

A Neighbor's Guide to a Data Center Coming Near You

What to do now, before it's built — Goshen & Augusta County, Virginia

This guide is written for Goshen and Augusta County, but the steps apply to any Virginia community facing a data center proposal.

Why this guide exists

A large data center may be built near our community. This is not a call to panic — it is a call to prepare. The single most important thing to understand is this: the decisions that determine how a data center affects your water, your quiet, your air, and your land are made early, in county meetings and permit applications, often before most residents even know a project exists. Once a facility is approved and built, your options narrow sharply. The purpose of this guide is to help you act while acting still matters.

Everything below is drawn from Virginia state agencies, Virginia law, and the documented experiences of other Virginia communities — Loudoun, Prince William, Shenandoah, Campbell, and Amherst counties among them. Sources are listed at the end.

Part 1 • The most important question: “by right” or “special use permit”?

In Virginia, whether you get any public say depends on one piece of zoning language.

If data centers are allowed “by right” in a zoning district, a developer can build one without a public hearing, without a board vote, and without your input. If they require a “special use permit” (SUP), then every project must come before the Planning Commission and the Board of Supervisors in a public hearing, where residents can speak and supervisors can say no or attach conditions.

Your first action: Find out how your county’s zoning treats data centers right now. Across Virginia in 2026, county after county — Shenandoah, Campbell, Amherst — has voted to move data centers from “by right” to “special use permit” precisely so residents get a voice. Ask Augusta County’s Planning Department directly: “Are data centers currently by-right or special-use in our zoning ordinance, and is that under review?” If they are by-right, that is the first thing to ask the Board of Supervisors to change.

Part 2 • Protect your water — establish a baseline now

This is the one action that cannot be done later, and the one most people skip.

If your well’s flow drops or its water changes after a data center begins drawing groundwater, you will need to prove the well was fine before. Without a dated baseline record, you cannot. As one Iowa resident facing a similar project put it: “How do we prove that all this water usage is the reason our wells go dry if we don’t do any water surveys ahead of time?”

Do this now, while the water is still undisturbed:

- **Test your well water.** Virginia’s private-well regulations (12VAC5-630) only require testing when a well is first built; after that, all testing is up to you — no one will do it for you. Get a current test through the Virginia Department of Health or a certified lab. At minimum: coliform bacteria, nitrates, pH, and hardness. Keep the dated results.
- **Measure your flow rate.** Have your well’s gallons-per-minute measured and recorded, with the date. A simple well flow test takes under an hour.
- **Note your static water level** (the depth to water when the pump is off) if your well company can measure it.

- **Photograph and file everything, with dates.** This is your evidence. Store copies somewhere outside the house.
- **Encourage neighbors to do the same.** A cluster of dated baseline records across the community is far harder to dismiss than one household's.

Consider testing again once the facility is operating, and keep the comparison.

Part 3 • Know the impacts — and the questions to ask about each

These are documented impacts from data centers in Virginia and elsewhere. For each, the useful move is not alarm — it's a precise question, on the record, at a public meeting.

Water withdrawal

Large facilities can use enormous volumes for cooling; a single hyperscale site can draw one to five million gallons a day, though newer closed-loop and air-cooled designs use very little.

***Ask:** “What cooling design will this facility use, how many gallons per day will it withdraw, from what source, and who has priority in a drought?”*

Diesel backup generators — air and noise

This is the most under-discussed impact. Data centers keep banks of diesel generators for backup power. Virginia has roughly 9,000 such generators, about 4,700 in Loudoun County alone. They are permitted through the Virginia Department of Environmental Quality (DEQ), and those air permits are public record. In Sterling, Virginia, after a power event, residents endured days of generator noise and diesel fumes — and said they were never told the campus would include its own power plant.

***Ask:** “How many backup generators, what tier, what DEQ air permit, and what are the permitted emissions limits? How often will they be tested and run?”*

Noise

Generators and cooling systems run constantly. In one Loudoun case, sound measured 60 decibels at a resident's property line — above the county's 55-decibel nighttime limit.

***Ask:** “What is the projected noise level at the nearest property line, day and night, and what is our county's noise limit?”*

Land taken for transmission lines and substations

A data center needs large amounts of power, which means new transmission lines and substations — often requiring easements across nearby land, sometimes by eminent domain.

***Ask:** “What new transmission and substation infrastructure will this require, whose land does it cross, and will eminent domain be used?”*

A note on electromagnetic fields (EMF)

You may hear concerns about EMF from transmission lines. In the interest of giving you only what you can stand behind: the World Health Organization and decades of research have not established health harm from the low-frequency fields at typical residential distances from power lines. Rather than raise EMF as a health claim — which invites easy dismissal — the stronger move is to ask for the transmission line's exact route and setback distances from homes and schools, and to request that the developer fund independent measurement. That keeps you on solid ground and still gets you the information and distance you want.

Land use and the character of the place

Beyond any single impact, a large industrial facility changes the ground itself — traffic, light, construction, and the conversion of farmland or open land.

Ask: “What is the site’s full footprint, what is there now, and what independent studies of traffic, water, and noise will be required before approval?”

When a project is described as something else

Sometimes land is acquired for one stated purpose — often agriculture — when a different use may follow. This is not unique to any company; it is a common sequence, because agricultural use draws little scrutiny while a later rezoning or lease can change everything. Residents in various communities have also reported being told a project was one thing, then another, as it moved through the process. You don’t need to prove intent to protect yourself. You need only ask, on the record, and insist the answer be given publicly and in writing.

Ask: “Is any future data center, industrial, or energy use contemplated for this parcel or adjacent parcels, and will any change of use require a new public hearing and special use permit?” A genuine farm has no difficulty saying yes.

Part 4 • How to act — a step-by-step checklist

- 1 Learn the project’s status.** Call the Augusta County Planning Department. Is there an application? Is the land’s zoning by-right or special-use? When are the relevant Planning Commission and Board of Supervisors meetings?
- 2 Get on the notification list.** Ask the county how to receive notice of hearings and public-comment windows for this project.
- 3 Establish your water baseline now** (Part 2). Don’t wait for the project to be approved.
- 4 Attend the meetings and speak.** Public comment is your legal right. Keep it factual and specific — the precise questions in Part 3 are far more effective than general opposition.
- 5 Request the documents.** Site plans, water studies, and DEQ air permits are public record. If a water study hasn’t been required, ask the Board to require an independent one before any vote — funded by the developer, reviewed by the county.
- 6 Ask for a special use permit requirement** if data centers are currently by-right. This is the change that guarantees you a voice on this and every future project.
- 7 Organize with neighbors.** A group asking precise questions is far harder to dismiss than any individual. Share this guide.
- 8 Keep records of everything** — who you spoke to, what was said, what was promised. Dates matter.

The principle underneath all of it

You are not being asked to stop progress or oppose technology. You are asking for something older and simpler: know what you have before you spend it. Test the well before the water changes. Get the study before the vote. Ask the question before the concrete is poured. That is not obstruction — it is the ordinary diligence any community owes itself and its children. The people who build these facilities do not live beside them. The reading, the asking, and the record-keeping fall to those of us who do.

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Sources: Virginia Department of Health, Office of Drinking Water (well testing, 12VAC5-630); Virginia DEQ (data center air permits and generator guidance); reporting from VPM, Virginia Mercury, WUSA9, Cardinal News, WSLs, WSET, and the Northern Virginia Daily; the Piedmont Environmental Council; and the Southern Environmental Law Center.

This guide is informational and is not legal advice.