



WALSH COLUCCI  
LUBELEY & WALSH PC

John H. Foote  
(703) 680-4664  
jfoote@thelandlawyers.com  
Fax: (703) 680-6067

January 10, 2023

**Via Hand Delivery**

The Hon. Carter Nevill and  
the Members of the Warrenton Town Council  
21 Main Street  
Warrenton, Virginia 20186

Re: Special Use Permit #SUP2022-00003, Warrenton Data Center

Dear Mr. Mayor and Members of the Council:

For your consideration, the following items attached to this letter are for purposes of addressing matters to be considered in this Application.

1. One (1) copy of the noise impact analysis entitled "Noise Level Impact Analysis for Warrenton Data Center," prepared by Polysonics Acoustics & Technology Consulting, dated January 9, 2023; and
2. One (1) 11"x17" copy of the building renderings entitled "Illustrative Building Elevations," prepared by Corgan, dated December 15, 2022 and consisting of three sheets.

These documents have been prepared in consultation with your staff, and with AWS's consultants and internal experts.

Very truly yours,  
WALSH, COLUCCI, LUBELEY & WALSH, P.C.

*John H. Foote*

John H. Foote, Esq.

Enclosures

ATTORNEYS AT LAW

703 680 4664 ■ WWW.THELANDLAWYERS.COM  
4310 PRINCE WILLIAM PARKWAY ■ SUITE 300 ■ WOODBRIDGE, VA 22192-5199  
ARLINGTON 703 528 4700 ■ LOUDOUN 703 737 3633

## Questions

### 1. Adequate Safety for Fire – There are some citizen concerns about the fire safety of a data center.

Zoning Reference: 11-3.10.3.2

a. Please elaborate on the type of data center fire suppression system being used. Is it a wet system or a clean agent-type system? Electrical fires can be very complicated.	The facility will be fully sprinklered and will employ a pre-action dry pipe system (i.e., no water in pipe). Automatic water-based sprinkler systems are the most reliable types of systems and standard within data center facilities. This is not a clean-agent system.
b. Do the racks have fire detection and suppression systems?	The individual racks do not. Fire detection and suppression are handled by the system in the data hall.
c. What fire detection and suppression are associated with the fuel tanks?	None, which aligns with NFPA 33 code.
d. What fire detection and suppression are associated with diesel generators?	None, which aligns with NFPA 33 code.
e. What orientation/training will be provided to the local fire department regarding the data center fire detection and suppression systems?	Review and approval of the fire suppression system design and installation by the local jurisdiction is always performed prior to inhabiting the building. In addition to that review, AWS partners with local fire departments to ensure they are knowledgeable about data centers.
f. Will the facility fire detection system be integrated into the local fire system?	Yes, the fire protection system is monitored and integrated with the existing 911 system.
g. What is the AWS fire safety history in Northern VA? Have you had any fires?	We have a strong safety record in Northern Virginia and have only had one small fire which was self-extinguished.

### 2. Noise – There are concerns of the citizens relating to the noise the data center will produce.

Zoning Reference: 11-3.10.3.3

a. The assumption is that the cooling systems on the data center's roof will be the source of much of the noise. What can Amazon share with the town about the design and technologies being used to cool the data center? What engineering or other information can you share	The data center uses a chilled water plant consisting of air-cooled chillers to provide cooling. The chillers consist of a fan and a compressor. Both of these components will have noise mitigation (condenser fan silencers, compressor wraps, and barriers) added to fully comply with the Town's
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that will give the citizens confidence that the ordinances will be met?	Noise Ordinance. A noise model produced by Polysonics will be provided.
b. Does AWS have any corporate initiatives to constantly study and engineer solutions to make their data centers quieter? If so, how do they get into the fielded data centers?	AWS has an acoustical engineering team which in part focuses on continual improvement with respect to data center acoustics.
c. Do you monitor sound as part of your data center management and monitoring systems? If so, will that be done here?	AWS plans to measure sound levels throughout the construction and commissioning of this data center.
d. How will noise compliance be tested as the data center adds capacity?	Sound measurements will be taken at the completion of relevant phases of construction to confirm the data center is in compliance with the Town's noise Ordinance.
e. Are the manufacturing companies who build your air handling units innovating to reduce the noise, and how is AWS incentivizing them to do that?	AWS takes acoustics into account when selecting equipment suppliers. Our partners often employ full-time acoustical specialists and have testing facilities to accurately quantify the equipment sound levels, and develop mitigation solutions. AWS maintains a competitive bid process for suppliers, who know noise reduction is a significant component in AWS's selection of equipment.
f. In general, during the life cycle of the data center, do you refresh the air handling technology and other noise-generating infrastructure?	AWS data centers are designed to use specific cooling technologies, which limits options for refreshing to use other technologies. However, we are continually innovating and replace and update our equipment at the end of its useful life.
g. Can Amazon share its experiences from other smaller towns it has worked with as to how they meet noise ordinances?	We are aware of local noise ordinances and will comply with the Town's Noise ordinance.

**3. Location – There are citizen concerns about data center growth in the town and county. Specific to this property, please answer the following questions**

**Zoning Reference: 11-3.10.3.6**

a. How much of the property will remain undeveloped?	Over 50% of the property will be undeveloped. Of the 41.8 total acres, approximately 9 acres will remain undeveloped outside of the proposed improvements, and ±20 acres (48%) of the property will constitute pervious cover and remain undeveloped.
b. What additional structures, if any, could be built there?	There will be no additional structures under the current Special Use Permit (SUP). Should AWS ever seek to place an additional improvement on the property, it would require an amendment of the SUP.
c. Can another data center be built on this property, or can the existing one expand within the property boundaries and zoning there now?	The SUP only allows for one data center of 220,000 sf.

**4. Landscaping – There are concerns that the data center will not be welcoming as one enters the town.**

**Zoning Reference: 11-3.10.3.8**

a. Please elaborate on the trees that will surround the property.	The predominant vegetation that will surround the property are stands of mixed hardwood and conifer trees. In areas where new plantings are proposed, a mixture of evergreen trees, 8' tall at time of planting, consisting of, but not limited to Norway Spruce, Pitch Pine, and Loblolly Pine, Eastern Red Cedar, and Nellie R. Stevens Holly, will be used. Additionally, large deciduous trees, 3" caliper at time of planting, will be planted, including, but not limited to, Oak, Maple, and Elm.
b. How does AWS plan to make the site either appealing or not visible as a person enters or leaves the town?	The data center building is positioned at least 200' from the surrounding roadways at the narrowest location to minimize visual impact on motorists entering or leaving the town. Additionally, a combination of extensive tree

	preservation and proposed plantings along the site perimeter will screen the proposed data center building from view from the surrounding rights-of-way.
c. How will the landscape protect the views of citizens whose homes look upon this lot today?	The data center building will be screened through a combination of existing plantings between the center and the adjacent residential areas, and existing and proposed plantings around the perimeter of the data center site.

**5. Timing/Phasing/Development/Duration**  
**Zoning Reference: 11-3.10.3.8**

a. Please confirm that the data center is being built in 1 stage. What will be built in 18 months? Are you at full capacity on opening day or is it a powered shell? If not, do you have an estimated timeline for fully operating at your desired capacity?	The building shell will be built in one stage with anticipated completion Q1 2025. Our interior buildout is in stages. Full capacity is estimated to occur between 2027 to 2032.
b. The SUP notes a cost of \$550,000,000 dollars for this facility. Does that cost reflect the cost to bring the data center to full operational capacity and commissioning, including the computing, storage, network, and other technology used to provide services?	\$550,000,000 is the estimate based on preliminary design and construction. It is likely that the final cost to bring the data center to full operational capacity and commissioning, including storage, network, and other technology, will exceed that amount.
c. Internally, is the raised floor area one open space or is it architected by data halls? How is capacity brought online in the physical space?	Capacity is brought online in phases.
d. Can AWS share what the expected life of the facility is designed for? 30 years, 40 years? Does the facility align to an Uptime Institute Design (Tier 2,3,4 etc.).	The building is designed for a 50-year life.
e. Is this design a new design for AWS or has a similar data center been built like this before? If so, what was the timeline for construction and being at full capacity.	Designs for AWS data centers are constantly evolving, striving to increase sustainability and reduce consumption. Timeline for shell construction is typically about one year. Full capacity is estimated to occur between 2027 – 2032.

## 6. Welfare and Convenience

### Zoning Reference: 11-3.10.3.11

<p>a. Can AWS describe how the work performed in the Warrenton data center contributes to the community's welfare? What is it about the services provided to AWS customers in that data center that enhances or secures the lives of the citizens of Warrenton or, more broadly, in the community?</p>	<p>AWS sees this project as having many benefits and contributions to the Warrenton community. The project redevelops a vacant industrial site with a project that has a low impact to town services and traffic. Based on two 2020 Town-commissioned fiscal studies, it is estimated that this project will create approximately 300+ construction jobs and operational jobs, adding to the diversity of jobs in the Warrenton area both in salary and skill level. This project is anticipated to increase the financial diversity of the Town, bringing in increased tax revenue to support the Capital Improvement Plan (see, <a href="#">Fiscal Sustainability Analysis White Paper (RKG Associates, February 1, 2020)</a>; and <a href="#">Economic Base White Paper (RKG Associates, February 1, 2020)</a>).</p> <p>Further, AWS relies on the support of more than 100 Virginia businesses to build and operate its data centers. AWS's spending directly supports jobs in these businesses, and employment in associated sectors of the Virginia economy.</p> <p>The annual economic impact generated from the AWS data center operations is a source of long-term economic sustainability for the economy of the Commonwealth. In analyzing how the economic impact of AWS investments ripple throughout the regional economies, we break down economic impact into the following effects:</p> <ul style="list-style-type: none"><li>• The Direct effect is the change in value added by AWS suppliers in Virginia as a result of our region investment, such as construction firms, colocation providers, or power companies.</li></ul>
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	<ul style="list-style-type: none"> <li>• The Indirect effect is the change in value added by the indirect suppliers who supply to AWS's direct suppliers as a result of our Region investment, such as construction labor and materials.</li> <li>• The Induced effect is the change in value added by the firms that supply household goods to workers at Amazon companies and AWS Region's direct and indirect suppliers.</li> </ul>
b. In towns similar in size and character like Warrenton, have you built data centers, and what was the impact on the town's character, economic base, and overall health and welfare?	We continuously invest in communities where AWS data centers are located by creating local jobs, generating economic growth, providing skills training and education, and unlocking opportunities for local businesses and suppliers. We also establish sustainability initiatives and develop engagement programs in collaboration with local organizations. We spend a lot of time listening to and understanding a community's needs and priorities so our data centers drive job creation, investment, and programs in those communities that specifically benefit their residents. We are proud of the ways we benefit our data center communities through our investments and employee engagement.

## 7. Traffic

**Zoning Reference: 11-3.10.3.12**

a. There is a gate to access the facility. Do you expect Blackwell Road to back up during shift changes as employees or suppliers clear the gate?	No. There will be few vehicles coming and going from the facility, and employees do not change shifts, as you might see at a major manufacturing operation. Deliveries, to the extent they are made, are scattered throughout a day and employees arrive at varied times to commence their shifts.
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## 8. Served By Essential Public Facilities

### Zoning Reference: 11-3.10.3.15

a. What is the initial and maximum amount of water needed to bring the data center online? We are not referring to recurring water use (e.g., bathrooms etc.) We are trying to gauge how much town water is required to bring the data center online.	The initial cooling system fill will be approximately 19,000 gallons with a maximum system volume of approximately 190,000 gallons.
b. Do you envision shifting to Town Water sources to cool the data center?	No, as our cooling system is a closed-loop water system that does not rely on town water for operational cooling.
c. Is there any scenario where AWS would require significant water from the town to operate the data center?	No. The filling of the closed-loop cooling system of approximately 190,000 gallons occurs over a 3 to 7-year period.
d. How would the town be made aware of a change in the design that would require an increase of town water to the data center?	AWS would be required to inform the Town and apply for an amendment to the SUP which requires Town review and approval.
e. Is the Town water supply a contingency should your cooling system fail?	No.
f. Under what scenarios would AWS require more power to the data center? Specifically, what assumptions have been provided to Dominion relating to electric demand and the equipment density in the data center?	There are no scenarios under which AWS would require more power.
g. Does AWS have an estimate, or can it disclose its Power Usage Effectiveness (PUE) expected for this data center? (PUE is an Uptime Institute measure).	Energy efficiency is a focused effort for sustainability within AWS. The PUE of AWS latest data centers ranges from 15% to 30% less than the Uptime institute's 2020 average of 1.55 for US data centers.
h. Is AWS assuming, over a period, that the racks will contain more servers and power as technology enables them to be smaller and do more?	Yes. AWS assumes that trend with implementing all technology, however the building is limited to the power demand as currently calculated.
i. Has AWS considered any use of solar power on this site? Does the property allow that type of use (it has a good line of sight to the sun), and using solar panels would offset any future power demands?	Onsite solar is not an option for this project, because onsite solar would not produce any meaningful power for the site. However, Amazon has 18 solar projects in Virginia alone, which add 2.9M megawatts of clean energy to the grid annually (enough to power more than 270,000 homes).



	Amazon is committed to reaching net-zero carbon emissions by 2040 as part of The Climate Pledge – 10 years ahead of the Paris Agreement. As part of The Climate Pledge, Amazon is on path to power our operations with 100% renewable energy by 2025, five years ahead of our original commitment of 2030.
j. Please confirm that AWS will have a power bill it will need to pay for any electricity it uses at this data center. There are citizen concerns that they will be bearing all the costs for any electrical infrastructure improvements and not Amazon.	AWS pays for the electricity it consumes, and will cover the costs of the distribution line in accordance with the requirements of Dominion.

**9. Desirable Employment and Enlarge the Tax Base –** There are citizen concerns that AWS will be tax-exempt and not pay its fair share of Town and County taxes.

**Zoning Reference: 11-3.10.3.17**

a. Has AWS been offered and accepted any tax incentives from the state, county or town for this data center?	We currently receive Sales and Use Tax Exemption under Virginia code based on prior investment in Fauquier County. The Commonwealth of Virginia offers qualifying data centers the same tax treatment that it applies to all manufacturers. Like most states, Virginia exempts all manufacturing firms (regardless of size) from paying sales and use tax on their production equipment. The proposed data center would be eligible for the sales and use tax exemption on data center equipment under this legislation.
b. Can AWS disclose the amount of local taxes it has paid to local governments in the Northern VA area? Public record information should be used for this answer, but we will leave it for AWS if it desires to use other internal sources.	Our Economic Impact Report (publicly released) provides 2020 information which you can access at: <a href="https://d1.awsstatic.com/WWPS/pdf/aws-economic-impact-virginia.pdf">https://d1.awsstatic.com/WWPS/pdf/aws-economic-impact-virginia.pdf</a>  Among other taxes, AWS paid over \$220 million in business personal property taxes in 2020 in connection with its data

	centers located in Fairfax, Loudoun, and Prince William counties. This amounts to 20% of personal property tax revenues received by these counties in the 2020 fiscal year.
<p>c. Data centers are taxed on tangible property per VA Code 58.1.3503, 58.1.3506, and 58.1.3295.3. Depreciation and technology refreshment of the compute, storage, and network equipment, including software, influences the tax revenue. The Amazon 2021 Annual Report states, "Property and equipment are stated at cost less accumulated depreciation and amortization. Incentives that we receive from property and equipment vendors are recorded as a reduction to our costs. Property includes buildings and land that we own, along with property we have acquired under build-to-suit lease arrangements when we have control over the building during the construction period and finance lease arrangements. Equipment includes assets such as servers and networking equipment, heavy equipment, and other fulfillment equipment. Depreciation and amortization are recorded on a straight-line basis over the estimated useful lives of the assets (generally the lesser of 40 years or the remaining life of the underlying building, three years prior to January 1, 2020 and four years subsequent to January 1, 2020 for our servers, five years for networking equipment, ten years for heavy equipment, and three to ten years for other fulfillment equipment). Depreciation and amortization expense is classified within the corresponding operating expense categories on our consolidated statements of operations". Does AWS expect that this facilities property and equipment will follow this guidance relating to refresh of servers, networking, and heavy equipment? How can AWS assist the town in developing a tax revenue estimate for this facility?</p>	<p>AWS representatives are available to coordinate with the Town and county in developing tax revenue estimates.</p>

## 10. Existing Non-Conforming Structures

**Zoning Reference: 11-3.10.3.14**

<p>a. Please confirm there are no structures or materials left on the property from when it was a junkyard.</p>	<p>Country Chevrolet removed the parked cars along the southern property line at AWS's request. AWS will remove all additional trash and structures from the property.</p>
<p>b. Are there any pre-existing environmental conditions on the property from prior uses or years of neglect and non-use that you are now responsible for cleaning up?</p>	<p>The Phase II report commissioned by AWS indicated concentrations of certain Resource Conservation and Recovery Act ("RCRA") metals; Total Petroleum Hydrocarbons ("TPH") (Diesel Range Organics ("DRO"), gasoline range organics (GRO), and oil range organics (ORO); volatile organic compounds (VOCs) including benzene, toluene and xylene; semi-volatile organic compounds (SVOCs) including multiple polycyclic aromatic hydrocarbons (PAHs); and an organochlorine pesticide (toxaphene) in the soil samples collected from the western wooded section of the subject property which historically operated as a junkyard. Most notably, TPH-DRO and TPH-ORO were detected in shallow soils collected from boring HA-3 at concentrations that exceed the respective USEPA Regional Screening Levels ("RSL") for industrial soils.</p> <p>We speculate these constituents or contaminants are linked to possible illegal dumping of oil and other hydrocarbons on the site, as well as previous operations from the former junkyard.</p> <p>As part of site-preparation work, AWS will clean up the site in accordance with applicable law, and will remove 1) general waste, tires, and underground tanks from the site, and 2) any contaminated soils that were noted during the environmental phase II testing referenced above. All</p>

	contaminated soils will be removed and disposed of by AWS in accordance with law
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## 11. Fuel and Fuel Storage

**Zoning Reference: 11-3.10.3.23**

a. How often do you anticipate a diesel delivery will be required to fill the tanks?	AWS estimates fuel deliveries every 2-3 months.
b. Does the fuel ever need to be recycled – e.g., been in the tank too long?	No.
c. Are there any other fuel, lubricant, chemical or other liquid, or HAZMAT materials that need to be delivered to the facility?	Yes. Batteries, oil, coolant, diesel exhaust fluid, hydraulic oil, mineral oil, propylene glycol and refrigerant.

## 12. Day/Hours of Operation

**Zoning Reference: 11-3.10.3.26**

a. Please disclose if there are any planned downtime hours where the data center will not be running.	There will be no downtime. Once operational the facility will operate 24/7/365.
b. Please disclose when the generator tests would generally be planned. Is that during the day and for how long? How many times a month do those tests occur?	Generator tests are conducted twice a month to verify operational reliability. Typically, the tests run for 10-20 minutes per generator. In the summer months (May - September) it is sometimes necessary to run generator tests in the early evening.
c. For equipment deliveries, will there be a planned window for receipt or pick up of equipment? Will large tractor-trailers or other trucks arrive on the lot late evening or early AM hours (e.g., 2200 to 0500)?	Deliveries are completed by box trucks and sprinter vans almost exclusively, between business hours of 7am - 6pm.

**13. Security Provisions – There are citizen concerns about the data center fencing.**

**Zoning Reference: 11-3.10.3.28**

a. Why is a fence required?	All of our facilities are secured and are fenced as a matter of practice.
b. Is there razor wire or double fencing planned for this fence?	There is no razor wire, nor is there double fencing. There is a picture of the proposed fencing on the GDP.
c. In general, in the Washington DC area for AWS data centers, can you disclose if your facilities have been subject to any protests, destruction, acts of violence, bomb threats, or any other safety risk to the employees and community?	AWS cannot disclose security information about its facilities.
d. Please elaborate on where the security cameras are monitoring. Gate location? Perimeter? Rt29?	AWS Security posture is consummate with the assessed security threat designed to provide appropriate protection of customer data and employees. Cameras do not track exterior property.
e. How does a person enter the data center? Do they require a badge? Visit request?	AWS Security manages access to all AWS data centers. Our data centers are not open to the public.
f. Is there a Data Center Manager on 24x7? If there is an incident, please describe your incident management process. How will Police and Fire know who to deal with?	AWS data centers are staffed 24 hours per day. There is always a senior staff member on site who will coordinate police and fire response in an emergency.
g. Are your gate guards armed with firearms? If so, why?	AWS Security posture is consummate with the assessed security threat designed to provide appropriate protection of customer data and employees.

- 14. Number of Employees – There are citizen concerns that the data center will not generate many jobs. The Amazon 2021 annual report states that Amazon strives to be Earth’s best employer.**  
**Zoning Reference: 11-3.10.3.15**

a. Please elaborate on the expected employee count	When operational, there will be an estimated 25-30 total staff at the data center, working across three shifts. Per the Town Economic Base Analysis (RKG 2/1/2020), it is estimated that approximately 300 construction jobs will be created as a result of this project.
b. Please elaborate on the expected labor categories/job types	During operation, AWS employs data center technicians, facilities engineers, security, logistics personnel, and facility management.
c. What is the expected average and median salary for these jobs?	There is a range of salaries based on experience and seniority. Due to the privacy of our employees, this information is not disclosed. Salaries offered are highly-competitive.
d. Are the employees all AWS or are they contractors?	Data center employees are predominantly AWS staff.
e. If they are AWS employees, please provide an overview of their benefit package	Amazon offers a full range of benefits to regular, full-time US employees and eligible family members – including domestic partners and their children.
f. Are employees required to pass a background check? What steps does AWS take to ensure no internal security threats from employees?	Security posture is consummate with the assessed security threat designed to provide appropriate protection of customer data and employees.
g. Can AWS share its plan or expected use of local contractors in the construction of the data center?	Amazon has a rigorous pre-approval and competitive bid process; and local contractors are welcomed to participate. As said above, AWS relies on the support of more than 100 Virginia businesses to build and operate its data centers.

## 15. Refuse and Service Areas

**Zoning Reference: 11-3.10.3.32**

a. Please elaborate on the type of waste the data center generates. How will the technology hardware (compute, network, storage, etc.) be disposed of and where?	AWS disposes all waste in accordance with applicable law. We are continuing to innovate and find ways to recycle technology hardware to reduce waste.
b. Does the data center contain a large-scale battery backup capability and how are the end-of-life batteries disposed of?	Each rack has a self- contained battery backup. AWS has standing agreements for battery/disposal/recycling end of life in accordance of law.
c. How will trash removal be handled for non-HAZMAT or computer equipment (e.g. normal trash, cardboard boxes)	Regular (non-hazmat) trash and recycling materials are collected via routine methods like any regular trash.
d. What is the plan for any HAZMAT material waste from the data center?	In accordance with applicable laws, hazardous materials are safely gathered by our team of professionals and collected by partner companies specially contracted to handle such material.