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## Stakeholder Recommendations for Augmenting the Mission and Effectiveness of the PW Data Center Advisory Group

Re: Prince William County Data Center Advisory Group Charter

July 17, 2023

The January 2023 Advisory Group charge from the Board of County Supervisors asks the group to develop recommendations on a scope of work for a consultant to address ordinance needs for data center: a) noise, b) zoning and c) site development standards. The unfortunate timing of this charge and the recommended time frame for work by a consultant means that some 90% of the County's current docket of tens of millions of square feet of data centers will have been addressed under the current ordinance system and not be subject to any new requirements. It will likely take 18 months to two years from now for a consultant's work to be complete and for the County to put the new rules in place.

Stakeholders, particularly resident and homeowner groups, of the PW Data Center Advisory Group recommend augmenting the charge of the Group in several material ways. These include:

### **1. Recommend interim noise and zoning standards:**

The adoption of interim rules would help to address and mitigate the impacts of more than one half of the data center proposals that are currently on the County's docket in various stages of consideration and approval. This could be particularly appropriate given that the County often implements noise, zoning and site development requirements via a private developer proffer system which would allow for the intent of these interim provisions to be implemented in many cases. See section *I. Proposed Interim Zoning Standards with Respect to Data Centers*.

### **2. Employment of project siting rules**

When the County established the Data Center Opportunity Overlay Zone, it published guidelines for the siting or location of data centers and data center complexes. These criteria should be reviewed in the context of the current docket of data center proposals in the County and recommended to the Board of County Supervisors as guidance to where data centers are permitted to be built within the County to avoid land use conflicts. The existing criteria are:

- *Locate near existing infrastructure.*
- *Prioritize areas with large parcel sizes or potential for development.*

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- *Prioritize areas planned for or adjacent to compatible land uses.*
- *Cluster data centers together and build upon existing areas with data center development.*
- *Locate data center development in areas which are likely to redevelop in the near future or where aging land uses exist.*
- *Minimize negative impact to environmentally sensitive areas.*
- *Minimize negative impact to public open space and recreational facilities.*
- *Avoid locating data centers adjacent to incompatible land uses, unless adequate mediating measures can be implemented.*
- *Minimize negative impact to historic and cultural resources.*

### **3. Adding staff capacity and expertise to monitor and address the full impacts of major industrial developments such as data centers.**

The data center industry, particularly in the context of increased use of the Cloud, crypto currency and artificial intelligence, is building ever larger and more complex facilities. These larger facilities, such as proposed for PW County, require enormous amounts of electricity, thousands of back-up diesel and other fossil fuel-consuming generators, fuel storage, air handlers for cooling, the management of on-site toxic materials such as coolant chemicals, cleaning chemicals, batteries and heavy metals. Moreover, the large physical footprints for these facilities, covering thousands of acres of land and floor space, will have impacts on natural systems, water supplies, ambient and site-specific noise generation, air quality, and more. Highways and utility infrastructure needs will also be greater. It will be critical for the County to have enough staff on hand with targeted public health, environmental, and technical monitoring, and enforcement expertise. The Advisory Group should recommend that the hiring of such staff be specified and built into the County's next fiscal year budget.

### **4. Increase County capacity to manage increased fiscal challenges embodied in data centers.**

The data center industry has been identified and targeted by PW County for its capacity to generate large amounts of tax revenue. They also, however, represent a series of challenges to the County with regard to understanding the full public costs associated with their development and operation and some added complexities around tracking and collecting revenue. The ability of the County to monitor and manage these complexities involving tens of millions of personal property items (peripherals), who owns them, and their respective tax obligations will impact overall revenue. The Advisory Group's

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supporting the augmentation of this County capacity could significantly impact the County's ability to collect revenue for efficiently and better balance industrial uses with residential, small business and other uses in more compatible ways.

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## I. Proposed Interim Zoning Standards with Respect to Data Centers

### Introduction

Data centers are industrial uses. Many localities have allowed their location in areas zoned for office, light industrial, commercial and/or planned business uses. However, as the first data centers are complete or nearing completion in Prince William County, it has become obvious that traditional zoning principles have failed to guarantee orderly and compatible land use. The results are harmful to nearby residents. They will be replicated on a greater scale unless the changes are put into effect immediately.

The effort to hire a consultant to recommend revisions to the zoning ordinance, noise ordinance and the Design, Construction and Standards Manual is a recognition that the current ordinances and zoning principles are inadequate with respect to data centers. Implicit in authorizing this effort is recognition that interim standards must be put in place pending whatever changes are recommended by the consultant. The current timeline envisions receipt of the consultant's recommendations in February 2025. Two more years of "business as usual" would be intolerable, especially in affected communities.

By that time, current data center development trends will see our residential communities unlivable, our greatest financial investment degraded, the school learning environments for our children impaired and our National Parks desecrated with industrial views and permanent environmental damage.

Accordingly, the following interim zoning standards with respect to data centers are proposed.

### A. Siting & Setbacks

Data centers must be sited as follows with a minimum 100ft setback from their property lines:

- I. ¼ mile (1300') from residential, schools & county/city parks
- II. ½ mile (2600') from state parks
- III. 1 mile from national parks

Currently approved developments (rezoning) that **do not meet** the above setbacks shall, prior to site plan acceptance, modify said plans to achieve a minimum of 300 ft setback or greater where possible as well as all enhanced standards below for building height, screening, noise, and

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lighting, noted below by an asterisk (\*). Existing developments with siting and setbacks that do not meet the above, shall modify operations to achieve enhanced standards of screening, noise, and lighting noted below by an asterisk (\*):

## B. Height\*

Data center building heights are critically important where they negatively affect adjacent and nearby incompatible uses. Adjacent neighborhoods are particularly affected by a "David and Goliath" effect when massive structures are placed next to homes casting a giant shadow, preventing the sun from reaching residential windows for significant periods of the day. This is but one of the unintended consequences of rushed approvals for industrial uses that are improperly sited. Building heights for projects meeting the siting requirements in item A will adhere to established local ordinance for industrial uses. Enhanced\* standards will be required for approved developments (rezoning) that do not meet siting and setback standards in item A above prior to accepted site plan as follows:

- I. Maximum height of 75 ft to include all mechanical equipment, and parapet walls.
- II. Maximum building height will be reduced 30 ft., to a 45 ft maximum height, for any facility within 40 ft of the required minimum setback.

## C. Screening/Landscaping buffers and berms\*

All approved and existing data center developments must meet the following screening, including buffer and berm, requirements:

- I. Buffer type: Opaque - minimum 95%. This Buffer Yard Type is intended to provide the greatest degree of screening feasible and minimize visual contact between uses, creating a strong impression of total separation.
- II. Berms/Walls: A 6 ft wall, and/or berm, providing a minimum opacity of 95% is required to run the length of the required Buffer Yard between the proposed use and the required plant units. Required plant units may be planted on a berm.
- III. Number of Plant Units Per 100 Linear feet of Required Buffer Yard: 120
- IV. All reforestation/replanting must be a minimum of 6 feet tall or greater to expedite the opacity at an accelerated rate
- V. Width: 200 ft - existing data centers shall fill the entire existing setback as much as possible and practical for maintenance and

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security operations, if less than 200 ft, with requirements outlined above.

## D. Noise

The 24/7 nature of data center noise along with its low frequency characteristics makes it particularly irritating and harmful to the human auditory system. For that reason, such noise must be especially quiet, when measured from a nearby or adjacent property of incompatible use, to prevent health and environmental impacts. Noise standards for projects meeting the siting requirements in item A will adhere to established local ordinance as well as the standards that follow with the following exception: Enhanced\* standards will be required only for approved developments that do not meet siting and setback standards in item A above prior to site plan acceptance as follows:

- I. Enhanced\* minimum requirement of 50 dba – daytime\*, 40 dba – nighttime\* at data center property line.
- II. Local noise ordinance limits not to exceed 60 dba daytime, 55 dba nighttime at data center property line.
- III. Credible noise modeling study by an independent, certified and/or licensed (as applicable to the jurisdiction) acoustical engineer, or licensed acoustical engineering firm, prior to rezoning approval to reflect item I or II above.
- IV. Pre (site plan) and Post construction sound study by an independent, certified and/or licensed (as applicable to the jurisdiction) acoustical engineer or a licensed acoustical engineering firm.
- V. Once operations commence, continuous sound monitoring equipment to be installed and activated around the perimeter of data center development, a minimum of every 300 ft, with readings reported to a publicly available source 24/7. In the event sound monitoring equipment is found inoperable for a period greater than 24 hours, it will be considered a violation of the noise ordinance.
- VI. \*Enforcement – developer to agree to phased shut down if non-compliant within 60 days of violating occurrence. Developer will provide an applicable phased shutdown plan prior to occupancy permit issuance that will demonstrate how compliance will be achieved until noise can be appropriately abated with full operations.
- VII. Developers/occupants must provide the appropriate escalation model and points of contact to allow for the reporting of said noise violations and accountability for corrective actions.

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## E. Lighting

- I. .25-foot candle limit at adjacent residential, schools, and park property lines without dependency on foliage to block light transmission.
- II. All lighting facing adjacent residential properties, schools, and parks will be downward facing.