

Lysander Data Center Advisory Committee Meeting

October 2nd, 2026

Environmental Concerns

Environmental Concerns from the spreadsheet

- Environmental 2.5
 - Light Pollution 2.3
 - Heat Dissipation 2.8
 - Wildlife Impact 2.6
 - Three Rivers Impact 2.6
 - Seneca River/waterways impact 2.4
 - Will there be an environmental impact study? 2.7
 - Is there a decommissioning plan? 1.9



Background:

- Town NRBD code requires site lighting be shielded so the light source is not visible from the property line, but the town's Industrial code does not
- For a project of this size, the planning board typically requires a full SEQRA review
 - NY State DEC will/must provide feedback during this process
 - The town can also include County Health, OCWA, and WEP
 - This is the town's opportunity to require an environmental impact study
- The town routinely requires decommissioning plans and bonds for industrial and commercial projects
- The town's noise ordinance is already being rewritten per previous discussions



Town vs Others Responsibilities

- As previously noted:
 - NY State DEC is responsible for water and air quality regulations and monitoring
 - NY State DEC is responsible for protecting the Three Rivers WMA
 - DEC holds primary responsibility for protecting the Seneca River
 - OCWA manages water to the site
 - WEP manages wastewater from the site
- The town can manage noise, light pollution, runoff, and some heat discharge



Space Restrictions

Space Restrictions

- Industrial vs Warehouse Parking
 - Industrial requires 1 space per 500 square feet (1440-2400)
 - Warehouse parking requires 1 space per 4000 square feet (180-300)
- Ghost Parking Loophole (50-75)
 - The planning board can set aside the physical space for some of the required parking spaces to be reserved for future need
 - Because these “ghost” spaces are not yet paved, they don’t count in site coverage calculations
 - The problem here is that if they’re ever actually paved, the 30% site coverage rule will likely be violated



Image source: bon-voyage.co.uk



Space Restrictions

- Industrial vs Warehouse Parking (continued)
 - Why does the parking rule matter?
 - Site space is limited
 - This ultimately dictates site layout and building height
- Why Industrial makes sense (or why not Warehouse)?
 - Town code requires 1 loading dock for every 10,000 sq ft of floor space, a data center would have none (maybe a few for equipment installation, but not the 72-120 for a building of this size)
 - Warehouse ceiling height is typically higher than a data center to allow for racks of merchandise and forklift clearances
 - A smaller parking lot restricts “Adaptive Reuse” of the facility if it ever stops being a data center
 - This decision is ultimately up to the planning board



Image source: bon-voyage.co.uk



Space Restrictions

Industrial Parking	3 two story buildings	1 tall building
Total Site Acreage	124.00	124.00
Buildable Acreage (30%)	37.20	37.20
Generator Farm	5.50	5.50
Substation	2.75	2.75
Switch Yard	1.75	1.75
Battery Storage	6.00	6.00
Gas Regulation	1.00	1.00
Parking (1 space/500sqft)	17.90	10.70
Roads	3.40	3.20
Remaining space	-1.10	6.30
Data Center footprint	13.80	5.50
Space Remaining	-14.90	0.80

Warehouse Parking	3 two story buildings	1 tall building
Total Site Acreage	124.00	124.00
Buildable Acreage (30%)	37.20	37.20
Generator Farm	5.50	5.50
Substation	2.75	2.75
Switch Yard	1.75	1.75
Battery Storage	6.00	6.00
Gas Regulation	1.00	1.00
Parking (1 space/4000sqft)	2.2	1.3
Roads	3.40	3.20
Remaining space	14.60	15.70
Data Center footprint	13.80	5.50
Space Remaining	0.80	10.20



Image source: bon-voyage.co.uk



Light Pollution

Light Pollution

- Industrial town code explicitly states that no illuminated sign or outdoor illumination may be erected or utilized in a way that allows light to directly reflect toward residences on adjoining lots {320-53 C(6) Signs}
- Direct light reflection is strictly prohibited toward any residential districts located within 1,000 feet of the light source
- Outdoor illumination cannot be directed toward a highway in any manner that creates a traffic hazard due to glare or reflection
- This is in the town code for signs, but it should count for any illumination – We may want to give lighting it's own section



Background:

- Proposed NY State “Dark Skies Mandate” (Assembly bill A4615, Senate bill S9637)
 - These bills have not passed yet
 - Requires residential, commercial, and industrial outdoor light fixtures to be shielded and to direct light downward
 - Requires unshielded lights to be turned off between 11pm and sunrise
 - Lights on motion sensors and at tourist attractions are exempt
 - Target enforcement date is Jan 1, 2028, but they’ve been stuck in committee for over 18 months so that date is unlikely
- Dewitt, Cazenovia, and Skaneateles all have specific Dark Sky Lighting codes



Light Pollution Recommendations

- **Create a separate and distinct Dark Sky section of code for commercial and industrial users**
 - Require shielding that prevents exterior lighting from shining upward or parallel to the ground beyond the property line
 - Require perimeter lighting to be on its own electric circuit so it can be controlled separately from other site lighting
 - Require that perimeter lighting face inward and downward to the property
 - Require outdoor lighting be turned off after 10 pm or within an hour of the business closing
 - Prohibit upward directed lighting of buildings, facades, flags, and landscaping
 - Allow motion sensor lights to operate after the shutdown time provided they are on no more than 15 minutes per motion sensing event and they are properly shielded
 - Exempt street lighting, holiday decorations, and low voltage landscaping lighting (define watts or lumens) from these restrictions



Image source: darksky.org



Heat Dissipation

Heat Dissipation



Image source: magnific.com

- Background**

- Heated water discharged to local wetlands or waterways is regulated by the DEC
- Heated water discharged to the sewer system is regulated by WEP
- If evaporative cooling towers are used, County Health monitors for health risks
- The EPA has stated they will not issue regulations for data center heat dissipation to the air, they prefer state and local regulation
- The FAA is interested in any continuous heat plumes that may affect air traffic
- The town can regulate some heat discharge to the ground and to the air
- We've already recommended against open loop evaporative cooling systems



Heat Dissipation



- **Geothermal Heat Dissipation**

- Cooling system heat is transferred to the ground through geothermal cooling loops
 - While home geothermal systems put heat in the ground in the summer, they also remove heat in the winter. Industrial geothermal system like those used in a data center are constantly putting significant amounts of heat into the ground year-round
 - Over time, constant geothermal heat can warm the aquifer, especially a somewhat small one like the one at the data center site to the point that it depletes dissolved oxygen levels and suffocates natural subsurface organisms
 - The constant heat can warm the ground enough to dry out roots and affect plant life
 - The constant heat can change how subsurface water absorbs metals and other minerals

Image source: magnific.com



Heat Dissipation



Image source: magnific.com

- **Geothermal Heat Dissipation**

- What can the town control?

- While the state DEC has primary responsibility, the town can regulate setbacks for geothermal bore holes, including distance from wetlands, within aquifer overlays, and distance from neighboring wells
 - The town can also regulate the size and depth of bore holes, including limiting shallow and/or horizontal cooling loops
 - The town can mandate monitoring wells and a subsurface temperature change (Delta T) cap, limiting the amount subsurface temperatures can change.
 - The town can mandate periodic testing of dissolved metals and minerals in subsurface water
 - The town can mandate a geothermal heat dissipation study



Heat Dissipation



- **Heat Dissipation to the Air**
 - Cooling system heat is transferred to the air through dry cooling systems (radiators and fans)
 - Creates thermal plumes that can carry 1/3 mile downwind
 - Can create a localized heat island effect raising temperatures by an average of 1.3 to 1.6 degrees within the 1/3 mile downwind corridor
 - Heat Islands can have a major impact on nearby wildlife and wetlands

Image source: magnific.com



Heat Dissipation



Image source: magnific.com

- **Heat Dissipation to the Air**
 - What can the town control?
 - The town can mandate strict setbacks from wetlands and the property line
 - The town can mandate higher velocity fans to push the plume higher into the atmosphere (we previously discussed towers to avoid noise concerns)
 - The town can require a “microclimate fluid dynamics study” to map where the heat will go under various environmental conditions
 - The town can mandate green roofing or high-albedo roofing materials to minimize overall heat dissipation to the air
 - And we can mandate rooftop parapet thermal screening walls to direct heat (and noise) directly upward



Recommendations

Recommendations

- Recommend updating town code to eliminate the ghost parking loophole
- Recommend Parking be built out to the industrial/manufacturing standard to maximize future re-use opportunities
- Adopt a Dark Sky Lighting code for commercial and industrial users as previously outlined
- Require a heat dissipation study specific to the type of cooling system proposed. Fluid dynamic, subsurface heat distribution, etc
- Mandate green roofing or high-albedo roofing materials to minimize overall heat dissipation
- Mandate strict cooling system setbacks from the property line and wetland boundaries
- Establish heat differential and related standards; require periodic monitoring for compliance
- For geothermal systems, mandate deep, bedrock level cooling loops
- For Air cooled systems, mandate rooftop parapet thermal screening walls to direct heat (and noise) directly upward



Next Steps

Next Steps

- Continue talking about Environmental Concerns
 - What did we miss?
 - What needs clarification?



Thank You