ZONING
Protecting Quality of Life

Topics to Consider

- Consider whether data centers and warehouses are appropriate in the proposed zoning districts
- Evaluate compatibility with surrounding land uses, including appropriate separation distances from certain uses
- Consider the long-term community and environmental impacts

Summary of Proposed Changes

Goal: To establish clear and objective zoning standards to address the unique operational, infrastructure, and land use impacts associated with data centers and warehouses, while protecting surrounding properties, and promoting orderly and sustainable development.

Zoning Ordinance Proposed Changes:

Definitions
- Separate definitions for data centers and warehouses

Data Center Amendments

Zoning:
- Data Center are allowed in the ORI, M-1, and M-2 as a Conditional Use which requires a public hearing.

Additional document requirements:
- As part of the Conditional Use, a Development Agreement will be required
- A Noise Modeling Report, Energy Consumption Modeling Report and Water Consumption Modeling Report will be required.

Chiller regulations:
- Prohibits evaporative chillers utilizing potable water
- Provided separation requirements to residential, education and hospital uses:
  - 1,000’ separation requirement to residential for ground-mounted chillers
  - 1,500’ separation requirement to residential for roof-mounted chillers
- Additional screening requirement
  - Requirement for sound attenuation for all ground mounted chillers
  - Requirement sound attenuation screen or parapet for all roof-mounted chillers

Generator Regulations:
- Prohibits roof-mounted generators
- Requires Tier 4 Final emission standards
- Provided separation requirements to residential, education and hospital uses:
  - 1,000’ separation requirement to residential, education and hospital uses for ground-mounted generators
- Additional screening requirement
  - Requirement for sound attenuation for all ground mounted generators

Updated performance standards:
- Additional performance standards for data centers
- Updated vibration standards in the ORI, M-1 and M-2 districts

Parking Requirement:
- Requiring for “banked” parking to demonstrate that parking regulations for a typical warehouse / industrial user can be provided in the future..

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ZONING
Protecting Quality of Life

Summary of Proposed Change

Zoning Code Amendments Continued

Warehouses amendments

- Changed warehouses to only be permitted as an accessory use to another permitted use in ORI Office, Research, and L Light Industrial District.
- Limited dock to one (1) dock per 40,000 square feet of building gross floor area.

Building Code Amendments

- Clarified requirements of sound and vibration studies demonstrating compliance as part of the permit review process and prior to temporary certificate of occupancy including remodeling permits.

What This Means

- Gives municipality flexibility and control while still allowing the use where appropriate.
- Ensures public input and builds transparency for these types of uses.
- Protect Quality of Life by evaluating the community and environmental impacts on a case-by-case basis
- Creates a simpler and more effective pathway to violation demonstration and thus compliance.
- Creates local accountability for data centers operating within the city limits.

ZONING
Research

Supporting Information

Zoning

Communities that data centers are permitted by right include Yorkville, West Chicago, Oakbrook, East Dundee, Minooka, Sugar Grove, Bloomington, Hobart IN

Communities that data centers require a conditional use include Naperville, Champaign, Deerfield, Loudoun County VA, Fairfax County VA, Chandler AZ

Separation Requirements

The City of Aurora is proposing separation requirements from residential uses that are equal to or more stringent than other communities existing standards.

- Yorkville — 500’ to residential uses
- Loudoun County, VA — 200’ to residential uses; 400’ to residential for 2nd stories of buildings
- Fairfax County VA — 200’ from residential uses; 300’ from residential uses to generator, chillers, & transformers

Screening Requirements

Communities that require screen walls for equipment includes Loudoun County, VA and Fairfax County, VA. Fairfax County, VA also screens substations.

Yorkville does not require screen walls but does have a 100’ Landscape buffer to non-manufacturing zoned land uses and requires a 8’ tall berm when adjacent to residential subdivisions.

Parking Requirements

Parking requirement varies among all of the communities. They range from1 space per 1000 square feet to Staff Determination. Some base it on the number of employees. In addition to parking requirement for the data center, Minooka required 1 space for each 1,500 square feet of building area as a land bank for potential future parking needs.

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NOISE

Revised 2/17/2026

Protecting Quality of Life

Topics to Consider

- Data center agreements with tenants mandate 24/7 availability.
  - Constant heat generation from computer systems require continuous mechanical cooling systems.
  - Need for constant power requires emergency generation for the large power loads of these buildings.

- If unmitigated the 24/7 need for chiller usage can create a pervasive constant noise that neighbors get no relief from.

- Emergency Generator sound during grid power outages can be very loud with many simultaneously running generators needed to meet power demands.

- Emergency Generators must be exercised and tested regularly to ensure they are prepared in case of a grid outage.

- As Data Centers may delay equipment installation as their data halls fill noise generating equipment may not be installed at the time of the first issuance of certificates of occupancy. As such we will need to require sound testing in remodeling permitting processes as well.

Summary of Proposed Change

Goal: Protect Residents Quality of Life and require sensitivity to neighbors' quality of life for all non-emergency generated sounds.

Proposed Zoning Language:

- Each new data center will now have to be approved through City Council through the Conditional Use process.

- Data centers must adhere to the IL Pollution Control Board - Title 35, Subtitle H: Noise. State noise standard uses 9 octave bands and is difficult to measure. Proposing an Aurora Constant Minimum Noise Threshold as a tougher standard with easier enforcement.

- Data center facility shall comply with the Illinois Pollution Control Board's (IPCB) Environmental Regulations for Noise (Title 35 Environmental Protection Subtitle H: Noise Part, 900 and 901). Should the data center meet or exceed either of these Aurora constant noise threshold minimums dB (A) weighted noise levels at data center site property lines within 1500 ft of residential uses the data center shall be required to provide monitoring reports and a 3rd party acoustical engineer prepared scientific sound study which demonstrates compliance with all applicable sound standards within 30 days of COA request.

- Aurora Constant Minimum Noise Thresholds
  - Daytime hours 59 dB (A) weighted 7am-7pm
  - Nighttime hours 49 dB (A) weighted 7pm-7am

Sound Compliance modeling and testing requirements:

- A baseline Third Party Engineer pre-development sound study with the first petitions filed for the development.

- Third Party Engineered Sound modeling and required as part of any zoning entitlement.

- Third Party Engineered Sound study shall demonstrate compliance and comparison to baseline pre project sound study required prior to any temporary or permanent certificate of occupancy request.

- Third Party Engineered Sound study shall demonstrate compliance and comparison to baseline pre project sound study required as part of any subsequent remodeling permit which adds sound producing equipment prior to any temporary or permanent certificate of occupancy request.

- On-Demand Constant Sound Monitoring results and if requested a Third Party Engineered Sound study shall demonstrate compliance and comparison to baseline pre-project sound study required within 30 Days of city request for exceeding the Aurora Constant Minimum Noise Threshold.

- Facilities must provide 24/7 monitoring equipment and meet ongoing performance standards and provide on-demand and annual compliance reporting to the City.

- Data Centers shall additionally be required to "Bank" parking (undeveloped during the data center use) that would have been required for a manufacturing use. This will help maintain more land on the data center site for screening and sound buffering.

NOISE
Protecting Quality of Life

Revised 2/17/2026

Summary of Proposed Change

Chiller and Cooling Equipment (chillers, fans & compressors)

- Separation to residential uses:
  - If roof mounted 1,500 feet min from screening to closest residential, education and hospital use lot lines.
  - If ground mounted 1,000 feet min from screening to closest residential, education and hospital use lot lines.
  - Required to be surrounded by full height attenuation screening

Emergency Generators

- Separation to residential, education and hospital use lot lines:
  - 1,000 feet min from screening to closest residential, education and hospital use lot lines.
- Prohibited on rooftops
- Required to be surrounded by full height attenuation screening
- Testing and Exercising activities are limited to 9am to 5pm Weekdays and not on holidays, with no more than 2 generators operating simultaneously.

Proposed Building Code Language:

- 107.2.1.2 Data Center Engineered Modeling details is added to read:
  The code official will require to be filed, engineers report(s) and attestation(s) that the proposed permit details for a data center has been modeled for sound and vibration. The accompanied reports shall demonstrate compliance with all local, State and Federal regulations.
- 107.3.4.2 Data Center Testing Deferred Submittals is added to read:
  The code official will require to be filed, engineers report(s) and attestation(s) that the constructed data center has been tested for sound and vibration. The accompanied testing reports shall demonstrate compliance with all local, State and Federal regulations prior to requests for temporary or full certificates of occupancy where sound and vibration generating equipment are being added

What This Means

- Sets one of the most stringent separation and noise compliance standards in the country.
- Requires constant monitoring of sound exceedances and sharing of records on request.
- Requires sound studies demonstrating compliance and mitigation plans and timelines upon sound exceedances
- Creates a simpler and more effective pathway to violation demonstration and thus compliance.
- Protects the regional aquifers and encourages modern, low-energy cooling and building systems

Supporting Information

- Separation Distance to Residential
  - Loudoun Co VA & Fairfax Co VA 200 feet
  - Yorkville IL 500 data center structure to R lot
- Noise Standards and Studies
  - OakBrook IL 55-70 dBA, Hobart IN 65 dBA,
  - At the Residential Lot Noise Standards (Expect a 6dB reduction for every 50 ft of distance)
    - Loudoun Co VA 55dBA, Yorkville IL 50dBA day& 60dBA night
- Generator Testing Hours
  - 9am-5pm Chandler AZ
  - 5am-7pm May to Sept & 11am-5pm Oct to Apr Loudoun Co VA
  - 11am-5pm Yorkville IL

VIBRATION Revised 2/17/2026

Protecting Quality of Life

Topics to Consider

- Data center agreements with tenants mandate 24/7 availability.
  - Need for constant power requires emergency generation for the large power loads of these buildings

- Emergency Generator vibrations during grid power outages can create vibrations in neighboring properties with many simultaneously running generators required to meet power demands

- Emergency Generators must be exercised and tested regularly to ensure they are prepared in case of a grid outage.

- As Data Centers may delay equipment installation as their data halls fill noise generating equipment may not be installed at the time of the first issuance of certificates of occupancy. As such we will need to require sound testing in remodeling permitting processes as well.

Summary of Proposed Change

Goal: Protect Residents Quality of Life and require sensitivity to neighbors' quality of life for all non-emergency generated vibrations.

Proposed Zoning Language:

- Each new data center will now have to be approved through City Council through the Conditional Use process.

- Data centers must adhere to the revised Aurora bulk restriction performance standards for vibration. Where max permitted displacement in inches = K/frequency in cycles per second.

- Constant vibration monitoring shall be required every 500' of property line within 1,000 feet of residential uses.

- Vibration Isolation mounts are required

- Should the data center exceed the Aurora vibration performance standards at data center site property lines within 1,000 ft of residential uses, the data center shall be required to provide monitoring reports and a 3rd party engineer prepared scientific vibration study which demonstrates compliance with all applicable vibration standards within 30 days of COA request.

Table 1
K Value to be Used in Measuring Vibrations

In any Neighboring Lot	K
Steady State	0.008
Impulsive	0.015
Less that 8 pulse per 24-hour period	0.037
In any Residential District	
Steady State	0.003
Impulsive	0.006
Less that 8 pulse per 24-hour period	0.015

Vibration Compliance modeling and testing requirements:

- Third Party Engineered Vibration modeling and required as part of any zoning entitlement.

- Third Party Engineered Vibration study shall demonstrate compliance prior to any temporary or permanent certificate of occupancy request.

- Third Party Engineered Vibration study shall demonstrate compliance as part of any subsequent remodeling permit which adds generator equipment prior to any temporary or permanent certificate of occupancy request.

- Constant Vibration Monitoring results upon request and Third Party Vibration study demonstrating compliance required within 30 Days of city request.

- Facilities must provide 24/7 monitoring equipment and meet ongoing performance standards and provide on-demand and annual compliance reporting to the City.

- Data Centers shall additionally be required to "Bank" parking (undeveloped during the data center use) that would have been required for a manufacturing use. This will help maintain more land on the data center site for vibration buffering.

VIBRATION Revised 2/17/2026

Protecting Quality of Life

Summary of Proposed Change

Emergency Generators

- Separation to residential, education and hospital use lot lines:
  - 1,000 feet min from screening to closes residential lot line
- Testing and Exercising activities are limited to 9am to 5pm Weekdays and not on holidays, with no more than 2 generators operating simultaneously.

Proposed Building Code Language:

- 107.2.1.2 Data Center Engineered Modeling details is added to read:
  The code official will require to be filed, engineers report(s) and attestation(s) that the proposed permit details for a data center has been modeled for sound and vibration. The accompanied reports shall demonstrate compliance with all local, State and Federal regulations.

- 107.3.4.2 Data Center Testing Deferred Submittals is added to read:
  The code official will require to be filed, engineers report(s) and attestation(s) that the constructed data center has been tested for sound and vibration. The accompanied testing reports shall demonstrate compliance with all local, State and Federal regulations prior to requests for temporary or full certificates of occupancy where sound and vibration generating equipment are being added

What This Means

- Mimics the most stringent vibration standards in the country, adding both separation minimums and vibration maximums.
- Limits Generator exercising to a daytime timeframe and limits simultaneous generator testing.
- Requires constant monitoring of vibration exceedances and sharing of records upon request.
- Requires vibration studies demonstrating compliance and mitigation plans and timelines upon vibration exceedances
- Creates a simpler and more effective pathway to violation demonstration and thus compliance.

Supporting Information

- Separation Standards to Residential
  - Match setbacks from Elk Grove IL

- Vibration Standards
  - Match Residential Vibration standards for Loudoun Co. VA, Killdeer IL, Lee County IL
  - Allows less Vibration than Oakbrook IL, Lake Villa IL, East Dundee IL

- Generator Testing Hours
  - 9am-5pm Chandler AZ
  - 5am-7pm May to Sept 11am-5pm Oct to Apr Loudoun Co VA
  - 11am-5pm Yorkville IL

ENERGY
Protecting Quality of Life

Topics to Consider

- Data centers use enormous amounts of **electricity** – A single large data center can use as much power as tens of thousands of homes.

- Grid strain raises costs for everyone – High, concentrated electricity demand can increase infrastructure costs and contribute to **higher utility rates** for residents and businesses.

- Climate impacts – If powered by fossil fuels, data centers significantly increase **greenhouse gas (GHG) emissions**, conflicting with local and state climate goals.

- **24/7 energy demand** – Unlike most buildings, data centers operate continuously, increasing baseline electricity demand even during peak grid stress events.

Summary of Proposed Changes

Goal: Limit excessive energy use and require highly efficient operations.

⇨ Each new data center will have to be approved through City Council through the **Conditional Use** process.

⇨ Each new data center will adhere to the most energy-efficient building code published and must be designed to and meet **high energy-efficiency** standards:

"Data center facilities shall maintain a maximum Power Usage Effectiveness (PUE) of 1.2."

⇨ Developers must submit an **Energy Consumption Modeling Report** by a third-party engineer to demonstrate compliance. Existing facilities must meet ongoing performance standards by 2028 and provide **annual compliance reporting** to the City via a public website.

⇨ **Required on-site solar** to cover 25% of peak demand OR **on-site battery storage** to cover 50% of peak capacity for 15 minutes, with prioritized distribution to local neighborhoods first in the event of high-peak events.

⇨ Decommissioned equipment must be removed to avoid **long-term** environmental & visual blight.

⇨ The City of Aurora is supportive of state, regional, or federal requirements that make data centers pay their fair share for utility infrastructure use and upgrades.

What This Means

- Sets one of the most **stringent energy-efficiency standards for data centers** in the country.
- Prevents local inefficient data centers from driving up electricity demand.
- Encourages modern, low-energy cooling and building systems.
- **Protects residents** from **long-term** utility rate impacts and climate change impacts.

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WATER
Protecting Quality of Life

Topics to Consider

- High water consumption — Some data centers consume **millions of gallons of water per year** for cooling.
- Water use can **compete with drinking water needs**, especially during droughts or heat waves.
- **Evaporate cooling** can degrade water quality due to chemical treatment and discharge. There are also concerns with where & how **closed-loop systems** supply and discharge their cooling liquids when they periodically recharge.
- Hidden impacts — Residents may not realize that **digital services rely on local water systems**.
- Despite many data centers recently moving away from high-consumption water cooling, **it's still important for the City to set parameters and ensure local water quality and resources are protected regardless of cooling method**.

Summary of Proposed Changes

Goal: Reduce potable water use and protect water quality.

Proposed Changes:

⇨ **No** potable-water evaporative chillers:

"Evaporative chillers utilizing potable water are prohibited."

⇨ Strict water efficiency standard:

"Data center facilities shall maintain a maximum Water Usage Effectiveness (WUE) of 0.2."

⇨ **Third-party Water Consumption Modeling Report** required prior to approval.

⇨ Removal of obsolete cooling equipment when data centers close or change use.

⇨ Facilities must meet ongoing performance standards and provide annual compliance reporting to the City via a public website.

⇨ Developers must agree to high fines for non-compliance.

What This Means

- Prevents data centers from competing with residents for drinking water, and prevents the City and residents from paying for large water use treatment.
- Pushes operators toward air-cooled or recycled-water systems.
- Protects local water quality and reduces chemical runoff risks.
- Makes water use transparent to the City and public.
- Sets performance standards and enforcement methods.

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EMISSIONS
Protecting Quality of Life

Topics to Consider

- **Routine generator testing** causes pollution even when there is no outage.
- **Backup diesel generators** emit harmful pollutants including:
  - Nitrogen oxides (NOx)
  - Fine particulate matter (PM2.5)
  - Toxic air contaminants
  - Other greenhouse gases
- Health impacts can include **asthma, heart disease & increased respiratory risk for children and seniors**.

Summary of Proposed Changes

Goal: Protect Residents Quality of Life and require sensitivity to neighbors' quality of life for all non-emergency generated sounds.

⇨ No roof-mounted generators.

⇨ **Minimum: Tier-4 Final emissions standards** required (cleanest diesel engines available). This is a new state requirement that Aurora will be steadfastly enforcing.

⇨ Limits on testing hours and number of generators **running at once**:

"Testing only between 9am-5pm, weekdays only, no holidays, max 2 generators at a time."

⇨ 1,000-foot **emergency generator buffer** from residential properties, schools, or hospitals.

⇨ Public **annual reporting** of emissions compliance and exceedances via website.

⇨ Developers must agree to **high fines** for non-compliance via a development agreement

⇨ Data Centers must submit plans to become net-zero greenhouse gas (GHG) emissions by 2050.

What This Means

- **Reduces** harmful air pollution in nearby neighborhoods.
- **Limits** health impacts from emergency generators.
- **Prevents** late-night generator testing.
- **Improves** accountability and transparency.
- **Reduces** greenhouse gas emissions.

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PRIVACY
Protecting Your Personal Biometric Information

What is BIPA?

BIPA is the **Biometric Information Privacy Act,** a law Illinois passed in **2008** to protect people's biometric data — things like fingerprints, face scans, iris scans, voiceprints, and similar biological identifiers — from being collected, stored, or used without clear consent.

Illinois lawmakers recognized that biometric data is uniquely tied to YOU and cannot be changed like a password if it's misused. Early biometric technology was rolling out in places like grocery stores and gas stations, raising concerns about privacy and long-term misuse.

Key BIPA protections:
Companies must tell you in writing if they collect your biometric data.
They must clearly explain why they're collecting it and how long they'll keep it.
They must get your written consent before collecting or storing it.
BIPA prohibits companies from selling or profiting from your biometric information.
If a company violates the law, YOU have the right to sue and seek statutory damages without proving actual harm.

For Consideration

⇨ Biometric data is deeply personal, including face scans, fingerprints, voiceprints, iris scans, and other identifiers tied directly to your body. It follows you for life and cannot be changed like a password.

⇨ Data centers store and process massive amounts of sensitive data, including biometric and AI training data used by companies and governments.

⇨ Illinois has one of the strongest biometric privacy laws in the country, requiring consent, limiting retention, and allowing individuals to enforce their rights.

⇨ Data centers want to repeal or weaken BIPA, claiming it makes it difficult for data centers to develop and operate here.

⇨ If BIPA were repealed or weakened
. Residents could lose control over how their biometric data is collected, stored, sold, or used.
. Companies could face fewer obligations to secure or delete biometric information.
. Individuals could lose the ability to seek remedies if their data is misused or breached.

Proposed Changes

Goal: Protect Aurora citizens' biometric data.

The City is proposing privacy-protecting language in case BIPA is repealed or weakened.

What This Means

. Keeps Aurora residents protected even if state law changes
. Creates local accountability for data centers operating within City limits
. Signals that privacy and AI governance are community values, not just technical issues

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Research and Supporting Info

Energy

Illinois

- To qualify for state incentives, large Data Centers must be **either carbon-neutral or meet green building standards.**
- The City of Chicago, City of Evanston, and Village of Oak Park require large commercial buildings (over 50,000 ft^2, 20,000 ft^2, and 10,000 ft^2 respectfully) to report **energy consumption annually**. Evanston is in the process of setting performance targets for buildings as well.

Data Center Power Use Effectiveness (PUE) Averages

- The average PUE of data centers is 1.56; a PUE of 1 would mean the data center's energy consumption is equivalent to only the IT equipment; a target of 1.2 is a common goal of data centers that prioritize energy-efficiency.

Google/Microsoft

- Leading operators now design new data centers to hit low PUE targets and pair them with clean energy procurement. International companies may already need to meet stringent climate standards.

Water

Illinois

- Data centers must meet green building standards, which often include water conservation practices, in order to qualify for state incentives.
- The City of Chicago, City of Evanston, and Village of Oak Park require large commercial buildings (over 50,000 ft^2, 20,000 ft^2, and 10,000 ft^2 respectfully) to report water consumption annually.
- A data center under development in Minooka, IL initially proposed using 3 million gallons of water a day. They changed the design to a closed-loop cooling system that uses far less water.

Arizona

- Local governments raised concerns about data centers competing with drinking water during drought conditions.
- Some jurisdictions in the Phoenix Metro now require water modeling before approving new data centers.

Google

- Publicly committed to becoming "water positive" by replenishing more water than its data centers consume.

Air Quality

Illinois & California

- The IL Climate & Reliable Grid Act (CRGA) and California Air Resources Board (CARB) require Tier-4 Final diesel engines for many stationary sources.

Northern Virginia

- Residents have raised concerns about air quality from generator testing at data centers.

New York City

- Requires permits and emissions controls for backup generators at large facilities.

Data Center Industry Trend

- Growing shift toward battery storage and alternative backup systems to reduce diesel reliance.