the development. The study shall comply with the Georgia Department of Transportation (GDOT).
- (p) The Board may require any other agreement deemed necessary.

Redevelopment Permit Requirements

A new permit will be required if the following apply:

- (b) The redevelopment replaces or repurposes obsolete or inactive facilities with a Medium, Major, or Campus data center use that complies fully with these supplemental regulations;
- (c) The redevelopment expands the site's total impervious surface area or building footprint by more than fifteen (15) percent beyond existing conditions;

- (d) The applicant will submit all required technical plans and studies as required by (Application Requirements), and the Land Disturbance Permit application to be reviewed administratively by the Brantley County

Permits for Alterations or Expansions

All existing permitted Data Centers shall obtain a new building permit for any alterations or expansions.

Site Requirements

Setbacks:

- (a) All principal and accessory structures associated with a Data Center operation shall be set back a minimum of 75 feet from all property lines within a DC Zoning District, except those adjacent to residential or agricultural properties.
- (b) If the adjacent property is zoned or used for residential or agricultural purposes, the setback shall be increased to 500 feet.
- (c) If a state highway or major arterial road borders the property line, the required distance between a development and a residentially zoned property may be reduced to 300 feet along the property line where the roadway is located;
- (d) No equipment, fencing, structures, or parking areas may encroach into the required setbacks.
- (e) Distance shall be measured from the edge of any building, substation, private driveway, or parking lot to the nearest property line.

Maximum Building Coverage:

- (a) 50% maximum total building coverage as a percent of total area.

Maximum Building Height:

A building shall not exceed a height of 75 feet, measured from the structure pad level. A height limitation shall not apply to accessory structures, such as water towers, conveyor belts, HVAC equipment, generators, and other incidental and uninhabited parts of the structure. The Building and Zoning Department may allow taller elements upon demonstration of a technical or mechanical necessity.

Minimum Road Frontage:

125 feet

Buffers and Screening:

- (a) A **minimum 125-foot-wide landscaped buffer** shall be installed and maintained along all property boundaries adjacent to residential, agricultural, or public-use properties. This buffer shall consist of:

- A double row of evergreen trees (minimum height: 6 feet at planting), planted on 10-foot staggered centers, or a combination of berms and fencing, with evergreen screening that reaches at least **8 feet in height** at maturity.
- A solid, opaque fence at least **8 feet in height** may be used in combination with plantings to meet the buffer requirement, subject to approval by the Brantley County Building and Zoning Department.
- No buffer is required along shared property lines with other data center or industrial uses, but a **minimum 10-foot maintenance strip** shall be kept clear.
- All servers, computers, processors, materials, and equipment must be enclosed within buildings. These buildings will be subject to the commercial design standards.
- Air conditioning units, HVAC systems, and electrical generators shall be thoroughly screened from view by using walls, fencing, roof elements, or landscaping, and from the public right-of-way and adjacent properties by using walls, fencing, roof elements, or landscaping. They shall be located not less than one hundred (100) feet from adjacent property lines.
- Major and Campus data centers shall maintain a minimum transitional buffer of 100 feet along all property lines abutting any properties used or zoned non-industrial and shall be enclosed by a freestanding wall with a minimum height of 8 feet, and such a wall shall provide a five (5) to ten (10) dB sound attenuation if any supporting mechanical systems are located outside of a building;
- Major data centers and Campus data centers shall provide a 20-foot-wide landscaped buffer along all property lines with a minimum 10-foot-high wall with sound attenuation in compliance with the requirements of 2(a). One canopy tree shall be planted for every 30 feet of property frontage if the subject site abuts publicly accessible right-of-way or non-industrially zoned properties. These improvements shall be located within the required 100-foot transitional buffer described above.

Dumpsters:

Any dumpster or trash enclosure shall follow the screening and buffer requirements.

Ingress and Egress:

- (a) Driveways and entrances shall be located to minimize disruption to neighboring properties and must comply with the Georgia Department of Transportation (GDOT) Access Management Regulations.
- (b) Entrance areas are exempt from buffer plantings, but must maintain all sightlines and safety standards.

Lighting Plan:

A Lighting Plan shall show compliance with “Dark Sky design” principles, demonstrating that there shall be no spillover from the fixture onto surrounding properties. The lighting plan shall be submitted with a permit application to demonstrate compliance with these requirements.

Exterior illumination shall be shielded, downcast, and luminously designed to maintain the existing night sky darkness and to prevent light trespass onto adjacent properties. To obtain that objective, the following criteria shall be met:

- (a) No direct light shall be cast beyond property lines or into adjacent residential or agricultural areas.
- (b) All fixtures shall be full cut-off type fixtures.
- (c) Light poles shall be no taller than 25 feet in height.
- (d) All light poles must be set back a minimum of 10 feet from any exterior property; provided, however, that light poles should not be located in any required buffer area.
- (e) Maximum foot-candles at the property line shall be 0.5.
- (f) All exterior lighting shall be positioned so as not to create glare to any residential property or public street.
- (g) A photometric lighting plan that shows conformity with these requirements may be required by the Building and Zoning Department as part of any building permit application.

Mechanical Equipment:

Property owners shall screen mechanical equipment, whether roof- or ground-mounted, visible to adjacent property or roads, using opaque fences or walls. Mechanical equipment includes, but is not limited to, meter boxes, utility conduits, HVAC equipment, vent and exhaust pipes, and cooling towers. Where airflow is desired, perforated brick walls and other methods may be considered.

Parking:

Data Centers have minimal onsite staff, usually operating with a small number of employees present at any given time. This will significantly reduce the need for extensive parking facilities or spaces. Therefore, two parking spaces per total number of employees, part-time and full-time, to include all HVAC, electrical, plumbing, security guards, IT personnel, etc., shall be provided.

Stormwater Management Plan:

A Stormwater Management Plan shall address how the site’s development and operation shall be managed for stormwater runoff, as well as any mitigation measures to prevent adverse impacts on local water systems.

Sewer Plan: A Sewer Plan shall evaluate and include:

- Actual and expected daily sewerage flow;
- Identify potential or planned sanitary sewer capacity projects;
- An on-site treatment plan, including any necessary equipment to
- Conduct trace analyses and consistent monitoring of chemical use for on-site water preparation and treatment;
- An analysis of the community's treatment system, or a private treatment system, to determine whether either has adequate capacity to serve the forecasted growth, or has programmed improvements to add capacity to accommodate the forecasted growth;
- Clear indication of pipe size, material type, percent grade, and length of all pipes;
- A utility plan with direction of sewer flow;
- Disclose pretreatment or discharge permit request, if any effluent leaves the closed system and flows into sanitary or storm sewers. Refer to the Brantley County Watershed Protection Plan (BCWPP) Satilla River Conservation District (Satilla River Sub-basin of the St. Marys-Satilla basin) and the Georgia Department of Natural Resources Watershed Protection Branch.
- Submit a Closure and Disposal Plan at decommissioning covering treatment systems, chemical waste, and related infrastructure;
- Disclose Water Usage Effectiveness (WUE) target or performance metric.

Structural & Aesthetic Standards:

- (a) All buildings on the site shall be limited to earth-tone exterior colors or finishes, such as beiges, tans, greens, browns, and similar tones, on all exterior elevations. Brick, stucco, or concrete siding is required. Brantley County Building and Zoning shall review these requirements during the building permit plan review process for compliance with this section.
- (b) All facilities shall have permanent foundations and be constructed with durable materials in muted, non-reflective colors.
- (c) Shipping containers shall not be used for storage of any kind.

Substations:

For this section, a substation shall be screened so as not to be visible at ground level from any adjoining property or public street. The method of screening shall be determined at site plan review, but shall meet the requirements of this ordinance. No storage of vehicles or materials shall be permitted within the substation area.

Tree Preservation and Reforestation Plan:

A Tree Preservation and Reforestation Plan shall outline efforts to minimize tree removal and enhancement of urban forestry efforts, especially when transmission lines cross public land or park areas.

Water Consumption and Sustainability Plan:

A Water Consumption and Sustainability Plan shall address conservation and scarcity, outline the data center's total water requirement, including cooling needs, and identify strategies to reduce or mitigate excessive water use, as determined by the Board of Commissioners or any other issuing authority. The plan shall demonstrate that water use will not significantly strain the public water supply. The Water Consumption and Sustainability Plan shall specifically evaluate:

- (a) The vulnerability of the project and project site to water scarcity and drought.
- (b) Disturbance of public services (i.e., transport, communication, sanitation, fresh water, and electricity supply).
- (c) Identify any drought monitoring and forecasting systems that exist in the project area.
- (d) Proposed water scarcity/drought management measures to alleviate risk, including water storage, alternative sources, and reduced use of resources.
- (e) The adoption of advanced low-water or water-free cooling systems that align with the regional drought and water scarcity planning, and with the Watershed Protection Plan.

Wells:

If public water is available, the developer shall tie in to the system. However, if public water is unavailable, wells may be installed in accordance with the Environmental Protection Division (EPD) Georgia/Brantley County Environmental Health regulations.

Wells shall be metered to provide the county with the amount of water used. A smart water meter device shall measure water usage digitally and automatically transmit data to the user. These meters will detect abnormal consumption patterns, set usage alerts or thresholds, and allow quick corrective actions when overuse is detected. This will help in determining how much water can be used during the drought season. A withdrawal cap will be determined during permitting and shall be approved by EPD and the Board of Commissioners for each individually owned data center.

Sewer:

If a public sanitary sewer system is not available, a septic system may be installed in accordance with the State of Georgia/Brantley County Environmental Health regulations.

Additional Information:

Any additional information required by the Brantley County Watershed Protection Plan (BCWPP), Department of Public Safety, Department of Fire and Rescue, Department of Public Works, the Building and Zoning Department, and any other department as requested.

Operational Standards

Closed-Loop Cooling and Gray Water Use:

Closed-Loop Cooling System

Brantley County will require all data center developments to utilize closed-loop cooling systems, eliminating evaporative water consumption. This is consistent with the emerging industry standard being adopted by jurisdictions nationwide as data center scale and density increase. Closed-loop dry coolers and hybrid adiabatic systems reduce water dependency to near zero, eliminating strain on the water supply and simplifying permitting. The trade-off is a moderately higher PUE (typically 1.30 – 1.50 vs. 1.20 – 1.30 for open evaporative systems) and approximately 5 – 15% higher cooling infrastructure capital cost, which is reflected in the estimates below.

Development Estimates

All estimates reflect a phased hyperscale campus delivering 800 MW of critical IT load on a 650-acre greenfield site in southeast Georgia with closed-loop cooling. Low, mid, and high ranges account for variation in density, construction methodology, power delivery schedule, and AI workload mix.

Parameter	Low	Mid	High	Key Assumptions
CAMPUS & BUILDING SPECIFICATIONS				
1. SF per data hall building	200,00 SF	325,000 SF	5000,000 SF	Gross bldg. SF incl. mech/elec. Closed-loop adds 5% SF for dry cooler yards.
2. Number of data buildings	8	14	22	80-100 MW/bldg. (low) to 36 MW/bldg (high). Fewer, larger = faster delivery.

3. Total campus SF (all structures)	2.2 M SF	5.3 M SF	9.5 M SF	Includes CUPs, substations, admin/NOC, dry cooler yards +20-25% over data halls for closed-loop.
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A closed-loop cooling system shall be used to improve energy efficiency and maintain IT equipment within a safe operating temperature range. These systems recirculate cooled air directly to the servers, ensuring the air conditioning unit cools only the area where it is needed. This will improve cooling energy efficiency. Closed-loop systems are less prone to catastrophic failures caused by coolant leaks.

While upfront costs will be higher, they may be offset by lower operating costs. A closed-loop system can cause the rest of the server room to heat up. Secondary cooling systems would need to be installed to cool the remaining server space so technicians can work. The secondary systems would need to operate only when technicians are present.

A cooling tower in a data center is designed to manage the significant heat generated by servers, storage devices, and networking equipment. It operates on the principle of evaporative cooling, where warm water from the data center is pumped to the top of the tower and exposed to ambient air. As some of the water evaporates, it absorbs heat, cooling the remaining water, which is then recirculated back to the data center to absorb more heat. Therefore, no processed and/or contaminated materials shall be dumped.

Glycol Contamination:

Glycol contamination in a closed-loop system can lead to costly downtime, equipment failure, and safety hazards. Proactive monitoring, correct glycol selection, and consistent treatment are critical to maintaining the system's efficiency, longevity, and compliance.

Ethylene glycol or automotive antifreeze shall never be used in a Data Center. Only less toxic propylene glycol shall be used.

Detection and Testing:

Regular glycol testing is essential to catch contamination early. The following are test requirements:

- Glycol concentration and freeze points: to ensure proper protection
- pH and alkalinity: to monitor corrosion risk
- Corrosion metal analysis: for iron and copper

- Inhibitor levels: for phosphate, nitrite, molybdate, azoles
- Specific conductance and contamination review

Prevention and Treatment:

- Use the correct glycol type for the system and application
- Maintain proper inhibitor levels to prevent acid formation
- Control microbial growth with biocides and regular cleaning
- Seal system boundaries to prevent cross-contamination
- Train maintenance staff on glycol handling and system chemistry
- Schedule regular testing and treatment to restore chemical balance

Gray Water Use

Gray water shall be required for the cooling system. Integrating graywater recycling in data centers is a significant step toward safer, more sustainable operations. Using gray water will help conserve freshwater resources by reducing water consumption and further protecting the environment. It will also reduce a data center's operating costs. The developer may need to co-locate the data center with a wastewater treatment plant to facilitate gray water use.

Electrical Infrastructure and Safety

- Before issuance of a building permit or business license, the applicant shall provide written verification from the power provider (Okefenokee Rural Electric Company) that the applicant has calculated the maximum potential electrical consumption of the proposed use and has verified that the utility supply equipment and related electrical infrastructure are sufficiently sized and can safely accommodate the proposed use during the power provider's peak consumption hours.
- All electrical installations must pass a third-party inspection before a Certificate of Occupancy is issued.
- Lighting Plan:** A Lighting Plan shall show compliance with “Dark Sky.” design principles, demonstrating that there shall be no spillover from the fixture onto surrounding properties. A conceptual lighting plan shall be submitted with the SLUP application. A complete lighting plan shall be submitted with a Land Development Permit application to demonstrate compliance with the requirements of Section 3, Item 7 of these regulations.
- Transmission Line Impact Assessment:** A Transmission Line Impact Assessment shall identify the need for new or upgraded transmission lines to meet the data center’s electricity requirements. This assessment shall include the potential environmental impact on public and private land, including the removal of trees from county-owned land and rights-of-way. This plan shall also include

information on the location of the planned substation. It shall show the screening mechanism(s), which shall consist of a minimum of an eight (8) foot tall decorative brick wall if potentially visible by the public. Screening shall be consistent with Section 4-7.5 of these regulations.

Environmental Standards

- (a) Operations must not emit dust, smoke, glare, heat, or humidity that is detectable beyond property lines.
- (b) Cooling systems shall use environmentally friendly methods, and air quality monitoring may be required.
- (c) All wells within a 1-mile radius shall be monitored for water quality using EPD methods (Water Well Standard Act O.C.G.A. § 12-5-120 et seq.) at the expense of the Data Center to ensure public health is not impacted and also to alert citizens when contamination is present.

Key Requirements for Well Testing:

Under O.C.G.A. § 12-5-134

- Located as far as possible from known or potential pollutant sources, in the direction opposite to groundwater flow.
- Protected from surface runoff and accessible for cleaning, treatment, repair, and inspection.
- Constructed with durable materials and watertight casing/liner joints
- Disinfect after drilling, with all cuttings removed.
- Sealed off if water-bearing formations are or may be polluted.

Testing and Monitoring:

- **Bacterial Testing:** Recommended annually for private wells
- **Chemical Screening:** Recommended every 3 years
- **Annual Testing:** EPD and DHP guidance often includes annual bacterial testing for non-public wells
- **Chemical Testing:** Periodic chemical screening to detect contaminants
- **Abandonment:** If a well has not been used for 3 years, the owner must fill, seal, and plug it.

Licensing and Compliance

- **Licensed Contractors:** Only licensed water well drillers and certified pump installers may drill or install wells.
- **Complaints:** EPD investigates written complaints within 1–2 years of well completion or pump installation.
- **Penalties:** Violations can result in fines and penalties under the WWSAC fee and penalty table.

Practical Steps for Well Testing

- **Notify the Brantley County Health Department:** Before drilling, submit the intent to drill forms to the county health department
- **Choose a Licensed Contractor:** Ensure the driller is on the EPD's active license list.
- **Follow Construction Standards:** Meet all O.C.G.A. § 12-5-134 requirements for location, protection, and construction.
- **On-Site Testing:** Landowner will establish an acceptable on-site testing system to ensure there is no potential contamination. If contamination is possible, the landowner will pay for EPD standards for localized well testing.
- **Schedule Testing:** Arrange for annual bacterial and periodic chemical testing through your county health department or a certified lab.
- **Maintain Records:** Keep well data sheets and test results on file.

Fire Safety

- (a) An active clean agent fire protection system must be provided and maintained in good working order within any structure that contains a Server Farm. Install and maintain high-sensitivity smoke detectors to activate the clean agent fire suppression system.
- (b) There shall be an emergency electrical termination switch installed outside of any containment structure that contains a Server Farm.
- (c) The equipment used in any Server Farm shall be housed in an individually metered, electronically grounded structure with a fire rating designed to resist an internal electrical fire for at least 30 minutes. The containment space shall include baffles that automatically close in the event of a fire, regardless of any electrical system failure.
- (d) All building requirements required by this section, including but not limited to heat transfer apparatuses, fire detection/suppression systems, or containment structures, shall be designed by a State of Georgia licensed engineer and in accordance with all applicable codes and standards.

Applicable Fire Codes shall be required:

- National Fire Protection Association **NFPA 75** – Standard for the Fire Protection of Information Technology Equipment
- National Fire Protection Association **NFPA 855** – Standard for the Installation of Stationary Energy Storage Systems

These standards provide foundational guidance on fire detection, protection, separation distances, and hazard mitigation for energy storage systems.

Heat

- (a) The ambient temperature inside a containment space that houses a Server Farm shall not exceed 120 degrees Fahrenheit at any time. No person shall be permitted to regularly inspect and work within the containment area that houses a Server Farm if the ambient temperature within the containment area exceeds 90 degrees Fahrenheit.
- (b) Any Server Farm shall ensure that no more than 20% of the heat dissipated by the mining activity shall be released directly to the outside when the average daily temperature is less than 40 degrees Fahrenheit.

Garbage Collection-Delivery Site/Landfill/Incinerators

No such garbage collection, delivery site, landfill, or incinerators can be developed within 10 miles of a data center site.

Geothermal Power

Source for Data Centers

Geothermal energy can serve as a reliable, clean source of power and cooling for data centers, with both traditional and next-generation technologies making it increasingly viable.

Analyses suggest geothermal could meet up to **64% of projected data center demand growth by the early 2030s** under baseline assumptions, and could cover all growth in optimal locations at a cost 31–45% lower than clustered approaches, according to [Rhodium Group](#).

The geothermal option could be considered a future power source if it becomes reliable and safe and is approved by the NRC.

How Geothermal Supports Data

Geothermal energy can be used in two main ways for data centers:

- **Power Generation** – Geothermal plants can deliver steady, 24/7 electricity with a high-capacity factor (~90%), making them ideal for the constant load of AI-driven data centers [Department of Energy](#).

- **Direct Cooling** – Geothermal fluids can be used for chilled water or direct liquid cooling, reducing peak cooling demand and energy costs [Department of Energy +1](#).

Benefits:

- **Reliability:** Unlike solar or wind, geothermal output is consistent year-round. [Department of Energy+1](#).
- **Sustainability:** Renewable and low-carbon, aligning with corporate ESG goals [Data Center Knowledge](#).
- **Cooling Efficiency:** Can cut cooling energy use by up to 30% in less-optimized facilities [geothermalinsider.com](#).
- **Scalability:** Enhanced Geothermal Systems (EGS) can create artificial reservoirs in deeper, impermeable rock, expanding potential sites beyond volcanic regions [Data Center Knowledge](#).

Generators

All generators shall be located away from any adjacent property, located to the interior of a site or proposed building complex, and shall not be placed within a buffer or building setback. Generator testing will be allowed only between 9:00 AM and 5:00 PM on weekdays, for no more than 2 hours daily, and shall not occur on Federal holidays. Testing is further limited to once per calendar month. Except for generator testing or commissioning activities, generator use is limited to backup/emergency use only.

Diesel generators are a standard, reliable backup power source for data centers, but using diesel raises environmental and health concerns. To address these concerns, diesel generators may be used only as a backup if their runtime remains below 10% of the annual primary operating time. Other fuel sources shall be explored to improve operational efficiency.

Lithium-Ion Battery Suppression

The International Fire Code (IFC) and local fire codes shall be followed for lithium-ion battery suppression solutions. The batteries should be fully contained at the packaging level for Data Centers to gain relief from off-site storage requirements. The package must meet several criteria during a full thermal runaway event, in accordance with engineering standards and regulations, including UL9540A, Packing Instructions P911, and G27. A new benchmark was set in 2025 for battery energy storage safety, with system-level fire testing, including:

- **No flames escape** from the container during maximum temperature events
- **No projectiles** released during battery disassembly.
- **Structural integrity of the packaging is maintained** throughout the thermal event.

- **External temperatures are controlled** to ensure nearby materials do not ignite.
- **Gas venting is managed** to direct toxic emissions safely away from occupied spaces.

Engineering for containment (materials and construction):

Modern lithium-ion battery containment cases represent sophisticated engineering solutions. The materials engineering approach balances multiple and sometimes competing requirements:

- **Thermal conductivity management** to prevent external surface overheating.
- **Structural strength** to contain projectiles and gas pressure during battery thermal runaway.
- **Weight optimization** for operational handling and transportation efficiency
- **Corrosion resistance** for long-term durability in Data Center environments.

These standards provide foundational guidance on fire detection, protection, separation distances, and hazard mitigation for energy storage systems.

Fire Suppression Systems Required:

A fire sprinkler system meeting current NFPA standards, with enhanced protection measures, shall be required:

- Suppression coverage at each battery bank or rack, in addition to the overhead required suppression system
- Zoned isolation capability
- Early detection integration (smoke/heat/gas detection)

This layered approach exceeds minimum compliance and significantly improves incident containment.

Meeting the need for suppression will require a custom design tailored to each data center's unique requirements.

Emergency Management & Authority having Jurisdiction (AHJ) Training.

The following shall be required:

- Pre-incident planning with local fire departments
- Documented training for emergency responders specific to lithium-ion hazards
- On-site emergency response plans filed with the county
- Annual coordination exercises or tabletop drills

Risk Analysis & Professional Support

A professional consultant shall provide comprehensive lithium-ion battery risk analysis services tailored to energy storage installations. This shall include hazard identification, thermal runaway modeling considerations, suppression strategy evaluation, infrastructure impact assessment, and ordinance alignment recommendations.

Natural Gas

Data Centers are increasingly relying on natural gas to meet their power needs as they scale up to support AI infrastructure. The following are requirements and considerations if natural gas is used:

- **Proximity to Natural Gas Pipelines:** Data Centers should be located near a major pipeline corridor to minimize infrastructure costs and permitting hurdles.
- **Site Selection:** Developers should consider the availability of natural gas, transmission, fiber, and cooling sources, as well as the potential for water use in cooling towers or heat exchangers.
- **Natural Gas Pipeline Compliance:** Building a natural gas pipeline to serve data centers typically requires compliance with a complex framework of federal, state, and local regulations.
- **Cost Efficiency:** Natural gas-powered generators can provide greater backup capacity before ambient air quality exceeds local standards and may be more successful in obtaining air permits than diesel generators.

These considerations are crucial for data centers looking to integrate natural gas into their energy strategy, ensuring they can meet the growing power demands of modern AI and Cloud computing infrastructure.

If natural gas pipelines are not already available, a developer will be required to initiate this process. If this is not available at the beginning of development, this can be addressed during the site plan review period.

Noise and Vibration Limits

- (a) A noise Impact Assessment shall be required as part of the permitting process for any proposed cryptocurrency center or data center development and assessed from 500 feet of the development. The Noise Impact Assessment shall:
 - Define the scope of the assessment, including the geographic area, the noise sources to be studied, and the specific objectives of the evaluation for the proposed development.
 - Measure pre-operation ambient noise, or the existing background noise, before any equipment is installed, and provide acoustic mitigation

strategies if the noise level exceeds 50 dB during any hours of the day and 45 dB at night at the property line once equipment for the center development is in operation.

- (b) Operators of the Data Centers must ensure that cryptocurrency mining or data centers do not produce disruptive vibrations or electromagnetic interference affecting neighboring properties.
- (c) Noise level compliance reports by a certified acoustical professional must be submitted annually.
- (d) Air conditioning units, HVAC systems, and electrical generators shall be thoroughly screened from noise impact from the right-of-way and from adjacent properties by using walls, fencing, roof elements, or landscaping. They shall not be located less than one hundred (100) feet from adjacent property lines.

Nuclear Reactor

Future power generation may be done by SMR's (Small Nuclear Reactors) contingent upon approval by the NRC (Nuclear Regulatory Commission) and PSC (Public Service Commission). Any power created by this source that is greater than what would be needed on the local site would feed back to the OREMC Power grid.

Security & Emergency Preparedness

- (a) Facilities must provide **24-hour emergency contact signage** at access points, including the company name, the responsible operator contacts, and the local power company details.
- (b) The site must have fire suppression systems, and electrical containment spaces must meet fire resistance standards.

Cybersecurity by Design:

- Sandia's Cybersecurity by Design approach uses a Tiered Cybersecurity Analysis (TCA):
 - Facility-level: Assess digital footprint and consequences of cyber events.
 - Function-level: Identify adversary attack pathways and implement protective measures.
 - System-level: Apply system-level cybersecurity controls to prevent or mitigate attacks.

Integration Consideration:

- **Network segmentation:** Safety-critical systems must be on isolated, air-gapped networks, with minimal or no external connectivity.
- **Incident response:** Clear procedures for isolating affected systems, restoring operations, and reporting to regulators.

Threat Mitigation:

- Protect confidentiality and integrity.
- Address common threats like phishing, malware, and ransomware, especially in hybrid environments where data center networks may be more exposed.
- Maintain cybersecurity training for staff and contractors, and conduct regular penetration testing and vulnerability assessments.

Compliance and Oversight:

- Maintain documentation of cybersecurity programs, risk assessments, and incident responses.

Environmental and Public Safety

- **Effluent monitoring:** Continuous measurement and reporting of radioactive releases to meet NRC environmental monitoring requirements.

(a) **Emergency preparedness:** Data center staff must be trained in

(b) The treatment of systems, chemical waste, and related infrastructure:

- List all equipment, noting systems still in use;
- Set dates for each step;
- State who will be assigned tasks;
- Prepare for movement/removal of equipment;
- Each item should be tagged, and its current condition and location should be noted.
- Make an inventory of all equipment, servers, storage units, routers,

switches, and other network devices, power systems, racks, and cabling;

- Back up important data to save, i.e., moving data to the cloud, transferring to new servers;
- Securely erase sensitive data, such as wallet addresses and private keys. Clear all data from servers and/or devices, either by wiping, degaussing, or by physical destruction (breaking or crushing hard drives or tapes);
- Maintain detailed documentation of all actions taken. Equipment can be reused, sold, or recycled once it is removed, provided it is in good working condition.
- Use trained staff or professionals to carefully disassemble the mining rig/equipment and remove components like power supplies and cooling systems;
- Evaluate the condition of hardware or components properly to determine if it can be refurbished, repurposed, or recycled to minimize e-waste and environmental impact;
- Recycle or repurpose components properly. Broken or outdated parts should be sent for recycling.
- Power off all devices properly, and unplug and disconnect cables
- Take apart racks and support systems;
- Pack devices safely for transport;
- Clean and clear the facility once all hardware has been removed by removing any leftover cables, disposing of trash and packaging, making sure the racks, floors, and walls are free of damage, and returning the space to good condition;
- At the end of the decommissioning project, list all removed equipment, submit records of wiped or destroyed data, show receipts for recycled or sold items, and confirm that the space has been cleared. Include certificates of data destruction and environmental compliance.
- If data infrastructure is not sold or transferred, recycle all on-site electronic infrastructure through certified recyclers that follow the Responsible Recycling (R2) Standard for Electronics Recyclers and/or e-Stewards® Standard for Responsible Recycling and Reuse of Electronic Equipment. The property owner must remove all equipment within **three (3) months** of receiving an official notice of abandonment.
- Submit a plan showing where disturbed earth will be graded and re-seeded.

Bonding:

The following are the bond requirements for Decommissioning:

- An independent and certified Professional Engineer shall be retained to estimate the total cost of decommissioning (“Decommissioning Costs”) without regard to the salvage value of the equipment, and the cost of decommissioning net salvage value of the equipment (“Net Decommissioning Costs”). Said estimates shall be submitted to the Board of Commissioners after the first year of operation and every fifth year thereafter.
- The Facility Owner or Operator shall post and maintain Decommissioning Funds in an amount equal to Net Decommissioning Costs +10%. The Decommissioning Funds shall be posted and maintained with a Federal bonding company or a local lending institution chosen by the facility owner, operator, and participating landowner, provided that the bonding company or lending institution is authorized to conduct such business within Brantley County and approved by the Board of Commissioners.
- Decommissioning Funds may be in the form of a performance bond, surety bond, or other form of financial assurance that is acceptable to the County. These funds must be delivered before construction begins on the proposed project. The County will maintain this bond.
- If the Facility Owner or Operator fails to complete decommissioning within the period prescribed by Section 4-7.7, then the landowner shall have six (6) months to complete decommissioning.
- If neither the Facility Owner nor Operator, nor the landowner completes decommissioning within the periods prescribed by Section 4-7.7, the county may take such measures as necessary to complete decommissioning. The entry into and submission of evidence of a Participating Landowner agreement to the County shall constitute the agreement and consent of the parties to the agreement, their respective heirs, successors, and assigns, and authorize the County to take such action as necessary to implement the decommissioning plan.
- The escrow agent shall release the Decommissioning Funds when the Facility Owner or Operator has demonstrated, and the municipality concurs, that decommissioning has been satisfactorily completed, or upon written approval of the municipality, to implement the decommissioning plan.
- In the event of sale or transfer of the Facility, the acquiring agency shall adhere to the original monetary and operational decommissioning requirements set forth for the original developer.

- If decommissioning does not occur within the required timeframe, Brantley County may remove the equipment and place a lien on the property for cost recovery.

Liability Insurance

There shall be maintained a current general liability policy covering bodily injury and property damage with limits of at least \$3 million per occurrence and \$3 million in the aggregate. The County shall receive a copy of the certificate.

The bond will be evaluated every three (3) years and adjusted as needed.

Accessory Uses

- (a) Office, storage, power supply, and other such uses, including utilities and battery energy storage systems, are normally auxiliary to the principal permitted use.
- (b) Off-street parking and parking garages.
- (c) Security facilities and structures
- (d) Daycare for employees only
- (e) Medical office for employees only
- (f) Cafeteria for employees only
- (g) Solar energy systems
- (h) Temporary construction yards, temporary construction trailers, and/or temporary concrete batch production that is part of the construction site. These temporary uses shall be removed upon completion of construction.
- (i) Minor utilities are subject to the requirements of Brantley County.
- (j) Substation.

Enforcement and Penalties

The Board of Commissioners or its designee shall either appoint, contract with, or hire a qualified, experienced, and licensed environmental engineer to oversee this ordinance and ensure that all requirements are met promptly.

- (a) Noncompliance may result in fines, permit revocation, and legal action.
- (b) Violators may be subject to fines of up to **\$10,000 per day per violation** and/or suspension of business operations until compliance is achieved.

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