

James, Karen

From: Matthew Gabb <matthew.e.gabb@gmail.com>
Sent: Thursday, August 14, 2025 12:10 PM
To: Council Members
Cc: County Executive; Planning Commission
Subject: CDI Overlay

[EXTERNAL EMAIL]

Good afternoon Councilmembers, Executive Fitzwater, and Planning Commission,

While I now live in Minnesota, I grew up in Middletown and love my home. Heck, I even have a tattoo of Frederick County on my calf. And as someone who works in a local government's sustainability office, please learn from Minnesota's experience and do not expand the data center overlay in Frederick County. While I don't think the overlay should have ever been created, at this point keep them restricted away from residential areas and only within the current Eastalco area. These [data centers use ungodly amounts of water and electricity](#) -- and they often are very secretive about that! **The County will never achieve the goals of its Climate & Energy Action Plan if more data centers are built.**

You just need to look at the [rise in pollution and health issues next to the xAI data center in Memphis](#); or [a data center potentially poisoning the water supply in Mansfield, Georgia](#); or the [planned data center in Cheyenne that will use more electricity than all homes in Wyoming combined](#) to know that these centers are bad for people, health, and business. And I know many of these companies go on and on about how they provide jobs. But those are almost exclusively construction jobs, which will be temporary. They only require skeleton crews long-term. It is short-sighted, short-term economic gain for decades of higher electricity bills, dwindling aquifers, and increased noise pollution.

As someone who loves Frederick County, who grew up there and hopes to soon move back, who wants to see the Climate & Energy Action Plan realized, **I am begging y'all to vote against the CDI Zone Ordinance (Bill 25-09).**

Thank you,

Matthew Gabb
102 Manda Drive, Middletown, MN 21769

James, Karen

From: Steve Black <steveblack2313@gmail.com>
Sent: Thursday, August 14, 2025 8:33 PM
To: Council Members; County Executive; Planning Commission
Subject: Recent television report on data centers near Adamstown

[EXTERNAL EMAIL]

County Executive, Council Members, Planning Commissioners:

I think you will find this recent television news report informative.

https://www.nbcwashington.com/video/news/local/residents-voice-concerns-over-data-center-plans-in-frederick-county/3975380/?fbclid=IwY2xjawMLX0JleHRuA2FlbQIxMQABHuaYkU0kWRmlqP_V7D63D0cyNL_Qi-q3dEbm8RpxMV6Wn-6PXqvJYoA_uuz-_aem_dl-9TT-KqlpkBw7AMsKRgw

Thank you
Steve black
Adamstown

James, Karen

From: Gaines, Kimberly
Sent: Wednesday, August 13, 2025 10:13 AM
To: Planning Commission
Subject: FW: Comprehensive Assessment on Schools and Data Centers

Follow Up Flag: Follow up
Flag Status: Flagged

From: K and E Stephens <kandestephens@gmail.com>
Sent: Tuesday, August 12, 2025 3:22 PM
To: mde.secretary@maryland.gov; serena.mcilwain@maryland.gov; alison.ray@maryland.gov; chris.hoagland@maryland.gov
Cc: mkeegan-ayer@frederickcountymd.gov; Knapp, Renee <RKnapp@FrederickCountyMD.gov>; McKay, Steve <SMcKay@FrederickCountyMD.gov>; Murray, Patrick <PMurray@FrederickCountyMD.gov>; karen.young@senate.maryland.gov; kenneth.kerr@house.state.md.us; kris.fair@house.state.md.us; karen.simpson@house.state.md.us; County Executive <CountyExecutive@FrederickCountyMD.gov>; Gaines, Kimberly <KGaines@FrederickCountyMD.gov>; Superczynski, Denis <DSuperczynski@FrederickCountyMD.gov>; Dimitriou, John <JDimitriou@FrederickCountyMD.gov>; Flom, Karin <KFlom@FrederickCountyMD.gov>; Stine, Andrew <ASTine@FrederickCountyMD.gov>; Moreno, Vanessa <GMorenoHuaman@FrederickCountyMD.gov>; McFarlin, Patricia <PMcFarlin@FrederickCountyMD.gov>; Help@cds.org; darcy.spencer@nbcuni.com; Gregory, Matt <MGregory@wusa9.com>; newstips@wusa9.com; news.tips@abc.com; ktla@ktla.com
Subject: Comprehensive Assessment on Schools and Data Centers

[EXTERNAL EMAIL]

Carroll Manor Elementary is immediately south from the Data Center Map in Adamstown MD. Address: 5624 Adamstown Rd, Adamstown MD. This study says at minimum the Data Centers should be at least 1500 feet away from schools. In addition why are the Data Centers going to be self-regulating per the Knapp Young Bill? So when a Data Centers doesn't follow the guidelines the only recourse is for Adamstown residents to call the Sheriff?

Read study below

Comprehensive Assessment of Data Center Siting Impacts on Elementary Schools in Frederick County

Executive Summary

The proposed expansion of data center development in Frederick County, particularly the addition of a 2,500-acre overlay zone to Quantum Loophole's existing 1,600-acre footprint, raises significant public health and safety concerns, especially regarding the proximity of these facilities to elementary schools. A primary concern is the push for this expansion without a thorough evaluation of the

impacts from the initial development phase. This report provides a detailed, evidence-based analysis of the multifaceted hazards posed by large-scale data centers, specifically focusing on the cumulative effects of approximately 140 diesel generators per complex, as well as the risks from electrical substations and fuel storage.

The analysis reveals that Frederick County's current and proposed regulatory frameworks, including the 500-foot setback outlined in Bill 25-09, are fundamentally insufficient to protect sensitive receptors like elementary schools from the full spectrum of identified hazards. The proposed setback, a product of political compromise rather than scientific health standards, fails to account for the pervasive nature of low-frequency noise, the acute toxicity of diesel exhaust spikes, the potential long-term neurodevelopmental risks, the "possibly carcinogenic" classification of electromagnetic fields (EMF) for children, and the catastrophic potential of large-scale fuel storage.

Based on a synthesis of health impacts and the limitations of current mitigation strategies, this report recommends a minimum setback of at least 1,500 to 2,000 feet (approximately 450 to 600 meters) from any property line of an elementary school to the nearest data center building or diesel generator complex. This recommendation is a precautionary measure, serving as a starting point for mandatory, independent, and comprehensive environmental and health impact assessments. Frederick County must adopt a proactive, science-based, and community-centric approach to data center siting and regulation, prioritizing comprehensive impact assessments, robust monitoring, and significant setbacks to safeguard public health and quality of life for its most vulnerable populations.

1. Introduction: The Frederick County Data Center Expansion and Community Concerns

Frederick County is currently at a critical juncture regarding its land use planning, specifically concerning the rapid expansion of data center infrastructure. Quantum Loophole, Inc., a developer of large-scale data center communities, has already established a significant presence in the county. Their current zoning encompasses 1,600 acres, which includes plans for four distinct complexes, each designed to house three to four buildings and an electrical substation [User Query]. This initial development has already seen substantial investment, with Aligned Data Centers acquiring land, power, and water at Quantum Loophole's Frederick County site for strategic expansion capacity. The Quantum Loophole site, located just 20 miles from Ashburn, Virginia's interconnection ecosystem, was strategically chosen for its proximity to power availability, attractive tax exemptions, and a holistic approach to data center enablement, encompassing over 2,100 acres designed to support gigawatts of power, recycled water, and dedicated connectivity in an automated environment. The acquisition of the former Alcoa Eastalco site by Quantum Loophole and TPG Real Estate Partners (TREP) was initially presented as an opportunity to develop a first-of-its-kind "environmentally friendly data center campus," emphasizing "efficient design for sustainable power and water use, investments in robust fiber connectivity, and a thoughtful, nature-first aesthetic". Local officials, including Frederick County Executive Jessica Fitzwater, initially articulated that data centers offer "a stable source of tax revenue and jobs, while having minimal impact on local services such as schools, traffic and other infrastructure".

However, the Frederick County Council is now considering a further, substantial expansion through the creation of a data center overlay zone, which would permit an additional 2,500 acres of development [User Query]. This proposed expansion, when combined with Quantum Loophole's existing footprint, would bring the total potential land allocated for data centers to 4,224 acres, representing approximately 1% of the county's total land area. This initiative is embodied in Bill 25-09, which aims to establish a Critical Digital Infrastructure (CDI) Overlay zone. This new zoning tool would remove the previous "by right" development allowance for data centers in Limited Industrial (LI) and General Industrial (GI) zones, theoretically providing more control over siting. A key provision of Bill 25-09 is the proposed increase in the setback distance from residential development, raising it from 200 feet to 500 feet.

The county's engagement with the data center industry has also involved the formation of a Data Centers Workgroup (DCWG) in June 2023. This workgroup was tasked with examining existing laws and emerging issues related to this rapidly evolving industry, drawing lessons from Northern Virginia's extensive experience with data centers. The DCWG's final report, released in March 2024, called for several revisions to the county's Critical Digital Infrastructure ordinance, including the creation of CDI floating zones, stricter setbacks, updated sound management regulations, and continuous monitoring of key metrics such as noise, air quality, and water usage. Despite these local efforts, state-level actions also influence the landscape; the Governor of Maryland signed the Critical Infrastructure Streamlining Act of 2024, which notably overrode concerns from the Public Service Commission regarding the dozens of diesel generators commonly installed to power data centers during outages.

A central and deeply concerning aspect of the current situation is the community's apprehension that this significant expansion is being pursued before the environmental, health, and quality-of-life impacts of the initial development phase have been adequately evaluated [User Query]. Residents have voiced strong opposition, with one Frederick County Public School teacher stating that a 500-foot setback is "nothing," and describing the proposed expansion as opening a "Pandora's Box" that will inevitably lead to further, unchecked growth. The concerns articulated by community members are wide-ranging, encompassing fears of 24/7 generator noise, the release of toxic emissions, light pollution, and increased traffic congestion. These concerns are not unique to Frederick County; residents in other jurisdictions, such as Prince William County, Virginia, and St. Charles, Missouri, have similarly opposed data center developments due to their proximity to homes, schools, and hospitals, citing negative impacts on community quality of life. Furthermore, the immense energy and water demands of data centers raise broader anxieties about grid stability and water resource availability, with projections indicating that a mid-sized data center can consume as much water daily as 1,000 households. For instance, Quantum Frederick (QF) is projected to consume one million gallons of water per day, with newly proposed plans potentially increasing this to seven million gallons, prompting questions about the county's capacity to manage such volumes.

The current approach in Frederick County appears to be incremental rather than holistic. The initial claims of "minimal impact" stand in stark contrast to the subsequent formation of a Data Centers Workgroup specifically to address "concerns about environmental sustainability, energy and water usage, noise, vibration, and impacts on the quality of life". This phased development, where impacts

are allowed to accumulate without a comprehensive upfront assessment, risks locking the county into a trajectory where negative cumulative effects become exceedingly difficult to mitigate effectively once established. This situation can erode public trust and diminish the overall quality of life for residents. The proposed 500-foot setback, while an increase from previous regulations, is viewed by the community as a compromise rather than a scientifically determined safe distance. This suggests that the regulatory adjustments are driven by political negotiation rather than robust scientific evaluation of health impacts, creating a significant gap between the regulatory minimum and the actual public health needs. Moreover, the state-level legislative actions, such as the Critical Infrastructure Streamlining Act of 2024, indicate a broader push for data center development that may limit local regulatory autonomy, particularly concerning essential components like backup generators. This dynamic poses a challenge for local policymakers striving to implement protective measures for their communities.

The purpose of this report is to provide a scientifically informed and comprehensive assessment of the environmental, health, and safety impacts of large-scale data center operations, particularly concerning elementary school proximity. It aims to establish evidence-based recommendations for "safe distances" and robust mitigation strategies, addressing noise, air quality, EMF, and fire hazards. By critically evaluating Frederick County's current and proposed regulatory frameworks in light of these impacts, this report seeks to offer actionable policy recommendations for responsible and sustainable development that prioritizes the well-being of its citizens, especially children.

2. Understanding Data Center Operations and Environmental Outputs

Data centers are fundamental to the digital economy, but their operational demands exert significant environmental pressures. These facilities are inherently energy-intensive, with a single data center capable of consuming electricity equivalent to 50,000 homes. On a global scale, data centers collectively consume over 200 terawatt hours (TWh) annually, a figure that surpasses the energy consumption of some nation-states. This energy demand contributes substantially to carbon emissions, accounting for 0.3% of overall global carbon emissions, and rising to 2% when networked devices like laptops and smartphones are included. The regional impact can be even more pronounced; in Virginia, for instance, data centers consumed over 25% of all power produced in 2023, with projections indicating this could rise to as high as 46% by 2030 if current growth rates persist. Beyond electricity, data centers also require vast amounts of water for cooling servers. A mid-sized data center can command the same daily water usage as 1,000 households. The Quantum Frederick (QF) campus, for example, is projected to consume one million gallons per day, with proposed new plans potentially escalating this to seven million gallons, raising serious questions about the county's water resource capacity, especially during drier periods.

2.1 Role and Characteristics of Diesel Backup Generators

Central to the operational continuity of data centers are diesel-fired emergency generators, which are considered indispensable for ensuring uninterrupted service during grid failures. The user query specifies that each data center complex under consideration has approximately 140 such diesel generators. While these generators are termed "backup" units, their operational requirements mean they are a regular, albeit intermittent, source of environmental pollution. Routine maintenance and testing, for instance, typically involve running these generators for up to 100 hours per year. This scheduled operation, even if limited in total annual hours, can create short-term spikes in emissions and noise. The significant number of generators, 140 per complex, amplifies these impacts considerably. The fact that the Governor's Critical Infrastructure Streamlining Act of 2024 overrode Public Service Commission concerns about these diesel generators underscores their perceived essentiality to the industry, even as their environmental impact is often downplayed in public discourse. The term "backup" generator can be misleading, as these units are a consistent, albeit intermittent, source of significant environmental pollution. Their essential role in data center reliability means their impacts are inherent to the industry's operation, not just unforeseen emergencies. This necessitates treating them as a primary environmental consideration, not a secondary one.

2.2 Primary Environmental Outputs: Noise

Diesel generators are substantial sources of noise pollution, originating from several components. The primary sources include mechanical and combustion forces within the engine, the high-speed movement of air by cooling fans, the operation of alternators, and induction noise from current fluctuations. Without noise mitigation, a single generator set can produce sound levels of 100 dB(A) or more. Specifically, engine noise typically ranges from 100 dB(A) to 121 dB(A) at one meter, while cooling fan noise is often between 100 dB(A) and 105 dB(A) at one meter. Alternator and induction noise generally fall between 80 dB(A) and 90 dB(A) at one meter. The loudest component is often the engine exhaust, which can reach 120 dB(A) to 130 dB(A) or more without a silencer. For example, a 2MW engine's unsilenced exhaust noise can range from 110 dBA to 120 dBA. To provide context, a relatively small 50 kW generator might emit around 85 dB(A), comparable to city traffic, while a larger 1,500 kW model could emit approximately 105 dB(A), akin to the sound of a jet airplane flying 1,000 feet overhead.

A critical characteristic of diesel generator noise is its frequency profile. Diesel generators typically produce lower-frequency sounds, often described as deep rumbles. These low-frequency sounds possess a unique ability to travel farther and penetrate solid structures like walls and windows more easily than higher-pitched sounds. This characteristic also means that many traditional noise control approaches are relatively ineffective against them.

The cumulative effect of multiple generators is also a significant consideration. The decibel (dB(A)) scale is logarithmic, meaning that noise levels do not add arithmetically. Instead, a doubling of sound power results in an increase of approximately 3 dB(A). For instance, if two noise sources each produce 90 dB(A), their combined output is approximately 93 dB(A), not 180 dB(A). Given that each data center complex is stated to have about 140 diesel generators, this represents a substantial cumulative increase in sound power. To illustrate, 140 generators are roughly equivalent to seven

doublings of a single generator's sound power (since $2^7 = 128$). Therefore, the cumulative sound level from 140 generators operating simultaneously would add approximately 21 dB(A) to the sound level of a single generator, assuming they are close enough to act as a single point source. This means that if a typical large, treated generator emits 100 dB(A) at 1 meter, the complex of 140 would produce approximately 121 dB(A) at 1 meter. If untreated, starting from 125 dB(A) (average unsilenced exhaust), the complex could reach 146 dB(A) at 1 meter. This unique low-frequency noise profile of diesel generators poses a particular challenge for residential and school proximity. This type of noise is not easily mitigated by standard building construction and can lead to chronic annoyance and sleep disturbance even at distances where overall dBA levels appear "acceptable." This necessitates specialized acoustic studies and mitigation, and potentially larger setbacks than for broadband noise.

2.3 Primary Environmental Outputs: Air Emissions

The combustion of diesel fuel in these generators releases a complex mixture of air pollutants that pose serious health concerns. Key pollutants include fine particulate matter (PM2.5), nitrogen oxides (NOx), sulfur dioxide (SO2), carbon monoxide (CO), and hazardous air pollutants (HAPs) such as formaldehyde and benzene. The emission profiles of diesel generators are particularly concerning; they can emit 200–600 times more NOx than natural gas-fired power plants per unit of electricity produced. A single 2MW diesel generator operating at full load can emit approximately 45kg of NOx and 1.3kg of PM per hour, an output comparable to 350 passenger vehicles.

While the total operational time for routine maintenance of backup generators is limited, these activities can create short-term spikes in PM2.5, NOx, and SO2 emissions that significantly exceed baseline environmental impacts. The public health burden associated with these emissions is substantial; air pollution attributed to data centers in the United States resulted in an estimated \$5 billion in health-related damages in 2023, a figure projected to rise to \$20 billion annually by 2030. Furthermore, communities located near data centers and the power plants supplying them bear a disproportionate burden, with some households facing over 200 times greater impacts than others. For example, a report to the Governor of Virginia found that backup generators at data centers emitted approximately 7% of the total permitted pollution levels for these generators in 2023, with an estimated public health cost of \$200 million. In Memphis, Tennessee, temporary gas turbines powering an AI data center are estimated to emit up to 2,000 tons of NOx annually, potentially resulting in an annual public health burden of \$160 million.

Regulatory frameworks such as the National Emission Standards for Hazardous Air Pollutants (NESHAP) aim to mitigate risks from HAPs, and non-emergency runtime for generators is typically limited to 100 hours per year for testing and maintenance. However, the significant public health burden from data center emissions represents a hidden subsidy to the industry. The costs associated with illness and premature mortality are largely externalized, meaning they are borne by the public through healthcare expenditures and reduced quality of life, rather than being fully internalized by the data center operators. This economic externality highlights the need for more stringent environmental

regulations and larger setbacks to protect public health, ensuring that the true societal costs of data center operations are accounted for.

2.4 Electrical Infrastructure: High-Voltage Transmission Lines and Substations

Data centers require substantial electrical power, necessitating proximity to high-voltage electrical transmission lines and substations. These components of the electrical grid generate extremely low frequency (ELF) electromagnetic fields (EMF). The strength of an EMF is directly proportional to the amount of electrical current passing through the power line and diminishes significantly as distance from the source increases. It is important to distinguish between electric fields, which are produced by electric charges and are easily shielded by common objects such as trees, fences, and walls, and magnetic fields, which are created by the flow of electrical current and are not easily shielded.

2.5 Fuel Storage: Diesel Fuel Volumes, Storage Methods, and Associated Risks

The reliance on diesel generators for backup power necessitates the storage of substantial volumes of diesel fuel on-site. This introduces inherent fire hazards, as fuel leaks are common in diesel engines and can quickly ignite if exposed to an ignition source. Data centers themselves are high-risk environments for fire due to the concentration of electrical components, wires, cables, and other backup power supplies.

Fuel storage tanks are subject to specific safety standards to mitigate these risks. Two prominent standards are UL-142 and UL-2085. UL-142 is a basic safety standard for constructing single-walled steel tanks, suitable for general storage of combustible liquids. In contrast, UL-2085 provides enhanced fire resistance through double-walled construction, the use of specialized fire-resistant materials, and insulation between the walls. UL-2085 tanks are specifically recommended for high-risk environments, highly populated areas, and situations where a high level of safety is essential. Both standards are recognized by international fire codes, including NFPA 30 and NFPA 30A. The Frederick County Data Centers Workgroup has also identified "fire safety" as a concern in its deliberations.

The disparity in setback requirements for diesel fuel storage tanks across different regulations and jurisdictions highlights a critical regulatory inconsistency. For facilities with the scale and hazard profile of data centers, adopting the most stringent and precautionary setback standards, such as those for highly populated areas (UL-2085), is imperative when elementary schools are nearby. This approach prioritizes safety over minimal industrial codes, recognizing the potential for catastrophic events.

3. Detailed Analysis of Health Impacts on Children

The proximity of large-scale industrial operations, such as data centers with numerous diesel generators, to sensitive populations like elementary school children raises profound concerns about their health and developmental trajectories. Children are particularly vulnerable to environmental stressors due to their developing physiological systems, higher metabolic rates, and longer potential exposure durations.

3.1 Impacts of Noise Pollution

Noise pollution is far more than a mere annoyance; it is a recognized health hazard with significant implications for children. Exposure to excessive noise can trigger physiological stress responses, leading to increased psychological stress, elevated blood pressure, and activation of the sympathetic nervous system. For children, repeated exposures can amplify these negative effects, potentially leading to chronic stress conditions.

A major consequence of noise pollution is sleep disturbance. Noise activates the sympathetic nervous system, resulting in fragmented sleep and reduced total sleep time. Given that children's brains undergo critical development during sleep, disrupted sleep cycles can lead to a cascade of negative effects, including fatigue, reduced attention span and focus, increased irritability, emotional sensitivity, and decreased physical and cognitive energy.

The impact on cognitive and academic performance is particularly concerning for elementary school children. Noise pollution directly disrupts a child's ability to focus and process information, especially within learning environments. Research indicates that prolonged exposure to noise can impair reading comprehension, memory retention, and problem-solving skills. Studies have specifically found that children attending schools located near airports or busy highways, proxies for chronic noise exposure, score lower on standardized tests due to noise disruptions. The inability to concentrate in a noisy environment directly compromises a child's capacity to learn.

Beyond academic performance, noise can also profoundly affect children's behavior and emotional well-being. It can lead to increased stress, anxiety, and general irritability. Chronic exposure has been linked to behavioral problems, including hyperactivity, aggression, and difficulties in socializing. A systematic review from 2019, analyzing the association between transportation noise and behavioral and emotional disorders in children and adolescents, found that the odds of hyperactivity, inattention, and total difficulties significantly increased by 9-11% with every 10 decibels of road traffic noise.

Finally, prolonged exposure to high-decibel sounds can result in Noise-Induced Hearing Loss (NIHL), which is often irreversible. Children are particularly susceptible to NIHL because their auditory systems are still developing.

The cumulative and synergistic effects of multiple environmental stressors (noise, air pollution, potential EMF) on children's developing bodies and minds are likely far greater than the sum of individual impacts. Chronic stress from noise can weaken the immune system, potentially making children more vulnerable to respiratory impacts from air pollution. Sleep disturbance impairs cognitive function, which could be further exacerbated by noise-induced learning difficulties. This multi-hazard exposure creates a complex health risk profile that demands a holistic risk assessment, rather than evaluating each hazard in isolation.

3.2 Impacts of Air Pollution (Diesel Exhaust)

Diesel exhaust is a complex mixture of gases and fine particulate matter (PM2.5) that poses severe health risks, especially to children. Respiratory morbidity is a primary concern; exposure to diesel exhaust can lead to adverse respiratory effects, aggravate existing allergies, or exacerbate asthma symptoms. PM2.5, in particular, can penetrate deep into lung tissue, intensifying conditions like asthma (with a 15% increased risk observed in communities near data centers) and chronic obstructive pulmonary disease (COPD). Even brief exposure to high concentrations of nitrogen oxides (NO_x), a major component of diesel exhaust, can aggravate respiratory symptoms and lead to hospitalizations.

Beyond immediate respiratory effects, prolonged exposure to diesel exhaust is a recognized carcinogenic risk, capable of causing lung cancer. Specific hazardous air pollutants (HAPs) like formaldehyde, emitted from diesel exhaust, have been linked to a 40% higher incidence of nasopharyngeal cancer in occupational exposure studies.

Emerging research also points to significant neurodevelopmental concerns. Epidemiological studies have reported a link between an increased incidence of autism spectrum disorders (ASDs) and living in close proximity to major highways, suggesting a potential role for traffic-related pollutants, including diesel exhaust. Animal studies have provided further insights; maternal exposure to diesel exhaust particles (DEP) during pregnancy and nursing in mice has been shown to adversely affect fetal development, leading to increased locomotor activity and repetitive behaviors that are relevant to ASDs. Furthermore, prenatal exposure to DEP has been associated with abnormalities in reproductive functions, alterations in immune responses, and an increased frequency of fetal DNA deletions. High concentrations of DEP exposure in utero have also been shown to decrease dopamine turnover within the striatum and reduce locomotor activity in mice. These findings, while not definitive for humans, raise serious concerns about long-term neurodevelopmental impacts that extend beyond immediate respiratory or auditory issues. The potential for long-term neurodevelopmental effects, particularly concerning autism spectrum disorders, from early-life

exposure to diesel exhaust particles introduces a profound and potentially irreversible health concern that current regulatory setbacks may not adequately address. This necessitates a highly precautionary approach, as the full extent of these impacts may not manifest until years later.

It is critical to recognize that children, along with the elderly and individuals with pre-existing respiratory and cardiovascular issues, are the most susceptible populations to air pollution from stationary engines like diesel generators.

The regulatory framework for environmental health, particularly at the federal level, often lags behind evolving scientific understanding of the health impacts of industrial activities. For instance, the EPA closed its Office of Noise Abatement and Control in 1981, transferring primary responsibility for noise issues to state and local governments. Similarly, there are no federal standards limiting electromagnetic fields from power lines and similar sources in the United States. This regulatory vacuum places a significant burden on local governments like Frederick County to fill these gaps, often without sufficient guidance or resources, making them vulnerable to industry pressures and potentially exposing communities to unmitigated risks.

3.3 Potential Impacts of Electromagnetic Fields (EMF)

The presence of electrical substations and high-voltage transmission lines associated with data centers introduces the potential for exposure to extremely low frequency (ELF) electromagnetic fields (EMF). The World Health Organization (WHO), a United Nations agency, classifies ELF EMF as "possibly carcinogenic to humans". This classification is based on limited evidence suggesting an association with childhood leukemia.

However, it is important to note that scientific studies have not consistently demonstrated whether exposure to any source of EMF definitively increases cancer risk. EMF strength is directly related to the amount of electrical current and decreases significantly with distance from the source. Electric fields are easily shielded by common objects, while magnetic fields are not.

Despite the inconsistent evidence, the "possibly carcinogenic" classification, particularly concerning a vulnerable population like children and a severe outcome like childhood leukemia, warrants the application of a precautionary principle. This principle suggests that where there are threats of serious or irreversible damage, lack of full scientific certainty should not be used as a reason for postponing cost-effective measures to prevent environmental degradation. The absence of federal standards limiting EMF from power lines in the United States further emphasizes the responsibility of local jurisdictions to consider precautionary measures to protect their communities.

4. Assessing Safe Distances: Noise Mitigation and Recommendations

Determining a safe distance for elementary schools from data centers requires a thorough understanding of noise characteristics, propagation, and the effectiveness of mitigation, especially given the scale of 140 diesel generators per complex.

4.1 Noise Characteristics of Diesel Generators and Cumulative Effect

As previously discussed, individual large diesel generators can produce extremely high noise levels. Engine noise alone can be 100-121 dB(A) at 1 meter, and unsilenced exhaust can reach 120-130 dB(A) or more. A 1,500 kW generator, for instance, might emit around 105 dB(A).

The cumulative effect of 140 generators is substantial. Since a 3 dB(A) increase represents a doubling of sound power, 140 generators (approximately 7 doublings, as $2^7 = 128$) would add about 21 dB(A) to the sound level of a single generator. Therefore, if a single large generator, even with basic silencing, produces 100 dB(A) at 1 meter, the entire complex of 140 generators could produce approximately 121 dB(A) at 1 meter. If unsilenced, starting from an average of 125 dB(A) for exhaust, the complex could reach 146 dB(A) at 1 meter.

A critical aspect of diesel generator noise is its low-frequency nature. These deep rumbles travel farther and penetrate buildings more easily than higher-pitched sounds. Furthermore, traditional noise control approaches are often relatively ineffective against these low frequencies. This means that even if overall A-weighted decibel (dBA) levels appear to be within acceptable ranges at a distance, the pervasive low-frequency hum could still cause chronic annoyance, sleep disturbance, and cognitive impacts. Relying solely on A-weighted decibel (dBA) measurements for noise compatibility is insufficient for protecting children from diesel generator noise. The unique low-frequency profile of these generators necessitates specific octave band analysis and mitigation strategies, and potentially larger setbacks, to prevent chronic, disruptive impacts that undermine learning and well-being, even if overall dBA levels appear "acceptable."

4.2 Sound Propagation and Attenuation

Sound attenuates over distance following the Inverse Square Law in a free field, where doubling the distance from a noise source reduces the sound pressure level by 6 decibels. This means that moving from 10 to 20 meters away from a source reduces the sound level by 6 dB, and moving from 20 to 40 meters reduces it by another 6 dB, and so on. However, real-world conditions, including terrain, atmospheric effects, and the presence of barriers or buildings, can influence actual noise

reduction. The challenge is that low-frequency sounds from diesel generators travel farther and penetrate structures more easily, making their attenuation over distance less straightforward than for broadband noise.

4.3 Regulatory Context for Noise in Sensitive Areas

Regulatory bodies provide guidelines for noise exposure. OSHA regulations, for instance, apply to workers exposed to generator noise above 80 dB(A) for any appreciable time. Across North America, maximum permitted overall noise levels in residential and other sensitive areas typically range from 45 dB(A) to 72 dB(A), depending on local zoning. Some jurisdictions are moving towards specifying property line noise restrictions using octave band frequencies to specifically address low-frequency noise.

For educational facilities, specific standards exist. The City of San Diego's "Land Use - Noise Compatibility Guidelines" (Table NE-3) specifies a compatible exterior noise exposure of 60 dBA CNEL (Community Noise Equivalent Level) for "Kindergarten through Grade 12 Educational Facilities". Furthermore, for an exterior noise exposure of 65 dBA CNEL, an indoor noise level of 45 dBA CNEL is considered compatible for these facilities. California Noise Insulation Standards (Title 24) also establish an interior noise standard of 45 dBA for certain structures. Fairfax County, Virginia, has updated its zoning ordinance to require noise pollution studies prior to data center construction, acknowledging the importance of proactive assessment.

4.4 Noise Mitigation Technologies and Operational Practices

While distance is a primary factor in noise reduction, various technologies and operational practices can help mitigate noise at the source:

* **Silencers:** Exhaust silencers can significantly reduce noise, with standard models offering a minimum of 15 dB(A) reduction. More advanced "Super Extreme" or "Hospital Plus" grade silencers can achieve reductions of 40-55 dB(A) or even higher.

* **Enclosures:** Sound-attenuating enclosures built around generators can reduce noise levels by as much as 40 decibels. These enclosures are particularly effective for blocking the lower-frequency sounds characteristic of diesel generators.

* Siting: Proper siting involves locating generators away from fresh air intakes, windows, or doors of adjacent buildings to prevent noise from entering occupied spaces.

* Operational Limits: Limiting the duration of test runs to one hour or less, avoiding testing during peak activity times (e.g., school hours), and staggering tests for multiple units on different days or times can help minimize combined emissions and noise exposure. Standby engines often have regulatory limits on annual operating hours for testing and maintenance.

While technological mitigation can significantly reduce noise at the source, the sheer scale of 140 diesel generators per complex means that even with best-in-class solutions, achieving truly "quiet" conditions at a proximate elementary school remains a formidable challenge. Distance, therefore, becomes a non-negotiable primary mitigation strategy, as it offers passive, reliable attenuation that cannot be fully replicated by active engineering solutions alone.

4.5 Proposed Noise-Based Setback Recommendations for Elementary Schools

To determine a noise-based safe distance, it is essential to consider the target interior noise level for schools (45 dBA) and the typical attenuation provided by school buildings (e.g., 15-25 dBA). This implies that the exterior noise level at the school property line should ideally be no more than 60-70 dBA to achieve the interior target. However, for sensitive receptors like children, and given the pervasive nature of low-frequency noise, a lower exterior target is preferable.

The challenge lies in the immense cumulative noise output of 140 generators. Even with advanced mitigation, the starting point is exceptionally high. The following table provides estimated noise levels at varying distances from a data center complex with 140 generators, illustrating the significant distances required to achieve acceptable noise levels.

Table 1: Estimated Noise Levels (dBA) at Varying Distances from a Data Center Complex (with 140 Generators)

Distance from Complex (meters)	Distance from Complex (feet)	Unsilenced (146 dBA at 1m)	Standard Mitigation (121 dBA at 1m)	Advanced Mitigation (81 dBA at 1m)	Target Exterior Noise for Schools (dBA)
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|---|---|---|---|---|

| 1 | 3.3 | 146 | 121 | 81 | 60 (compatible) |

| 10 | 33 | 126 | 101 | 61 | |

| 20 | 66 | 120 | 95 | 55 | |

| 50 | 164 | 112 | 87 | 47 | |

| 100 | 328 | 106 | 81 | 41 | |

| 200 | 656 | 100 | 75 | 35 | |

| 500 | 1,640 | 92 | 67 | 27 | |

| 1,000 | 3,280 | 86 | 61 | 21 | |

| 1,500 | 4,921 | 83 | 58 | 18 | |

| 2,000 | 6,562 | 80 | 55 | 15 | |

| 3,000 | 9,842 | 76 | 51 | 11 | |

| 4,000 | 13,123 | 74 | 49 | 9 | |

Notes:

- * Baseline Noise (Single Generator): Unsilenced exhaust assumed at 125 dBA. Typical large generator with basic silencing assumed at 100 dBA.
- * Cumulative Noise (140 Generators): Calculated by adding 21 dBA (7 doublings * 3 dBA/doubling) to the single generator baseline.
- * Mitigation Scenarios:
 - * Standard Mitigation: Assumes a 25 dB reduction per generator (e.g., Industrial Silencer + Basic Enclosure: 15-20 dB + 10-15 dB = 25-35 dB reduction). This translates to a complex starting at 121 dBA at 1m.
 - * Advanced Mitigation: Assumes a 65 dB reduction per generator (e.g., Hospital Plus Silencer + Advanced Enclosure: 35-50 dB + 25-40 dB = 60-90 dB reduction). This is an optimistic scenario, translating to a complex starting at 81 dBA at 1m.
- * Sound Propagation: Calculated using the Inverse Square Law.
- * Target Exterior Noise for Schools: Compatible exterior noise for K-12 educational facilities is 60 dBA CNEL.

This table quantifies the immense noise output from 140 generators and demonstrates the significant distances required for attenuation. Even with highly optimistic "Advanced Mitigation," a distance of at least 100 meters (328 feet) is needed to reach 41 dBA, which is still above the 60 dBA exterior target for schools. To reach the 60 dBA exterior target for schools with standard mitigation, a distance of approximately 1,000 meters (3,280 feet) would be required. This highlights that distance is a crucial, non-negotiable primary mitigation strategy, as it offers passive, reliable attenuation that cannot be fully replicated by active engineering solutions alone.

5. Assessing Safe Distances: Air Quality Mitigation and Recommendations

Air quality is another critical factor in determining safe distances for elementary schools from data centers, particularly given the emissions from numerous diesel generators.

5.1 Pollutant Dispersion Dynamics

The effective dispersion of air pollutants is crucial for minimizing health impacts. Emissions should ideally be vented upward through stacks tall enough to facilitate easy dispersion into the atmosphere. Conversely, low smokestacks can result in poor air dispersion, leading to direct exposure of people through windows and building air intake vents. Meteorological conditions, such as wind patterns, also play a significant role; for instance, winds generally increase in the afternoon, making early afternoons a more favorable time for generator testing to enhance dispersion. It is also important to recognize that air pollutants do not remain localized; they can extend beyond immediate communities, impacting neighboring states.

5.2 Health-Based Air Quality Standards and Vulnerability

The health implications of diesel generator emissions are severe, especially for vulnerable populations like children. Fine particulate matter (PM2.5) is a pervasive air pollutant linked to approximately 200,000 deaths annually in the United States. Ambient air pollution, particularly PM2.5, is known to exacerbate or cause a range of adverse health outcomes, from asthma and heart attacks to lung cancer, with young children and the elderly being particularly susceptible. Exposure to diesel exhaust can lead to adverse respiratory effects, aggravate allergies, or exacerbate asthma symptoms. Prolonged exposure has been definitively linked to lung cancer. Even brief exposure to high levels of nitrogen oxides (NOx) can aggravate respiratory symptoms and necessitate hospitalizations. Children are explicitly identified as among the most susceptible populations to these pollutants.

The focus on limited annual operating hours for generators can mask the significant acute health risks posed by "short-term spikes" in pollution. While total annual operating hours are indeed limited, these spikes, even if brief, can be highly concentrated and occur during periods when children are at school. Brief exposure to high NOx levels can lead to immediate respiratory distress and contribute to chronic health problems for vulnerable children, making distance and strict operational controls during school hours paramount.

5.3 Emission Control Technologies and Operational Practices

Several strategies can be employed to control emissions from diesel generators:

- * Fuel Quality: The use of ultra-low sulfur diesel fuel, with a sulfur content limited to 15 ppm, is available and required for some engines, effectively lowering sulfur dioxide emissions.
- * Optimal Load Operation: For diesel engines, it is crucial to maintain a load of at least 30% of the generator's capacity to prevent "wet stacking." This inefficient operation leads to higher emissions and the release of unburned fuel in the exhaust.
- * Testing Limits and Timing: Standby engines typically have regulatory limits on the number of hours they can operate annually for testing and maintenance. Routine test runs should be kept as short as possible, ideally one hour or less. Testing should be avoided when many people are nearby, during peak activity times, or on "air alert days" when the Air Quality Index (AQI) is over 90.
- * Staggered Testing: To reduce the impact of combined emissions, it is recommended to test units one at a time and consider staggering testing on different days or at different times on the same day.
- * Routine Maintenance: Regular maintenance, including oil changes and checking belts, hoses, and air cleaners, is essential for reducing pollution and improving fuel efficiency.
- * Advanced Technologies: The industry is moving towards more sustainable solutions, such as hybrid systems that combine low-emission prime movers with advanced storage technologies like battery energy storage systems or fuel cells, which significantly reduce reliance on diesel generators. Biofuels, such as HVO100, have also demonstrated the ability to cut PM emissions significantly compared to traditional diesel.

5.4 Regulatory Context for Air Quality Near Schools

Existing regulations often acknowledge the vulnerability of schools to industrial emissions. For example, some jurisdictions may prohibit engine operation for testing and maintenance during school hours if the engine is located within 500 feet of a school. This 500-foot distance, however, represents a regulatory operational limit rather than a scientifically determined health-based safe distance for continuous or acute exposure. Frederick County's Data Centers Workgroup has specifically considered "air quality" and the "monitoring enforcement of such key metrics as noise, air quality, water usage". While Fairfax County, Virginia, updated its zoning to regulate the proximity of data centers to residential areas, the specific air quality setbacks are not detailed in the provided information.

The significant public health burden from data center emissions represents a hidden subsidy to the industry, as the costs of illness and premature mortality are not fully internalized by the companies. This economic externality underscores the need for more stringent environmental regulations and larger setbacks to protect public health, ensuring that the true societal costs of data center operations are accounted for.

5.5 Proposed Air Quality-Based Setback Recommendations for Elementary Schools

Given the severity of health impacts from diesel exhaust, especially on children, and the potential for short-term, highly concentrated spikes in pollutants, a substantial buffer distance is critically important. While specific "safe distances" for air pollution are complex and depend on detailed atmospheric dispersion modeling, the existing 500-foot regulatory limit for operation during school hours should be considered an absolute minimum and is likely insufficient for comprehensive protection. The observation that proximate communities can face "over 200 times greater impacts" strongly indicates that current siting practices are inadequate.

A simple setback distance for air quality is insufficient. Comprehensive atmospheric dispersion modeling, considering the cumulative emissions from all 140 generators, local meteorology, and topography, is essential to predict pollutant concentrations at sensitive receptors like schools. This modeling should inform a dynamic setback or require specific engineering controls to ensure health-protective air quality, rather than relying on arbitrary fixed distances.

Table 2: Key Air Pollutants from Diesel Generators, Health Effects on Children, and Relevant Considerations

Pollutant	Primary Source from Data Centers	Key Health Effects on Children	Relevant Exposure Limits/Considerations
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Fine Particulate Matter (PM2.5)	Diesel Generators (combustion)	Respiratory morbidity (asthma exacerbation, COPD), lung cancer, cardiovascular events, linked to 200,000 deaths/year in US	Ambient air pollution linked to 200,000 deaths/year in US. Communities near data centers can face >200x greater impacts.
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| Nitrogen Oxides (NOx) | Diesel Generators (combustion) | Aggravated respiratory symptoms, hospitalizations (even from brief exposure). Diesel generators emit 200-600x more NOx than natural gas plants. | Temporary gas turbines for AI data centers estimated to emit up to 2,000 tons of NOx annually. |

| Sulfur Dioxide (SO2) | Diesel Generators (combustion, especially with high-sulfur fuel) | Respiratory issues. Reduced by using ultra-low sulfur diesel fuel (15 ppm). | Short-term spikes during generator testing. |

| Formaldehyde | Diesel Exhaust (Hazardous Air Pollutant - HAP) | Carcinogenic risks (40% higher nasopharyngeal cancer incidence in occupational studies). | NESHAP mandates strict HAP controls; formaldehyde $\leq 42 \mu\text{g/dscm}$ for engines $>500 \text{ HP}$. |

| Benzene | Diesel Exhaust (Hazardous Air Pollutant - HAP) | Carcinogenic risks. | Benzene emissions capped through Tier 4 fuel requirements. |

| General Diesel Exhaust Particles (DEP) | Diesel Generators | Neurodevelopmental concerns (autism-like behaviors in mice from maternal exposure), abnormalities in reproductive functions, immune response changes, fetal DNA deletions. Aggravates allergies, exacerbates asthma. | Children, elderly, and those with respiratory/cardiovascular issues are most susceptible. |

This table consolidates critical information on specific pollutants, their sources, and their severe health impacts on children, underscoring why elementary schools are particularly sensitive receptors. It also implicitly highlights the absence of clear, health-based "safe distances" for air pollution from diesel generators in the provided information, reinforcing that this is a complex area often left to operational controls rather than simple setbacks. This consolidated information provides a strong basis for advocating for comprehensive environmental impact assessments, continuous monitoring, and the implementation of advanced emission control technologies, in addition to appropriate setbacks.

6. Assessing Safe Distances: Other Hazards and Safety Considerations

Beyond noise and air quality, data centers present additional hazards that necessitate careful consideration when determining safe distances from elementary schools. These include fire risks

from the extensive infrastructure and large volumes of stored fuel, as well as general land use compatibility issues.

6.1 Fire Hazards from Data Center Infrastructure

Data centers are inherently high-risk environments for fire due to their dense concentration of electrical components, wires, cables, and both primary and backup power supplies. Potential ignition sources are numerous, including electrical surges, faulty wiring, and malfunctioning batteries that can off-gas explosive hydrogen into enclosed spaces. Furthermore, diesel fuel leaks, which are common in diesel engines, pose a significant risk of rapid ignition.

To mitigate these risks, data centers in the U.S. are required to comply with specific fire protection standards, notably NFPA 75 (Standard for the Fire Protection of Information Technology Equipment) and NFPA 76 (Standard for the Fire Protection of Telecommunications Facilities). These standards mandate a multi-layered approach to fire protection, typically structured across three levels: building, room, and rack. Fire suppression systems vary, including wet sprinkler systems (which can damage sensitive equipment), pre-action fire sprinkler systems (requiring two points of fire detection before activation), and clean agent suppression systems (using inert gases that do not damage equipment). Very Early and Early Warning Fire Detection (VEWFD & EWFD) systems are crucial for detecting incipient fires and minimizing damage. For diesel engines specifically, water mist systems are often recommended due to their ability to handle large fires.

6.2 Diesel Fuel Storage Safety

The storage of large quantities of diesel fuel for backup generators introduces a significant fire and explosion risk. Fuel storage tanks are subject to specific safety standards, with UL-142 and UL-2085 being prominent. UL-142 is a basic standard for single-walled steel tanks, while UL-2085 provides enhanced fire resistance through double-walled construction, specialized fire-resistant materials, and insulation. UL-2085 tanks are explicitly recommended for high-risk environments and highly populated areas where superior protection is essential. Both standards are recognized by international fire codes, including NFPA 30 (Flammable and Combustible Liquids Code).

Setback requirements for fuel storage tanks vary significantly across different regulations and jurisdictions, highlighting a lack of consistent, universally protective standards:

* NFPA 30 indicates that the distance from any part of a tank storing Class II or Class III liquids (which includes diesel) to a property line that can be built upon shall be not less than 1 foot. This is an extremely minimal setback, clearly inadequate for sensitive receptors.

* OSHA regulations for outdoor storage of containers (up to 60 gallons each) state that piles or groups of containers should not be nearer than 20 feet to a building. Portable tanks should also be no nearer than 20 feet from any building.

* A municipal ordinance in Mapleton, Utah, provides more stringent requirements: above-ground fuel storage tanks must have a 25-foot clear radius from combustible materials, storage areas, parking/backing areas, and buildings on the same lot, and a 50-foot setback from any property line. Underground fuel storage tanks in Mapleton require a minimum setback of 20 feet from a property line and adjacent buildings.

* For temporary underground diesel fuel storage areas, federal regulations may require them to be located within 500 feet of a loading point.

* Guidelines from WorkSafe New Zealand for farms suggest a 2,500L diesel tank must be at least 2 meters (approximately 6.5 feet) from a "protected place" like a house or public building. For plastic tanks storing diesel, this increases to 45 meters (approximately 147 feet) from "protected places".

The disparity in setback requirements for diesel fuel storage tanks across different regulations and jurisdictions highlights a critical regulatory inconsistency. For facilities with the scale and hazard profile of data centers, adopting the most stringent and precautionary setback standards, such as those for highly populated areas (UL-2085), is imperative when elementary schools are nearby, rather than relying on minimum industrial codes.

Table 3: Summary of Diesel Fuel Storage Tank Safety Distances and Fire Protection Requirements

Standard/Regulation	Tank Type/Context	Minimum Setback/Clearance from Buildings/Property Lines/Protected Places	Key Fire Protection Features
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| UL-142 | Basic, single-walled steel tanks for combustible liquids | Focus on construction, no specific setback from sensitive receptors in snippets | Basic safety standards for materials, fittings, pressure ratings, welding |

| UL-2085 | Double-walled, fire-protected tanks for high-risk/populated areas | Suitable for "highly populated areas" | Double-walled, fire-resistant materials, insulation, secondary containment, tested for high heat/impact |

| NFPA 30 | Class II or Class III liquids (diesel) | Not less than 1 ft from property line that can be built upon | Consulted for separation requirements between pump rooms and outdoor tanks |

| OSHA 1926.152 | Outdoor storage (containers > 60 gal, portable tanks) | Not nearer than 20 ft to a building | Piles separated by 5 ft clearance; 12 ft access way for fire control apparatus within 200 ft |

| Mapleton, UT Ordinance | Above-ground fuel storage tanks | 50 ft setback from any property line; 25 ft clear radius from combustibles/buildings on same lot | Sight obscuring fence (6 ft) around tanks and fueling areas |

| WorkSafe NZ (Farms) | Steel diesel tanks (2,500L) | At least 2m (approx. 6.5 ft) from "protected place" (house, public building) | |

| WorkSafe NZ (Farms) | Plastic diesel tanks | 45m (approx. 147 ft) from "protected places" | |

This table highlights the wide variation in fuel storage setback requirements, underscoring the need for Frederick County to adopt the most stringent and precautionary standards, particularly when elementary schools are nearby.

6.3 General Industrial Hazards and Land Use Compatibility

Frederick County's zoning ordinance outlines specific permitted uses and those requiring conditional use permits (CUP) for different districts. While data centers are typically permitted in Limited Industrial (LI) or General Industrial (GI) zones, the Data Centers Workgroup (DCWG) recommended against "by right" development due to concerns about their size, noise, and brightness. This recognition led to

Bill 25-09's proposal for a CDI Overlay zone, acknowledging that general industrial zoning alone is insufficient for such facilities.

The core issue is that industrial zoning, while appropriate for industrial activities, does not automatically confer safety or compatibility when adjacent to sensitive receptors like schools, especially for a novel, energy-intensive industry like data centers with unique hazards. The shift from "by right" to an overlay zone acknowledges that general industrial zoning is insufficient, but the proposed 500-foot setback may still fail to address the unique and cumulative risks.

Existing or proposed zoning of surrounding properties must be compatible with schools, ensuring no potential health or safety risk to students or staff. California's school site selection standards, for example, specify that school sites should not be adjacent to roads or freeways where traffic and sound levels would adversely affect the educational program. Crucially, school sites should also not be located near above-ground water or fuel storage tanks, or within 1500 feet of the easement of an above-ground or underground pipeline that could pose a safety hazard, as determined by a risk analysis study. This 1500-foot standard provides a precedent for larger safety zones around significant fuel infrastructure.

The Frederick County Data Centers Workgroup was specifically tasked with examining "appropriate locations for data centers" and their "impacts on the quality of life". Bill 25-09 itself requires that "schools, college and universities, daycare centers, health care facilities, houses of worship, residences, and other non-industrial uses in the vicinity have been identified and negative impacts to these minimized".

The assertion that a site has "the infrastructure to support" data center development, as stated by Frederick County officials regarding the Eastalco area, often overlooks critical secondary and tertiary infrastructure demands. While initial power line connections might be present, concerns from Council Member Steve McKay about water consumption potentially increasing from one million to seven million gallons per day highlight that "infrastructure to support it" is a fluid concept. This can lead to unforeseen strains on local resources and quality of life, demonstrating a need for comprehensive infrastructure impact studies beyond immediate utility connections. This includes not only water supply but also waste heat dissipation and the cumulative impact of construction and operational traffic on local roads.

7. Integrated Risk Assessment and Comprehensive Setback Recommendations

A comprehensive assessment of data center siting near elementary schools necessitates synthesizing the findings from noise, air quality, EMF, and fire safety analyses, applying the precautionary principle, and critically evaluating existing regulatory proposals.

7.1 Synthesizing Findings from Noise, Air Quality, EMF, and Fire Safety Analyses

The analysis reveals a complex interplay of hazards:

- * Noise: The cumulative effect of 140 diesel generators per data center complex results in extremely high initial decibel levels. Even with advanced mitigation technologies, achieving acceptable exterior noise levels (e.g., 60 dBA) at an elementary school requires significant distance, often exceeding 1,000 meters (3,280 feet). The pervasive nature of low-frequency noise, which travels far and penetrates structures, presents a unique challenge to children's learning and sleep.
- * Air Quality: Diesel exhaust contains a cocktail of carcinogens (e.g., formaldehyde, benzene, PM2.5) and respiratory irritants (e.g., NO_x, SO₂). These pollutants disproportionately affect children, leading to exacerbated asthma, respiratory symptoms, and potential long-term neurodevelopmental impacts. While annual generator runtimes are limited, "short-term spikes" during testing pose acute risks. Current regulations often lack specific health-based setbacks for air pollution, relying on operational limits that may be insufficient for full protection.
- * EMF: Extremely low frequency (ELF) electromagnetic fields from electrical substations and high-voltage lines are classified as "possibly carcinogenic to humans" by the WHO, based on limited evidence linking them to childhood leukemia. Although EMF strength decreases with distance, the absence of federal standards places the burden on local jurisdictions to adopt a precautionary approach, particularly for children.
- * Fire Safety: Data centers present a high inherent fire risk due to dense electrical infrastructure and large volumes of stored diesel fuel. While fire suppression systems and fuel tank standards (e.g., UL-2085 for high-risk areas) exist, the wide variation in regulatory setbacks for fuel storage (from 1 foot to 50 feet from property lines) highlights a critical inconsistency. The sheer volume of fuel required for 140 generators per complex amplifies the potential for catastrophic events, necessitating a substantial buffer zone.

7.2 Applying the Precautionary Principle for Child Health and Safety

Given the unique vulnerabilities of children's developing physiological systems (respiratory, auditory, neurological) and the potential for irreversible harm from chronic exposure to noise, air pollution, and EMF, a precautionary approach to data center siting is paramount. Where scientific certainty is

incomplete, particularly regarding the long-term neurodevelopmental impacts of diesel exhaust particles or the definitive link between EMF and childhood leukemia, policy decisions should err on the side of caution. This means implementing preventative measures to minimize potential harm, rather than waiting for conclusive scientific proof of damage. The long-term health and well-being of a community's children are non-negotiable and must take precedence over short-term economic gains.

7.3 Critique of Frederick County's Proposed 500-foot Setback in Bill 25-09

Frederick County's proposed 500-foot setback in Bill 25-09 is a critical point of contention. This distance, described as a "compromise", appears to be a regulatory minimum derived from political negotiation rather than a comprehensive, health-based safe distance. Community opposition, which views 500 feet as "nothing", is well-founded when considering the full scope of hazards:

* Inadequacy for Noise: As Table 1 illustrates, even with optimistic "Advanced Mitigation" for 140 generators, a 500-foot (approx. 152-meter) setback would still result in exterior noise levels significantly above the 60 dBA compatible exterior noise level for schools. For instance, with advanced mitigation, the noise level at 500 feet is estimated at 27 dBA, which is within the 60 dBA target. However, with standard mitigation, the noise level at 500 feet is estimated at 67 dBA, exceeding the target. With unsilenced generators, the noise level at 500 feet would be a staggering 92 dBA. This analysis demonstrates that 500 feet is insufficient to mitigate the cumulative noise, especially the pervasive low-frequency rumbles, to truly acceptable levels for a learning environment.

* Inadequacy for Air Quality: While a 500-foot operational limit for diesel engines near schools exists in some regulations during school hours, this does not account for all emissions or the full range of pollutants. The potential for acute, highly concentrated "short-term spikes" of toxic pollutants, particularly PM2.5 and NOx, means that 500 feet is likely insufficient to allow for adequate dispersion and dilution before reaching vulnerable children. Comprehensive atmospheric dispersion modeling would almost certainly recommend a larger buffer.

* Inadequacy for Fire/Explosion Risk: The sheer volume of diesel fuel stored for 140 generators presents a catastrophic fire and explosion risk. While some fuel tank setbacks are within 500 feet (e.g., Mapleton, UT's 50 feet from property line), the potential for a large-scale industrial fire or explosion warrants a much larger buffer. The California standard requiring a 1500-foot setback from pipelines near schools provides a strong precedent for larger safety zones around significant fuel infrastructure.

* Inadequacy for EMF: While EMF strength decreases with distance, the "possibly carcinogenic" classification for childhood leukemia dictates a precautionary approach. It is not scientifically

established that 500 feet is a "safe" distance to reduce EMF exposure to negligible levels, particularly for a developing child.

7.4 Comparison with Setback Requirements and Community Concerns in Other Jurisdictions

Frederick County's challenges are not isolated; other jurisdictions grappling with data center expansion offer valuable lessons:

- * Prince William County, Virginia: Residents have voiced strong opposition to data centers near homes, schools, and hospitals, citing significant concerns about the impact on quality of life. Developers have been criticized for relying on existing power lines and community resources rather than investing in more suitable, remote sites.
- * St. Charles, Missouri ("Project Cumulus"): A proposed 440-acre data center faced widespread community opposition due to its proximity to residential areas and a protected wellhead zone, raising fears of 24/7 generator noise, toxic emissions, light pollution, and traffic congestion. A petition against the project garnered thousands of signatures, highlighting the intensity of public concern.
- * Fairfax County, Virginia: While Fairfax County updated its zoning for stricter rules, some projects were grandfathered in under older, less stringent regulations. The county also began requiring noise pollution studies prior to construction. Concerns persist regarding the strain on the power grid and massive water usage.
- * Loudoun County, Virginia: Known as the "World's Data Center Capital," Loudoun County's experience demonstrates how incremental development can lead to residents feeling "surrounded" by data centers, often after zoning changes from residential to industrial. This has resulted in concerns about environmental impacts, diesel exhaust, noise, and stress on the electrical grid.
- * California: State school site selection standards offer a robust framework, prohibiting school sites from being adjacent to roads with adverse sound levels and, notably, from being within 1500 feet of an easement of an above-ground or underground pipeline posing a safety hazard. This 1500-foot standard provides a strong precedent for safety buffers around hazardous industrial infrastructure.

These case studies underscore that the "industrial zone" paradox—where simply zoning an area as industrial does not inherently make it safe for large-scale data centers, particularly when adjacent to

sensitive receptors like schools—is a widespread challenge. The Frederick County Council's shift from "by right" to an overlay zone acknowledges that general industrial zoning is insufficient, but the proposed 500-foot setback may still fail to address the unique and cumulative risks.

7.5 Final Comprehensive Setback Recommendation for Elementary Schools

Based on the synthesis of health impacts, the limitations of current mitigation technologies, and the inadequacy of existing regulatory frameworks, a multi-hazard approach to setbacks is essential. The most restrictive hazard should dictate the minimum setback. Given the severe cumulative noise from 140 generators, the acute air pollution spikes, the "possibly carcinogenic" classification of EMF, and the catastrophic potential of large-scale fuel storage fires, a significantly larger buffer than 500 feet is warranted.

Therefore, this report recommends a minimum setback of at least 1,500 to 2,000 feet (approximately 450 to 600 meters) from any property line of an elementary school to the nearest data center building, diesel generator complex, or major fuel storage facility. This range is proposed as a precautionary starting point for further site-specific, independent, and comprehensive environmental and health impact assessments.

This recommendation aligns with the 1500-foot setback for pipelines near schools in California and acknowledges the severe cumulative impacts of data centers. This distance is intended as a precautionary measure to:

* Allow for greater dispersion and dilution of air pollutants, reducing exposure to acute spikes of toxic emissions.

* Provide significant attenuation of noise, particularly the pervasive low-frequency rumbles, to minimize disruption to learning and sleep.

* Reduce electromagnetic field (EMF) exposure to levels that are more prudent, given the "possibly carcinogenic" classification for childhood leukemia.

* Create a substantially safer buffer zone in the event of a fire, explosion, or other catastrophic incident involving fuel storage or electrical infrastructure.

This setback should be applied comprehensively to the entire data center complex, encompassing all buildings, generator arrays, and fuel storage facilities, ensuring a holistic protective zone for elementary school children.

8. Policy Implications and Future Considerations for Frederick County

To genuinely safeguard public health and quality of life in the face of expanding data center development, Frederick County must adopt a proactive, science-based, and community-centric policy framework. This requires moving beyond reactive measures and political compromises to embrace robust environmental and health protections.

8.1 Mandatory, Independent, and Comprehensive Environmental and Health Impact Assessments (EHIAs)

A fundamental step is to mandate comprehensive Environmental and Health Impact Assessments (EHIAs) for all proposed data center developments and expansions. These assessments must be conducted before any zoning amendments or site plan approvals are granted. Crucially, these EHIAs must be carried out by independent third parties, with funding provided by developers but strict oversight and review by the county, and with ample opportunities for transparent public review and input.

The EHIAs must be exhaustive in their scope, covering:

* Cumulative Noise Modeling: Detailed acoustic studies are required, including octave band analysis for all generators operating simultaneously. This modeling must account for low-frequency noise propagation characteristics and predict both exterior and interior noise levels at all sensitive receptors, including schools, residences, and healthcare facilities.

* Air Dispersion Modeling: Comprehensive atmospheric dispersion modeling of key pollutants (PM2.5, NOx, SO2, and HAPs) is essential. This modeling must account for short-term spikes during generator testing, local wind patterns, and complex topography, coupled with a health risk assessment specifically for vulnerable populations like children.

* EMF Assessment: A thorough assessment of electromagnetic field levels from substations and high-voltage lines at school properties and other sensitive areas is necessary. This assessment should explicitly consider the potential link to childhood leukemia and apply the precautionary principle in determining acceptable exposure levels.

* Fire and Safety Risk Assessment: A detailed analysis of all fuel storage volumes, mandating the use of UL-2085 fire-protected tanks for all diesel fuel storage, and evaluating the adequacy of fire suppression systems is critical. This must include an off-site consequence analysis to predict potential impacts on nearby schools in the event of a major fire or explosion.

* Water and Energy Impact Studies: Comprehensive, long-term assessments of water availability, data center water consumption, and discharge impacts on local water bodies are needed. Similarly, detailed studies on the strain on the regional electrical grid and the reliance on fossil fuels for both primary and backup power must be conducted.

8.2 Robust, Continuous Monitoring and Enforcement

Effective regulation extends beyond initial permitting to continuous oversight. Frederick County should implement mandatory, real-time, and publicly accessible monitoring systems for key environmental parameters. This includes continuous monitoring of noise levels, air quality (specifically PM2.5 and NOx concentrations), and water usage at all data center sites and at nearby sensitive receptors, such as elementary schools. Clear, enforceable thresholds for these parameters must be established, with transparent penalties for non-compliance. Furthermore, annual, independent audits of the environmental performance of all data centers should be mandated, and operational limits for generators, such as the 100 hours per year for testing, must be strictly enforced and publicly reported.

8.3 Strategies for Incentivizing Sustainable Data Center Practices

To align data center development with the county's long-term sustainability goals and to mitigate environmental impacts, Frederick County should actively prioritize and incentivize facilities that demonstrate a commitment to best practices. This includes:

* Renewable Energy and Advanced Cooling: Incentivizing data centers that commit to 100% renewable energy sources and employ advanced cooling technologies that minimize water consumption, such as the use of recycled water.

- * Alternative Backup Power: Encouraging the adoption of alternative backup power solutions that reduce or eliminate reliance on diesel generators, such as large-scale battery energy storage systems or fuel cells.
- * Energy Efficiency: Considering the implementation of high energy use surcharges to encourage greater energy efficiency and discourage excessive consumption.
- * Performance-Based Incentives: Tying existing tax incentives, such as Maryland's sales and use tax exemption for data center infrastructure , to stringent environmental performance criteria and demonstrable contributions to community benefits that extend beyond basic tax revenue.

8.4 Enhancing Transparency and Public Participation

Transparency and public participation are vital for building trust and ensuring accountability. Frederick County should establish clear transparency frameworks and standardized reporting requirements for data center emissions and operational data. This includes making information readily available to the public in an understandable format. Furthermore, meaningful public input must be ensured throughout all phases of planning, permitting, and operation, including accessible public meetings, clear communication channels, and mechanisms to empower community members with the information and resources needed to participate effectively in oversight.

8.5 Addressing Cumulative Impacts of Phased Development

The historical pattern of incremental development, where large projects are introduced in phases without a holistic assessment of their ultimate scale and cumulative impacts, has led to significant community concerns in other jurisdictions, such as Loudoun County, Virginia, where neighborhoods found themselves "enclosed" by data centers. To avoid this "incrementalism" , Frederick County should adopt a policy that requires a comprehensive assessment of the total planned development, including all future phases and potential expansions, from the outset. This proactive approach will prevent unforeseen strains on local resources and quality of life, ensuring that the county's growth is genuinely sustainable and community-compatible.

9. Conclusion

The expansion of data center development in Frederick County presents both economic opportunities and significant environmental and public health challenges. The analysis presented in this report underscores the critical importance of protecting children's health and well-being from the multifaceted impacts of large-scale data center operations, particularly from the cumulative noise and air pollution generated by numerous diesel backup generators, as well as the potential risks from electrical substations and large-scale fuel storage.

The current proposals in Frederick County, including the 500-foot setback in Bill 25-09, are demonstrated to be inadequate in addressing the comprehensive risks identified. This proposed setback, a product of compromise rather than scientific rigor, fails to provide sufficient protection against the pervasive nature of low-frequency noise, the acute toxicity of diesel exhaust spikes, the potential long-term neurodevelopmental impacts, the "possibly carcinogenic" classification of EMF for children, and the catastrophic potential of large-scale fuel storage. The experiences of other jurisdictions further highlight the pitfalls of insufficient regulatory oversight and the disproportionate burden placed on proximate communities.

While data centers offer economic benefits, these must not come at the expense of public health and environmental quality. Frederick County has a unique opportunity to learn from the experiences of other regions and establish a national model for responsible data center development. This requires a fundamental shift towards a proactive, science-based, and community-centric approach to siting and regulation. Implementing mandatory, independent, and comprehensive Environmental and Health Impact Assessments, establishing robust and continuous monitoring and enforcement mechanisms, incentivizing truly sustainable data center practices, enhancing transparency and public participation, and addressing the cumulative impacts of phased development are essential steps.

Ultimately, this report calls for Frederick County to prioritize the health and safety of its most vulnerable citizens, particularly elementary school children, by adopting significant setbacks and a comprehensive regulatory framework. This will ensure that future development genuinely benefits the community without compromising its long-term health, environmental integrity, and quality of life.

On Wed, Aug 6, 2025 at 9:10 PM K and E Stephens <kandestephens@gmail.com> wrote:

Dear Secretary McIlwain, Frederick County Executive Fitzwater, Members of the Frederick County Council, and Members of the Maryland General Assembly, and Frederick County Council and Planning Committee,

I am writing to express serious concerns regarding the accuracy and completeness of the Critical Data Infrastructure (CDI) Overlay Map that was sent to the state. The current map, as shown to the Frederick County Council and Planning, fails to include a very large number of people who are immediately adjacent to the planned data center sites.

Specifically, the map omits the entirety of several communities directly south of the planned data centers, including **Green Hill Manor**, **Adamstown Commons**, and **Carrollton Manor**, among many

others. These neighborhoods are located just across a small street from the planned data centers. As you can see from the attached document, which combines the official CDI overlay with a Google Map, the school and residential areas are clearly and immediately adjacent to the planned data center zone.

A major point of concern is the proximity of **Carroll Manor Elementary School**, located at 5624 Adamstown Rd. Based on the attached map, the school appears to be only about 500 feet from the planned data centers. We have repeatedly asked the Frederick Planning department for the exact distance from the elementary school to the data centers but have been ignored. The only response we have received is a general statement that residents will be 500 feet away, without providing any specific information regarding the school. This lack of transparency is unacceptable, especially given the potential impact on a place where children spend a significant portion of their day. Furthermore, **Carroll Manor Elementary School** is just a few houses away from a large daycare center, "**Creative Memories Children's Learning Center**," at 5529 Adamstown Rd, which is also in close proximity to the planned data centers.

Public Health and Safety Concerns

We are deeply concerned about the public health and safety implications of placing data centers with diesel generators so close to a school and these residential and daycare areas. Data centers rely on diesel generators for backup power, which are tested at minimum monthly and sometimes as often as weekly. The emissions from these generators are a significant source of air pollution, including nitrogen oxides, carbon monoxide, and fine particulate matter. These pollutants have been linked to serious health problems, such as respiratory issues, heart attacks, and cancer. Children are particularly vulnerable to these health risks due to their developing respiratory systems.

Recent actions by the Virginia Department of Environmental Quality (DEQ) further highlight the serious nature of these concerns. DEQ has created a new public database of air permits for data center diesel generators, a move lauded by environmental groups to increase transparency. The DEQ's website lists over 177 permits statewide, with over 85 in Loudoun County alone, and some facilities, like the Hayden Data Center, listing over 150 diesel generators. The American Medical Association has linked the tiny particulate matter from these emissions to an increased risk of heart issues. This data clearly demonstrates the substantial scale of potential pollution and the need for stricter regulation. While Frederick County has agreed to a **500-foot setback** from a resident's home, this distance has not been confirmed for schools and daycare centers, leaving our children unprotected.

Environmental and Resource Strain

In addition to air pollution, the water demands of data centers present a new and critical concern. A recent article highlights that the growth of data centers, particularly those supporting artificial intelligence, is putting a severe strain on water resources in the Chesapeake region. To keep computer servers cool, most data centers use **evaporative cooling systems**, which consume vast quantities of water. For example, Google's data centers alone withdrew nearly 8 billion gallons of water in 2023, with a significant portion of that coming from local watersheds.

A study by the Interstate Commission on the Potomac River Basin projects that if the industry's growth continues at an unconstrained pace, its water consumption could reach **33% of the basin's total water use by 2050**, competing with the region's drinking water supply. This is a critical issue that demands careful planning. As the article notes, the costs of this unchecked growth—including the overwhelming demands on energy and water—are beginning to outweigh the benefits, a sentiment echoed by the Virginia Chapter of the Sierra Club.

The Need for Responsible Planning

The situation in Adamstown mirrors the problems being faced in Loudoun County, Virginia, which has been dubbed "the data center capital of the world." As reported in a recent Bloomberg article, residents in Loudoun are being surrounded by data centers, with new facilities being built just steps from homes, schools, and playgrounds. This unfettered growth has created so much tension that some homeowners in the Hiddenwood community have pleaded with the county to rezone their land for industrial use just so they can collectively sell their homes and move away. As one resident, Bala Thumma, stated, "Our life is meant to be lived peacefully and not fighting every rezoning application that goes on in this community... This is the fifth application that we've been opposing and [which has fallen] on deaf ears." The emotional public hearings and the divisions created between neighboring communities serve as a powerful cautionary tale of poor county planning.

Communities across the country are taking action to protect themselves. A recent example of this is the **unanimous decision by the Tucson City Council to reject Amazon's "Project Blue" data center**. This victory was the result of a community-led coalition that opposed the project on the grounds of protecting their water, air, and climate. Their success demonstrates that local governments can and should stand with their residents against the harmful impacts of data centers. It is clear that the solution to this problem lies in better planning and stricter regulations.

Organizations like the Community & Environmental Defense Services (CEDS) advocate for "Equitable Solutions" that prevent negative impacts while allowing for beneficial projects. They point out that a key issue is often **inadequate local planning and zoning** that fails to protect residential communities. CEDS recommends protective measures, such as zoning ordinances that classify data centers as heavy industrial facilities to ensure a more rigorous review process, and specific noise limits to prevent the "incessant humming" that has taken a toll on quality of life in other communities. It is important to note that communities in Virginia and major energy companies like **BP** are actively exploring and adopting cleaner energy solutions, including nuclear, wind, solar, and advanced cooling systems that improve data center efficiency and reduce their environmental impact. This demonstrates that there are responsible and sustainable alternatives to relying on diesel generators and water-intensive cooling.

We urge the Frederick County Council and Planning to consider these more responsible and sustainable alternatives for the planned data centers in Adamstown. We believe there should be a minimum setback of at least **1,500 feet** between data centers with diesel generators and residential communities, schools, and daycare centers. This buffer zone, along with leaving the existing trees behind the school, would help to mitigate the noise and air pollution impacts on our community.

The current map is misleading and does not accurately represent the true proximity of the planned data centers to a large number of local residents. We urge you to correct the CDI Overlay Map and submit an updated version to the state that includes all neighboring residential areas. We also ask that you provide a clear, precise answer regarding the distance between the planned data centers and Carroll Manor Elementary School and Creative Memories Children's Learning Center, and to implement a minimum setback of 1,500 feet to protect our children and residents from these harmful effects.

Thank you for your immediate attention to this critical matter.

Sincerely,

A Concerned Resident of Adamstown, MD

Ken Stephen's

August 12, 2025

Subject: Opposition to Data Center Expansion in Adamstown – Request for Amendments to Ordinance 25-09

Dear Council Members,

My name is Donna Darvish Dominguez and I am a resident of Green Hill Manor in Adamstown. I am writing to urge you to adopt the proposed amendments to Ordinance 25-09 that would prohibit data centers from abutting residential areas and protect currently designated preservation lands from redesignation.

Data centers of the scale being proposed bring measurable and lasting negative impacts to surrounding communities. Independent studies from the National Renewable Energy Laboratory and the American Planning Association have documented that large-scale data centers significantly increase ambient noise levels, generate constant low-frequency vibration, and emit heat and diesel exhaust from backup generator testing. Even with modern noise control measures, 24/7 equipment operation can raise baseline noise by 15–25 decibels in nearby neighborhoods, well above the World Health Organization's threshold for health disturbance. Prolonged exposure to these conditions is associated with sleep disruption, cardiovascular stress, and reduced quality of life.

The effect on property values is equally well documented. Analyses by the Lincoln Institute of Land Policy and regional real estate associations have shown that homes located within a half-mile of industrial facilities such as data centers can lose 5–15 percent of their market value. In rural residential settings like Adamstown, where property value is closely tied to environmental quality, this reduction can be greater. The result is an immediate economic loss for families and a diminished property tax base for the County.

Data centers also place heavy demands on energy and water infrastructure. According to the U.S. Department of Energy, a single large facility can consume the same electricity as tens of thousands of homes and millions of gallons of water annually for cooling. These resources are diverted from residential and agricultural uses, increasing rates and straining long-term capacity.

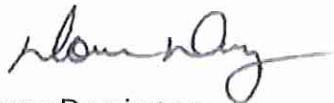
The proposed site next to homes and the potential removal of Priority Preservation Areas, Rural Legacy Areas, and Treasured Landscape Management Areas from protection would not only undermine the rural character that defines our community, it would set a precedent for industrial encroachment on preserved lands. Once rezoned, these areas will

be permanently altered, and no future ordinance will restore them to their original environmental and agricultural value.

This decision is not only about Adamstown. It will shape how Frederick County balances economic development with the health, safety, and welfare of its residents. Protecting residential buffers and honoring preservation designations safeguards property values, public health, environmental resources, and the County's long-term fiscal stability.

I strongly urge you to pass the amendments restoring the original protection against data centers abutting residential areas and prohibiting the removal of current preservation designations for CDI zoning purposes. This is the most responsible path for the Council, your constituents, and the future of Frederick County.

Sincerely,



Donna Dominguez

Resident, Green Hill Manor, Adamstown MD

James, Karen

From: Donna Dominguez <Donna.Dominguez@aprio.com>
Sent: Wednesday, August 13, 2025 1:18 PM
To: Carter, Mason
Cc: County Executive; Planning Commission
Subject: Opposition to Data Center Expansion in Adamstown – Request for Amendments to Ordinance 25-09
Attachments: Letter against Data Center in Adamstown - DMD.pdf

Importance: High

Follow Up Flag: Follow up
Flag Status: Flagged

[EXTERNAL EMAIL]

Hi Mason,

Thank you for your time in this important matter, I'm confident you all will come to the same conclusion as I have as an intelligent and caring elected official doing what's best for our community and your constituents. Warm regards, Donna

Donna Darvish Dominguez | Partner, Government Contracting | Aprio
Office: 111 Rockville Pike | 6th Floor | Rockville, MD 20850
Direct: [\(301\) 222-8232](tel:(301)222-8232)
LinkedIn: <https://www.linkedin.com/in/donna-dominguez-664b26b/>

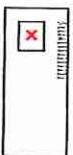


Donna Dominguez

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James, Karen

From: Cecilia Plante <ceciliaplante@verizon.net>
Sent: Thursday, August 14, 2025 12:40 PM
To: Council Members; County Executive; Planning Commission
Subject: CDI Overlay

[EXTERNAL EMAIL]

Hello,

I am writing you ahead of the vote for the data center overlay on August 19th. It is probably inevitable that we would have to deal with datacenters. The need for them is driving decisions that we actually should not be making. In their current state, they are not designed to be efficient - they suck power away from our grid and water away from residential and business use in quantities that we are not prepared to support.

But here we are. These decisions are all related to need and profit and because of that, they are short sighted. I would ask, as you are already deep into this debacle that you at least keep datacenters away from homes. The noise is astounding. Would you like your children to grow up in an atmosphere of constant noise?

Also, 4400 acres is WAY too much for little Adamstown. It would literally destroy the town, not only in terms of the noise, but if the generators are used, the pollution would be intense, not to mention the concentration of power necessary in such a small area. The current residents of Adamstown have no idea that their homes will lose value, their children will suffer, and the town they know will be no longer.

These and other considerations will not be apparent until it is way too late. Residents, not only those in Adamstown, but all across Frederick County and Maryland are counting on you to look down the road. We already have examples of what happens with datacenters from Virginia. The stories are not pretty. Please think about the people, not the money or the need. There are better ways to get this done. Be creative, but also be strong in the face of the pressure from business.

Thank you,

Cecilia Plante
co-Chair, Maryland Legislative Coalition
1021 Holden Road
Frederick, MD 21701

James, Karen

From: Ellen Roehl <ellenroehl@yahoo.com>
Sent: Thursday, August 14, 2025 2:29 PM
To: Council Members
Cc: County Executive; Planning Commission
Subject: Amend The Critical Data Infrastructure Zoning Overlay

[EXTERNAL EMAIL]

As a resident of Frederick, concerned about the future of our county, I feel strongly that The Critical Data Infrastructure Zoning Overlay should be amended.

I am opposed to data centers next to homes. The CDI Zone Ordinance (25-09) should be amended to remove the setback of 500 feet from residences and return to the restriction that data centers should not abut residential areas.

I believe that 4,400 acres of data centers is too many, especially when confined to the Adamstown area. The overlay bill calls for 1% of the county's acreage to be designated for data centers, which is 4,400 acres. It would be better to keep the data center overlay within the current Eastalco area until we have a chance to see the full effects of these facilities on our water, power and environment.

I am also in favor of honoring the commitment to protect preservation areas. We need an amendment to protect land currently designated as a Priority Preservation Area (PPA), Rural Legacy Area (RLA), or Treasured Landscape Management Areas for any such designated lands as of June 17, 2025.

I am counting on my elected representatives to ensure that Frederick County remains the place that I am happy to call home, and that any large increases in electricity and water usage caused by data centers are paid for by the developers and owners of the data centers and not by individual Frederick residents like myself.

Ellen Roehl
109 E 3rd St
Frederick, MD 21701

James, Karen

From: Frankie Shipper <fcshipper@gmail.com>
Sent: Thursday, August 14, 2025 4:10 PM
To: Donald, Jerry
Cc: Young, Brad; Duckett, Kavonte; Keegan-Ayer, MC; Carter, Mason; McKay, Steve; Knapp, Renee; County Executive; Planning Commission
Subject: CDI Zoning Ordinance
Attachments: email signed supporting CDI zoning amendments.pdf

[EXTERNAL EMAIL]

County Council, County Executive, and Planning Commission,

Please see our attached letter to our District Council member, which also implies our request of you for the upcoming meeting.

Thank you,
Frankie Shipper

James, Karen

From: Nicole M <wales2012@gmail.com>
Sent: Thursday, August 14, 2025 4:35 PM
To: Young, Brad
Cc: County Executive; Planning Commission; Duckett, Kavonte; Keegan-Ayer, MC; Carter, Mason; Donald, Jerry; McKay, Steve; Knapp, Renee
Subject: Pass the proposed amendments to the CDI Overlay ordinance

[EXTERNAL EMAIL]

Good afternoon,

I am contacting you regarding the proposed amendments to the CDI Overlay ordinance which will affect Adamstown and Frederick County residents. I am asking that the Council return to the original protection as presented at the First Reading that took place January 7, 2025. Data center land should not abut land that is zoned or designated as Residential. This is very important to local homeowners. The CDI Zone Ordinance (25-09) should be amended to remove the setbacks, and return to the restriction that data centers should not abut residential areas.

Secondly, I am asking that you keep any land designated as Priority Preservation Area (PPA), Rural Legacy Area (RLA), or Treasured Landscape Management Areas under protection from data center development. These lands are important and should not be redesignated outside of these preservation categories. The Comprehensive Plan action currently underway is a land grab as it removes hundreds of acres of preserved land from protection. This is not what county residents want. We want our land protected. I moved to Frederick County because of its rural atmosphere, but each year more and more of it is lost to development.

Please listen to what your constituents want because it certainly isn't more land loss and data centers.
Sincerely,
Nicole Mooney

James, Karen

From: MARY BEAM <beamery@comcast.net>
Sent: Thursday, August 14, 2025 8:13 PM
To: Planning Commission
Subject: please pass amendments

[EXTERNAL EMAIL]

2650 Ballenger Creek Pike
Frederick, Maryland 21703
August 14, 2025

Dear County Planning Commission:

Please pass the proposed amendments to the Critical Data Infrastructure Zoning Overlay. We live on our farm one country block away from the data center on Ballenger Creek Pike, and it has already, frankly, ruined the environment: the nonstop dirty roads, the increased traffic, the unsightly buildings, the noise, the litter alongside our farm roads from the extra car and truck traffic, and the light pollution. In addition, we notice that the company (building the data center) has employees that all seem to come from Virginia. It begs the question: What benefits are we in the Adamstown area even getting?

The county needs to preserve our protected rural areas. Our farmland is precious to Frederick County. We need to confine this data center business to the already polluted Eastalco land, which is already unsafe for habitation, not expand it. Data centers suck too much power and pollute the water. And please, do not allow them to abut housing areas at all. The current buildings are hugging the street instead of being set back to hide them from view. They are unsightly. Enough is enough.

Sincerely,

William and Mary Beam

301-793-1048

James, Karen

From: Patty Lasko <pattydhw@gmail.com>
Sent: Friday, August 15, 2025 8:58 AM
To: Planning Commission
Subject: Adamstown data centers

[EXTERNAL EMAIL]

I am a resident of old Adamstown village. I am writing to request several changes to the proposed amendments to the CDI Overlay.

1) No data centers next to homes!

The County Council must return to the County Executive's original protection as presented at the First Reading on January 7, 2025. See Siting Requirements to Apply to Critical Digital Infrastructure Facilities, line 24 through 26, page 3., or similar language:

(d) The track of land where the Critical Digital Infrastructure use is proposed

Cannot abut land that is zoned residential or is designated residential on the Comprehensive Plan Use map.

Therefore, first, the CDI Zone Ordinance (25-09) should be amended.

- 1- to remove the setbacks, and
- 2- return to the restriction that datacenters should not abut residential areas.

2) Honor the commitment to protecting preservation areas.

No sacrificing protected land to data center sprawl

The way the CDI Zone Ordinance (25-09) reads now is misleading. It looks like the Overlay will not sit over lands designated for preservation. But if the Planning Commission and then the Council agree to remove those lands from these preservation areas, the Overlay would change these protected lands to an industrial zone for data centers.

I ask that you stress that an amendment is needed to protect land currently designated as a Priority Preservation Area (PPA), Rural Legacy Area (RLA), or Treasured Landscape Management Areas for any such designated lands as of 17 June 2025. This means that these lands cannot be redesignated out of these preservation categories during the Comprehensive Plan action currently underway for the purpose of placing the Overlay there. If this amendment passes the land currently designated for preservation will be protected and the residents and farmers who live and work adjacent to the threatened land will be assured that their lives will not be turned upside down from data center sprawl. We need everyone and their neighbors to write the county council, Planning Commission and County Executive.

- Why should the financial windfall of a few land speculators be more important to the council members than the welfare of their constituents?
- The proposed CDI Zoning Map could be amended by any County Council in the future. What protection is there that a future map will not abut the village of Adamstown? Only returning the language to restrict data centers from abutting residential areas will relieve our anxiety and provide lasting protection.
- A 500-foot setback is especially outrageous given that the council members voted to remove protection for the public from noise, vibration or pollution contained in an earlier data center bill. It removed complaint driven action, testing at the time of construction completion and prior to operation, changed reporting by the industry from twice a year to every two years and finally did not provide enforcement or fines for non-compliance with stated noise and vibration limits. The level of pollution from diesel generator testing is not measured or reported periodically.

Please restrict Critical Digital Infrastructure from any Priority Preservation Area (PPA), Rural Legacy Area (RLA), or Treasured Landscape Management Areas for any such designated lands as of 17 June 2025.

- I chose to live in Frederick County because of its rural character. An amendment is needed so that any Priority Preservation Area (PPA), Rural Legacy Area (RLA), or Treasured Landscape Management Areas lands cannot be redesignated out of these preservation categories. The Comprehensive Plan action currently underway is a land specular land grab as it removes hundreds of acres of preserved land from protection.
- I am a resident and voter in Frederick County. The CDI Siting Ordinance (25-05) looks like it was written by the data center industry the privileges are many and the protections for residents so few. The follow-up CDI Zoning Ordinance (25-09) as currently written is a land grab for speculators. The way the bill reads now, it makes you think that the Overlay won't sit over these lands designated for preservation - but it's misleading, because if the Planning Commission and then the Council agree to remove those lands from these preservation areas, then the Overlay would be fine there. An amendment protecting the currently designated Priority Preservation Area (PPA), Rural Legacy Area (RLA), or Treasured Landscape Management Areas needs to pass so that this can't happen.

Sincerely,
Patty Lasko
5723 Mountville Rd
Adamstown, MD 21710

[Show quoted text](#)

James, Karen

From: Bev Thoms <thoms.bev@icloud.com>
Sent: Friday, August 15, 2025 8:54 AM
To: Council Members
Cc: County Executive; Planning Commission
Subject: Sensible regulation for Data Centers

[EXTERNAL EMAIL]

1. No data centers next to homes!

The CDI Zone Ordinance (25-09) should be amended:

- to remove the setback of 500 ft from residences, and
- return to the restriction that data centers should not abut residential areas.

2. 4,400 acres of data centers is too many, especially when confined to the Adamstown area.

The overlay bill calls for 1% of the county's acreage to be designated for data centers — that is 4,400 acres! **It would be smarter to keep the data center overlay within the current Eastalco area**, at least until it's built out and our county has an understanding of the full effects of these facilities on our water, power and environment.

3. Honor the commitment to protect preservation areas.

Pass an amendment to protect land currently designated as a Priority Preservation Area (PPA), Rural Legacy Area (RLA), or Treasured Landscape Management Areas for any such designated lands as of 17 June 2025. This means that these lands cannot be redesignated out of these preservation categories during the Comprehensive Plan action currently underway for the purpose of placing the Overlay there.

Bev Thoms
Dickerson, MD 20842

James, Karen

From: Betty Anne Cox <coxba120@sbcglobal.net>
Sent: Friday, August 15, 2025 9:46 AM
To: coxba12@sbcglobal.net
Cc: alperkins70@gmail.com; Roger Sullivan; fcshipper@gmail.com;
maryfletcher@gmail.com; vondurcheimmd@hotmail.com; bnewland@verizon.net;
rogercurren@gmail.com; judycurren@gmail.com; donturrell@graytie.com;
annturrell@graytie.com
Subject: Proposed CDI Zone Plan Amendments

[EXTERNAL EMAIL]

As a resident of Buckingham's Choice and close neighbor of the proposed CDI project, I strongly urge you to support the amendments to protect the land use which will be considered on Aug. 19. I speak for many BC residents who are unable to attend meetings or correspond their deep concerns to you who will control our area going forward.

This is not only a current emergency to protect this land and its surroundings. It is to protect the future of this area for generations to come. Please respect the serious request of the voters who have given you the privilege to make these important decisions. We are counting on your wisdom to protect your constituents for today and for the residents who have supported you.

Thank you,

Elizabeth A. Cox

James, Karen

From: Elizabeth Law <bettybob1758@gmail.com>
Sent: Friday, August 15, 2025 11:12 AM
To: Council Members; Young, Brad; Duckett, Kavonte; Donald, Jerry; Keegan-Ayer, MC;
Carter, Mason; Knapp, Renee; McKay, Steve
Cc: County Executive; Venable, Victoria; Planning Commission
Subject: Comments on CDI Zone Ordinance – 25-09, Hearing on August 19, 2025

[EXTERNAL EMAIL]

Council President Brad Young, Vice-president Kavonte Duckett and Council Members,

As you may have judged by the outpouring of opposition at the July 15 meeting, the residents of Adamstown and the general public are dissatisfied with the CDI Ordinance (25-09) as presently proposed.

It is important to amend this ordinance back to the County Executive's original proposal to not allow data center expansion anywhere near residential areas or any areas proposed to have residential zoning. It would be best to wait upon further expansion until the present old East Alco site is fully built out. There is no water or power for such an expansion presently and unlikely to be so for several years if ever.

To this end: **the protected agricultural property should remain protected.** The areas presently designated Priority Preservation areas, Rural Legacy areas and/or Treasured Landscape Areas should be **excluded from the Overlay.**

You can demonstrate that you care more for the welfare of Frederick's citizens whose residences are threatened than you do for the quick profits of land speculators by amending 25-09 to:

"The track of land where the Critical Digital Infrastructure use is proposed

May not abut land that is zoned residential or is designated residential on the

Comprehensive Plan Use map. "

The need for more industrial expansion to improve the tax base of the county is understood and appreciated but it should not come at the expense of ruining a long-standing rural community or the health safety and welfare of those who reside there presently and in the future.

Previous county politicians created the school financial crisis by facilitating developers' maneuvers to avoid paying their fair share of school construction costs. Don't compound the problem by sacrificing our precious rural land and residential areas to developer ambition with the excuse that the data center taxes will make everything whole.

Sincerely,

Robert and Elizabeth Law

1758 Wheyfield Drive,

James, Karen

From: Mandy James <MJames@vwbrown.com>
Sent: Friday, August 15, 2025 11:41 AM
Subject: Adamstown Data Center

[EXTERNAL EMAIL]

1) No data centers next to homes!

The County Council must return to the County Executive's original protection as presented at the First Reading on January 7, 2025. See *Siting Requirements to Apply to Critical Digital Infrastructure Facilities*, line 24 through 26, page 3., or similar language:

(d) The track of land where the Critical Digital Infrastructure use is proposed may not abut land that is zoned residential or is designated residential on the Comprehensive Plan Use map.

Therefore, first, the CDI Zone Ordinance (25-09) should be amended.

- a) to remove the setbacks, and
- b) return to the restriction that datacenters should not abut residential areas.

2) Honor the commitment to protecting preservation areas.

The way the CDI Zone Ordinance (25-09) reads now is misleading. If the Planning Commission and then the Council agree to remove those lands from these preservation areas, the Overlay would change these protected lands to an industrial zone for data centers.

An amendment is needed to protect land currently designated as a Priority Preservation Area (PPA), Rural Legacy Area (RLA), or Treasured Landscape Management Areas.

If you must approve giving away the maximum amount of land, I hope you'll consider those of us affect (and whom YOU represent) and mandate "buffer zone" requirements such as:

- Required distance from existing structures
- Required distance from other property lines
- Required "living" barriers? Trees/bushes to keep noise from traveling

Also, consider making them give back to the public – via walking/biking paths, ponds, etc

Christopher J Cooper
5791 Hurdle Hill Ct
Frederick MD

James, Karen

From: Barbara Newland <bnewland@verizon.net>
Sent: Friday, August 15, 2025 1:28 PM
To: Donald, Jerry
Cc: County Executive; Planning Commission; Young, Brad; Duckett, Kavonte; Keegan-Ayer, MC; Carter, Mason; McKay, Steve; Knapp, Renee; Council Members
Subject: CDI Zone Ordinance (25-09)

[EXTERNAL EMAIL]

August 15, 2025

Dear Mr. Donald:

My husband and I have been Maryland residents for 50+ years, mostly in Montgomery County. About four years ago we moved to Frederick County and settled in at Buckingham's Choice in Adamstown. A major contributor to our decision to relocate to Frederick County was the beauty of the countryside and closeness to Frederick City, a true gem.

Along with most people, I have benefited from technology and recognize the need for it. I spent the majority of my professional life in the IT Industry in business management and product development. A guiding goal throughout my entire career was excellent customer service - listening to my customers and providing useful and valuable services.

I am not going to comment on the technical and procedural issues surrounding the data center saga. Many, many people have already done so. I want to focus on the issue of Customer Service. What I read, see and feel is that your customers (tax paying constituents) are unhappy and sincerely believe that they are being ignored. This is no way to run a business and no way to run local and state government.

It is not too late to change these hard feelings. I would hope that you see fit to seriously consider including your constituency in this process. It would be wonderful to have Frederick County become a model for other communities who are or will soon be faced with what is currently the data center battlefield. This model would ensure a solid business plan for the data center business as well as a process that pays attention to the people, while ensuring that needed data centers are built properly.

Looking at the massive and sprawling data centers in Northern Virginia is appalling. It is terrifying to envision that much of our beautiful farmland in Frederick County will be destroyed and the lives of families in local communities be changed forever.

Please do the right thing, include your customers as partners in the process to bring data centers to our community in a way that can make everyone feel they are being heard. It is never too late to do the right thing.

Thank you for your consideration.

Barbara Newland, Adamstown, MD

James, Karen

From: Nancy Smith <nsmith@gmail.com>
Sent: Friday, August 15, 2025 2:22 PM
To: Council Members
Cc: County Executive; Planning Commission
Subject: Bill 25-09

[EXTERNAL EMAIL]

Council Members:

Preserve the livability of Frederick County. Keep Frederick County on a human scale. Do not subsume land, water, and the biomass into an extraction arena for data centers - the need for which is being questioned even by many knowledgeable tech heavyweights.

1. No data centers next to homes, please! Return the restriction that data centers NOT be placed in residential areas
2. Confine the data center overlay to just the Eastalco area. 4,400 acres of data centers is TOO MANY acres of data centers
3. Commit to protecting preservation areas -Priority Preservation Area (PPA), Rural Legacy Area (RLA), or Treasured Landscape Management Areas. Amend the proposal to deny any redesignation of preservation categories. Do not allow the overlay to take over these categories. Do not allow the trees, fertile farmland, and even the lichen of Frederick to be covered in concrete.

Yours truly,
Nancy L. Smith

James, Karen

From: Josh Yeager <yeager.josh@gmail.com>
Sent: Friday, August 15, 2025 2:28 PM
To: Council Members; Young, Brad; Duckett, Kavonte; Keegan-Ayer, MC; Carter, Mason; Donald, Jerry; McKay, Steve; Knapp, Renee; County Executive; Planning Commission
Subject: Letter in support of the data center overlay zone

[EXTERNAL EMAIL]

Members of the County Council and the Planning Commission,

I'm writing in support of the Digital Infrastructure Overlay Zone. I believe that carefully-managed data center development is key to Frederick County's future health. Data centers will expand and diversify our county's tax revenue without creating new burdens on our school system or road infrastructure. And because the East Alcoa location already has power and water infrastructure, this plan will have minimal impact on the residents of the County.

I appreciate that the new zoning rules require data center operators to minimize the visual and auditory impact of the data centers on the residents around them. In fact, it seems to me that these rules are significantly more strict than the rules that apply to other construction projects like warehouses. I believe that once the data centers have been constructed, the residents of the County will not have any significant objections to their presence.

I believe that the overlay zone as proposed is a good step forward for Frederick County. Please implement it promptly and also consider future expansion or creation of other data center overlay zones where appropriate.

Thank you,

Josh Yeager

James, Karen

From: Daryl Boffman <dboffman@gmail.com>
Sent: Friday, August 15, 2025 2:37 PM
To: Planning Commission
Subject: Support for the Critical Digital Infrastructure Overlay Zone

[EXTERNAL EMAIL]

Dear FFrederick County Planning Commission,

As a resident of Adamstown, a business owner in Frederick County, and a former member of the County's Data Center Committee, I strongly support the proposed Critical Digital Infrastructure Overlay Zone (CDI-OZ) outlined by the County Executive's planning staff in July 2025.

The proposal limits data center development to 2,566 acres around the Eastalco property—well below 1% of the County's total land mass and under the 4,200-acre target set by County leadership. Eastalco offers the infrastructure needed for this use and is ideally located near the world's leading data center hub in Northern Virginia.

This plan strikes a fair balance between economic growth and farmland preservation by:

- Focusing development where infrastructure exists, preserving other LI and GI lands for diverse industries.
- Expanding the commercial tax base to ease the burden on residential taxpayers.
- Attracting major corporations, maintaining our AAA bond rating, and bringing billions in investment.
- Generating high-paying jobs without straining transportation or schools.
- Helping offset projected State and Federal funding cuts for local services.

Data centers are the backbone of today's digital economy and will be even more critical in the future as technology continues to advance. Establishing the CDI-OZ ensures Frederick County is positioned to benefit from this growth while meeting the demands of a rapidly evolving, technology-driven world.

I respectfully urge you to support and adopt this proposal.

Sincerely,
Daryl Boffman
Adamstown Resident
Business Owner, Frederick County
Former Member, Frederick County Data Center Committee

James, Karen

From: Jackie Raiford <jacquelineraiford@gmail.com>
Sent: Friday, August 15, 2025 4:12 PM
To: Council Members; Young, Brad; Duckett, Kavonte; Keegan-Ayer, MC; Carter, Mason; Donald, Jerry; McKay, Steve; Knapp, Renee
Cc: County Executive; Planning Commission
Subject: Please Amend the CDI Zone Ordinance (25-09) to Protect Our Homes and Farmland

[EXTERNAL EMAIL]

Dear Council Members,

I am writing as an Adamstown resident who lives just a few miles from the Ballenger Creek Pike and Mountville Road intersection, where the data center construction has been unfolding over the past year. Watching the rural character I moved here to enjoy—only a year ago—be replaced by industrial development has been heartbreaking.

I came to Adamstown after 10 years in downtown Frederick, drawn by the peace and quiet, the open farmland, and the abundance of wildlife. As a Park Naturalist, I take pride in Frederick County's agricultural heritage and its role as an oasis for declining species such as the American Barn Owl. My own yard attracts rare migrating birds and butterflies—habitat that would be lost forever if bulldozed for corporate gain.

I urge you to adopt the two proposed amendments to the CDI Overlay Ordinance (25-09):

- 1. No data centers next to homes.** Please return to the County Executive's original protection that prohibits data centers from abutting residential-zoned or residential-designated land. The current 500-foot setback is wholly inadequate, especially given that earlier protections for residents from noise, vibration, and pollution were removed from a prior bill.
- 2. Honor the commitment to preserving protected lands.** Please ensure that lands currently designated as Priority Preservation Areas (PPA), Rural Legacy Areas (RLA), or Treasured Landscape Management Areas as of June 17, 2025, cannot be redesignated for the purpose of placing the CDI Overlay there. These areas were set aside for a reason—to preserve our rural character, farmland, and environmental health.

This is not just about one site—it's about the precedent you set for the future of Frederick County. Once preservation protections are eroded, we cannot get them back. If the Council chooses not to protect these lands and our residential areas, it will signal that the financial gain of a few outweighs the quality of life, environmental health, and trust of your constituents.

I respectfully ask you to stand with the residents, farmers, and wildlife of Frederick County by passing these amendments.

Sincerely,
Jacqueline Raiford

Adamstown, MD Resident
21710

James, Karen

From: Alex Gorokhov <gorokhov888@gmail.com>
Sent: Friday, August 15, 2025 4:54 PM
To: Council Members; Young, Brad; Duckett, Kavonte; Keegan-Ayer, MC; Carter, Mason; Donald, Jerry; McKay, Steve; Knapp, Renee
Cc: County Executive; Planning Commission
Subject: Please Amend the CDI Zone Ordinance (25-09) to Protect Our Homes and Farmland

[EXTERNAL EMAIL]

Dear Council Members,

My wife wrote this more eloquently but I tend to be direct. Stop selling out our rural communities in favor of corporate interests. These developments disproportionately benefit corporations while the changes they enact permanently transform our landscape.

I urge you to adopt the two proposed amendments to the CDI Overlay Ordinance (25-09):

1. **No data centers next to homes.** Please return to the County Executive's original protection that prohibits data centers from abutting residential-zoned or residential-designated land. The current 500-foot setback is wholly inadequate, especially given that earlier protections for residents from noise, vibration, and pollution were removed from a prior bill.
2. **Honor the commitment to preserving protected lands.** Please ensure that lands currently designated as Priority Preservation Areas (PPA), Rural Legacy Areas (RLA), or Treasured Landscape Management Areas as of June 17, 2025, cannot be redesignated for the purpose of placing the CDI Overlay there. These areas were set aside for a reason—to preserve our rural character, farmland, and environmental health.

This is not just about one site—it's about the precedent you set for the future of Frederick County. Once preservation protections are eroded, we cannot get them back.

Respectfully,

Alex Gorokhov
5010 Bald Hill Road
Adamstown, MD 21710
240-620-2525

James, Karen

From: Jenna Miner <minerjlin@gmail.com>
Sent: Friday, August 15, 2025 6:08 PM
To: Council Members
Cc: County Executive; Planning Commission
Subject: Protect Frederick County - Support Amendments to Bill 25-09

[EXTERNAL EMAIL]

Dear Council Members,

I am writing to express my strong opposition to the current form of the CDI Zone Ordinance (Bill 25-09) and to urge you to support critical amendments that will better protect our residents, resources, and rural character.

1. No data centers next to homes.

The ordinance should restore the original restriction that data centers are not abut residential areas, rather than allowing them as close as 500 feet from homes. Such proximity threatens residents' quality of life with noise, traffic, and industrial impacts.

2. Reduce the excessive acreage.

Designating 4,400 acres for data centers, particularly concentrated in the Adamstown area, is far too much. At the very least, this overlay should remain limited to the current Eastalco area until its impacts on water, power, and the environment are fully understood.

3. Protect preservation areas.

The County must honor its commitment to protect Priority Preservation Areas (PPA), Rural Legacy Areas (RLA), and Treasured Landscape Management Areas from industrial development. These lands should not be redesignated during the Comprehensive Plan process simply to accommodate the data center overlay.

Frederick County is known for its agricultural heritage, scenic landscape, and strong communities. The proposed ordinance, without these amendments, jeopardizes all of these values. I ask you to stand with residents, safeguard our resources, and ensure that growth is balanced and sustainable.

Thank you for your time and attention to this important matter.

Sincerely,
Jenna Miner
Resident of Frederick County

From: haileyleasants@icloud.com
Sent: Friday, August 15, 2025 7:38 PM
To: Planning Commission; County Council
Subject: In support of CDI-OZ

Mr. Brad Young, President *and*
the Frederick County Planning Commissic
Members of the Frederick County Council
PlanningCommission@FrederickCountyMd.gov
Winchester Hall
12 E. Church Street
Frederick, MD 21701
countycouncil@frederickcountymd.gov

Dear Frederick County Council and Plann:

I'm writing in support of the proposed Cri
Infrastructure Overlay Zone (CDI-OZ) as |
County Executive's planning staff in July,
introduction of the CDI-OZ presented by s

[EXTERNAL EMAIL]

Sent from my iPhone

James, Karen

From: Bob Gramm <ragramm@hotmail.com>
Sent: Saturday, August 16, 2025 6:54 AM
To: Council Members
Cc: County Executive; Planning Commission
Subject: Critical Data Infrastructure Overlay Hearing - Amendment

[EXTERNAL EMAIL]

I am writing to express my concerns about the CDI Overlay and my support for amending the CDI Ordnance to better protect the Frederick County environment and its citizens.

1. Data Centers have no business being in close proximity to residential areas. The proposed 500 foot setback is not adequate. Data Centers should not abut residential communities under any circumstances.
2. The proposed acreage allowed for Data Centers is too large, being set at 4,400 acres. This needs to be reset to the current Eastalco boundary until all the actual impacts on Frederick County of Data Centers is better understood and accounted for.
3. All existing land preservation designations (PPA, RLA, and Treasured Landscape Management Areas) need to be maintained as is and not subject to change via the CDI Overlay.

Very truly yours,
Robert Gramm
4615 Granite Drive, Middletown

James, Karen

From: Maryrose <mimilagro@yahoo.com>
Sent: Saturday, August 16, 2025 9:04 AM
To: Council Members
Cc: County Executive; Planning Commission
Subject: CDI Zone Ordinance (Bill 25-09)

[EXTERNAL EMAIL]

Dear Council Members,

As a resident of Frederick County I am extremely concerned about the CDI Zone Ordinance (25-09). It seems you are determined to pass the ordinance despite strong objections to passing it before a study is conducted to assess its impact. Not knowing its potential economic and environmental impact on the citizens of Frederick County is a liability that may haunt all of us.

Therefore, I urge you to AT LEAST pass the amendments below as you vote on this matter.

1. No data centers next to homes!

The CDI Zone Ordinance (25-09) should be amended:

- to remove the setback of 500 ft from residences, and
- return to the restriction that data centers should not abut residential areas.
-

2. 4,400 acres of data centers is too many, especially when confined to the Adamstown area.

The overlay bill calls for 1% of the county's acreage to be designated for data centers — that is 4,400 acres! It would be smarter to keep the data center overlay within the current Eastalco area, **at least until it's built out and our county has an understanding of the full effects of these facilities on our water, power and environment.**

3. Honor the commitment to protect preservation areas.

Ask for an amendment to protect land currently designated as a Priority Preservation Area (PPA), Rural Legacy Area (RLA), or Treasured Landscape Management Areas for any such designated lands as of 17 June 2025. This means that these lands cannot be redesignated out of these preservation categories during the Comprehensive Plan action currently underway for the purpose of placing the Overlay there.

Thank you,
Maryrose Wilson
12102 Coppermine Road
Union Bridge MD 21791

James, Karen

From: Chelle <dvsboyz114@yahoo.com>
Sent: Saturday, August 16, 2025 10:10 AM
To: Planning Commission; County Council
Subject: Please approve.

[EXTERNAL EMAIL]

Mr. Brad Young, President *and* Members of the Frederick County Planning Commission
Members of the Frederick County Council PlanningCommission@FrederickCountyMD.gov
Winchester Hall
12 E. Church Street
Frederick, MD 21701
countycouncil@frederickcountymd.gov

Dear Frederick County Council and Planning Commission:

I'm writing in support of the proposed Critical Digital Infrastructure Overlay Zone (CDI-OZ) as proposed by the County Executive's planning staff in July, 2025. As stated in the introduction of the CDI-OZ presented by staff;

"On May 6, 2025, Frederick County Executive Jessica Fitzwater and the County Council announced that data center development will be limited to the area around the Eastalco property north of Adamstown. In addition to defining the geography of this use, the County Executive and County Council specified that the land area for data centers will be limited to less than 1% of the County's total land mass."

While it is always difficult to reach complete consensus on matters having to do with future development and land use issues, the proposed CDI-OZ represents a reasonable balance between the need for significant economic development opportunities in the County and the long-term preservation of farmland in support of

The Eastalco area has the infrastructure attributes necessary to support data center development and is strategically located in close proximity to the world's most important data center hub in Northern Virginia. This represents an important opportunity for both the County and State of Maryland to bolster and diversify the region's economic base and generate significant revenues to benefit County services for our residents.

Affordable housing in Frederick County is of great importance. Residential property assessments in the County are increasing at a rapid rate (as much as 30% over 3 years), substantially outpacing the Homestead Property tax Program exemptions, resulting in annual 5% increases in homeowner taxes. The increased tax revenue provided by Data centers and

the related service providers and businesses will help relieve the stress of unsustainable home property tax increases.

Much as the County and State have planned for the future of agricultural preservation by establishing easements on approximately 90,000 acres of farmland so far, with a goal of 160,000 acres, the County likewise should be identifying the areas now that are appropriate for data center development in the foreseeable future. The CDI-OZ as proposed, encompassing only 2,566 acres, is the appropriate way forward to strike the balance between economic developments on the one hand and agricultural preservation on the other.

Data center growth in Frederick County will provide long term benefits to the residents of Frederick County and the State of Maryland. Frederick County should not miss this opportunity.

I urge you to approve the Overlay Zone (CDI-OZ) as proposed by the County Executive's planning staff in July 2025.

Best regards,

Chelle Davis
3313 Nicholas Court
Ijamsville MD
Sent from my iPhone

James, Karen

From: JE Sachs <janeesachs@gmail.com>
Sent: Saturday, August 16, 2025 2:26 PM
To: Council Members
Cc: County Executive; Planning Commission
Subject: Bill 25-09 to create a CDI Overlay Zone

[EXTERNAL EMAIL]

Councilmembers:

I write regarding Bill 25-09, to create a CDI Overlay Zone, and to urge you to accept the amendments thereto proposed by Councilmembers McKay and Donald. The idea of an Overlay Zone as a means of controlling data center development is far superior to the "by right" development principle currently in force. As the product of a process allowing significant public input, an overlay zone will limit developers' choices about location to those more acceptable to county residents.

Further, two of the amendments proposed by Councilmembers McKay and Donald are especially important because they offer other necessary protections to the community. The first is the amendment to protect land designated as Priority Preservation Area, Rural Legacy Area, or Treasured Landscape Management Area as of June 17, 2025. To allow redesignation of this property for the purpose of placing an overlay on it would undercut the anti-sprawl rationale behind the protection of these places in the first instance. County Government should honor its earlier commitment to us and move forward, not backwards.

The second is the amendment to eliminate the 500' setback requirements and to reinstate the restriction that data centers should not abut residential areas. Much has been written about the harms to quality of life presented by data centers located close to residential areas. A flat limit of 500 feet, regardless of the particular characteristics of the nearby residential area, who lives there, its terrain and other environmental features, promises to be rigid and out-of-touch.

In conclusion, I hope that the County Council will do the right thing and pass this bill with the McKay and Donald amendments.

Respectfully submitted,

Jane Sachs, JD, PhD
Thurmont

James, Karen

From: llbuck@aol.com
Sent: Saturday, August 16, 2025 3:14 PM
To: JDonald@grederickcountymd.gov
Cc: County Executive; Planning Commission
Subject: proposed amendments to the CDI Overlay

[EXTERNAL EMAIL]

Dear Mr. Donald,

I am a registered voter in Frederick County, a resident of Buckingham's Choice (a CCRC), a senior community which closely abuts the CDI Overlay Zone.

I am strongly in favor of an amendment to protect preservation areas: Priority Preservation Areas, Rural Legacy Areas, and Treasured Landscape Management Areas. My husband and I moved here from Connecticut 9 years ago to live in a rural area, not an industrial area. Farming and a rural way of life are worth preserving. An amendment should be passed, making it clear that lands cannot be redesignated out of the preservation categories during the Comprehensive Plan action that is now underway.

I am also strongly in favor of an amendment that makes it clear that no data centers will end up right next to homes. I am in favor of the County Executive's original protection, reading "The track of land where the Critical Digital Infrastructure use is proposed may not abut land that is zoned residential or is designated residential on the Comprehensive Plan Use map."

Sincerely,

Lillian Buck
3128 Chartwell Crescent Lane
Adamstown, MD 21710

James, Karen

From: llbuck@aol.com
Sent: Saturday, August 16, 2025 3:25 PM
To: Donald, Jerry
Cc: County Executive; Planning Commission
Subject: proposed amendments to the CDI Overlay

[EXTERNAL EMAIL]

Dear Mr. Donald,

I am a registered voter in Frederick County, a resident of Buckingham's Choice (a CCRC), a senior community which closely abuts the CDI Overlay Zone.

I am strongly in favor of an amendment to protect preservation areas: Priority Preservation Areas, Rural Legacy Areas, and Treasured Landscape Management Areas. My husband and I moved here from Connecticut 9 years ago to live in a rural area, not an industrial area. Farming and a rural way of life are worth preserving. An amendment should be passed, making it clear that lands cannot be redesignated out of the preservation categories during the Comprehensive Plan action that is now underway.

I am also strongly in favor of an amendment that makes it clear that no data centers will end up right next to homes. I am in favor of the County Executive's original protection, reading "The track of land where the Critical Digital Infrastructure use is proposed may not abut land that is zoned residential or is designated residential on the Comprehensive Plan Use map."

Sincerely,

Lillian Buck
3128 Chartwell Crescent Lane
Adamstown, MD 21710

James, Karen

From: Nick Carrera <mjcarrera@comcast.net>
Sent: Saturday, August 16, 2025 4:52 PM
To: Council Members; County Executive; Planning Commission
Cc: Carrera, Alexandra; Carrera, Johnny; Carrera, Nicholas; Schotz, Andy; jacoby, ceoli
Subject: Comments on Bill 25-09 and on county planning
Attachments: County Council 8.19.25.Rev.doc

[EXTERNAL EMAIL]

Dear All,

Below are my comments regarding issues for the August 19 County Council meeting. I'm including the same text as an attachment, in case that's easier to handle and consider.

*Best regards,
Nick Carrera*

I'm Nick Carrera, 2602 scenic Thurston Rd, Frederick, commenting on Bill 25-09, for the record

How did we get to this unpleasant situation? County Council and County Executive are about to approve a bill that they hope will make data centers acceptable to county residents and financially beneficial to the county. Yet there is widespread doubt on both counts, and nearby residents fear data centers will virtually destroy their serenity and the beauty of their part of the county. Increases in electric bills for all county residents appear certain, while net financial benefit to the county is uncertain. It didn't have to be this way; there should have been better planning, and citizens should have been involved at the outset instead of after secret deals with industry had been made.

Six years ago Amazon came to discuss data centers with county officials, but only after forcing a non-disclosure agreement (NDA) on them. That should have set alarm bells ringing. Amazon and others prefer keeping their plans secret because citizens usually object, once they find out what's being planned. But why would they object, if data centers would be of genuine benefit to the county? Didn't county officials wonder if Amazon's promises were really believable?

Now consider. The county signed the NDA with Amazon June 14, 2019. A county government pledged to a policy of transparency would not keep an important initiative like data centers secret from its citizens. Moreover, *The Livable Frederick Master Plan*, adopted September 3, 2019, stated, regarding "Public Participation: Citizens are active partners in the planning and implementation of community initiatives ..." [LFMP, p. 10]. Clearly, citizens can't be "active partners" in planning if they are kept in the dark about what is being planned.

Consider further. A responsible county government, having heard rosy presentations from Amazon about benefits expected from data centers, would do its own homework. It would obtain unbiased analyses on net financial benefit, on impacts on power and water sources, on the acceptability of any new transmission lines, on possible increases to citizens electric bills, and on sites with minimal impact on

farms and communities. None of this was done. Plans proceeded in secret, involving Amazon, County Executive and County Council, and certain private developers and their consultants.

Now come forward to June 29, 2021, when Quantum Loophole bought approximately 2100 acres of land near Adamstown, enclosing the former Eastalco aluminum smelting site. Quantum touted this property as a "Master Planned Data Center Community." Before this sale, county officials should have made known to the entire county, and especially to citizens in the Adamstown area, what the possible impacts of a large data center community might be. It was also another opportunity to obtain unbiased analyses regarding net financial benefit; power, water, and transmission lines; and impacts on electric bills. Again, none of this was done. The property was sold to Quantum without county officials or county citizens having any real understanding of what this would mean for the county.

Now we find ourselves having to make the best of what looks to be a bad situation. There will be undesirable impacts on the Adamstown area (some have already been experienced); there are still uncertainties regarding power, water, and transmission lines; electric bills have already increased and seem certain to go up more; *and the county still/still has not obtained an unbiased study of what the actual net financial benefit to the county will be.*

Frederick County government could and should do better planning than this.

File: Documents >County Council 8.19.25.Rev.doc

James, Karen

From: Ann Rosenwald <annrosenwald@gmail.com>
Sent: Saturday, August 16, 2025 5:59 PM
To: Young, Brad; Keegan-Ayer, MC; Donald, Jerry; Planning Commission; Duckett, Kavonte
Cc: County Executive
Subject: CDI Siting Ordinance

[EXTERNAL EMAIL]

I am a resident of Buckingham's Choice Continuing Care Retirement Community. I moved here specifically to enjoy the rural nature of Adamstown while being close to the city of Frederick. I am very disappointed in the actions of the County Planning Commission and I vote! I make contributions to the campaigns of those who support the same ideals I have.

It is my opinion that the Frederick County Council should return to the County Executive's original protection, as presented at the First Reading on January 7, 2025. Please see: Siting Requirements to Apply to Critical Data Infrastructure Facilities, line 24 - 26, page 3.

(d) the track of land where the Critical Digital Infrastructure use is proposed may NOT abut land that is zoned residential or is designated residential on the Comprehensive Plan Use map.

Therefore the CDI Zone Ordinance (25-09) should be amended to remove the setbacks and return to the restriction that data centers should not abut residential areas.

The council and planning commission should honor the commitment to protect preservation areas.

I do not want to look out my windows and see arc lights on all night, hear generators running and smell diesel fuel. I moved here to live out my days and support my rural community. Perhaps you should try doing the same!

Sincerely,
Harriet Ann Rosenwald
3110 Chartwell Crescent Lane
Adamstown, Md. 21710

James, Karen

From: mylostkite@comcast.net
Sent: Saturday, August 16, 2025 7:11 PM
To: Council Members
Cc: County Executive; Planning Commission
Subject: Critical Data Infrastructure Zoning Overlay should be amended

[EXTERNAL EMAIL]

Dear Council Members,

I am writing to you regarding this matter, as it is of great importance to me as a resident of Frederick County Maryland. I have lived here for nearly 30 years and greatly enjoy living in a beautiful, rural area. I have driven by areas in Virginia that have sprawling data centers and don't want us to end up with such a landscape here! I have also read articles concerning the detrimental impact of these data centers on quality of life for those unfortunate enough to live nearby and degradation of the environment in the vicinity of these resource hungry monsters.

Tourism is a huge source of revenue for us and we should remain an area people want to come and visit!

To this end:

- There should be no data centers next to homes!

Therefore the CDI Zone Ordinance (25-09) should be amended to remove the setback of 500ft from residences and return to the restrictions that data centers should not abut residential areas.

- 4,400 acres of data centers is too many!
- You should honor the commitment to protect preservation areas by providing an amendment to protect land currently designated as a Priority Preservation Area (PPA), Rural Legacy Area (RLA) or Treasured Landscape Management Areas for any such designated lands as of June 2025.

Thank you.

Kind regards,

Sue Wilmot

James, Karen

From: Christa_Juan Cepeda <cepedajc5805@gmail.com>
Sent: Saturday, August 16, 2025 7:28 PM
To: Council Members; Young, Brad; Duckett, Kavonte; Keegan-Ayer, MC; Carter, Mason; Donald, Jerry; McKay, Steve; Knapp, Renee
Cc: County Executive; Planning Commission

[EXTERNAL EMAIL]

Dear Frederick County Council,

I am writing as a resident in Adamstown, MD at 5805 Morland Drive N. I am also a graduate of Leadership Frederick class of 2022.

I am very concerned with the CDI overlay proposal. I understood and was okay with the original plan for the East Alcoa site, but now that the area has expanded to possibly being very close to homes, the elementary school, and a day care center, I have concerns. Please consider the current and future residents, who you represent. I was encouraged when I read Council Member Steve McKay's proposed amendments. I hope you all will find a happy medium balancing the requests of the community and agricultural areas with the data center development.

Thank you for your time and consideration.

Christa Cepeda

James, Karen

From: scott.w.wood@comcast.net
Sent: Saturday, August 16, 2025 7:31 PM
To: Planning Commission
Subject: FW: CDI Overlay

[EXTERNAL EMAIL]

From: scott.w.wood@comcast.net <scott.w.wood@comcast.net>
Sent: Saturday, August 16, 2025 2:42 PM
To: 'councilmembers@frederickcountymd.gov' <councilmembers@frederickcountymd.gov>
Cc: 'countyexecutive@frederickcountymd.gov' <countyexecutive@frederickcountymd.gov>;
'planningcommision@frederickcountymd.gov' <planningcommision@frederickcountymd.gov>
Subject: CDI Overlay

Please, no data centers next to homes! It's unfair to residents who didn't expect such intrusion on their lives and property.

Please keep the data centers within the current Eastalco overlay area. That's plenty of space already.

Please do what's needed to protect existing rural areas, legacy preservation areas, and treasured landscaping management areas.

These changes make sense and will encourage county citizens to support future expansion if warranted. No need to grab more than is needed now.

Scott W. Wood
Monrovia, MD