

A county with about **34,000 people** (i.e. Lee County) typically uses roughly:

Estimated Daily Water Use

$$34,000 \text{ people} \times (80 \text{ to } 150 \text{ gallons/person/day})$$

That works out to approximately:

Usage Level	Total Daily Water Use
Low	~2.7 million gallons/day
Average	~3.5–4.5 million gallons/day
High	~5+ million gallons/day

Typical U.S. Residential Usage

Average Americans use around:

$$80 \text{ to } 150 \text{ gallons/person/day}$$

depending on:

- climate,
 - lawns/irrigation,
 - industry,
 - leaks,
 - tourism,
 - local infrastructure.
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Example Calculation

Using 100 gallons/person/day:

$$34,000 \times 100 = 3,400,000 \text{ gallons/day}$$

So a county of 34,000 people commonly needs:

- about **3.4 million gallons per day (MGD)**.
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Important Note

Municipal systems also supply:

- schools,
- hospitals,
- businesses,
- fire protection,
- government buildings,
- industry.

So total county demand may be higher than household use alone.

Comparison to Data Centers

Using the earlier estimate:

- A **1 MW** data center may use:
 - 5,000–10,000 gallons/day
- A **10 MW** data center:
 - 50,000–100,000 gallons/day
- A **100 MW** hyperscale facility:
 - 0.5–1+ million gallons/day

So:

- A large hyperscale data center can consume water comparable to a small town.

How can locals know the proposed size of a data center?

Locals can usually estimate the proposed size of a data center by looking at a few public documents and infrastructure clues. The most important indicators are:

- electrical power requests,
- water demand,
- land size,
- and utility infrastructure.

Key Things to Look For

1. Power Capacity (Most Important)

The best indicator is usually the requested electrical service.

Look for:

- MW (megawatts) or GW (gigawatts)
- substation construction
- transmission upgrades

Examples:

Power Request	Likely Size
1–5 MW	Small / local
10–40 MW	Mid to large enterprise
50–100 MW	Hyperscale
100–1000 MW	AI mega-campus

If you hear:

“New 230 kV substation”

or

“300 MW utility agreement”

that usually means a very large facility.

Water Clues

2. Water Withdrawal Requests

Check:

- county commission agendas,
- water authority meetings,
- environmental permits.

Data centers often request:

- daily gallon capacity,
- cooling system permits,
- wastewater agreements.

Examples:

Water Demand	Likely Facility
<50k gal/day	Small
100k–500k gal/day	Mid-sized
1M+ gal/day	Hyperscale / AI

Land Size

3. Property Acreage

Typical land requirements:

Acres	Possible Facility
2–10 acres	Small
20–100 acres	Mid-sized
100–500+ acres	Hyperscale campus

Large setbacks, substations, and cooling yards increase acreage.

Building Footprint

4. Square Footage

Approximate ranges:

Building Size	Data Center Scale
10k–50k sq ft	Small
50k–250k sq ft	Mid-sized
250k–1M+ sq ft	Hyperscale

Very large projects often build in phases.

Documents to Search

5. Public Records

Useful sources include:

- County planning commission
- Zoning board applications
- Environmental impact studies
- Utility commission filings
- Building permits
- Tax incentive agreements
- Economic development authority meetings

Search terms:

- “data center”
- “substation”
- “load study”
- “special use permit”
- “industrial cooling”
- “server farm”
- “technology campus”

Infrastructure Signs

6. Physical Clues

Large data centers often require:

- New substations
- High-voltage transmission lines
- Massive backup generators
- Large fuel tanks
- Cooling towers
- Wide fiber routes

If locals see:

- multiple utility upgrades,
- transmission work,
- and hundreds of acres being cleared,

the project is likely very large.

Tax Incentive Agreements

7. Economic Incentives Reveal Scale

Cities/counties often publish:

- projected investment,
- expected power use,
- number of buildings,
- construction phases.

Examples:

- \$100M project → moderate
 - \$1B+ project → hyperscale
 - multi-billion AI campus → extremely large
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Quick Rule of Thumb

A rough estimate:

1 MW $\approx$ 200 to 1,000 server racks

and:

1 MW $\approx$ 5,000 to 10,000 gallons/day

So if documents mention:

- 50 MW,
- 500,000 gallons/day,
- and 150 acres,

that points toward a hyperscale-class facility.

What Locals Often Miss

Many projects are announced in phases.

Example:

- Initial permit = 20 MW
- Final buildout = 200 MW+

So residents should look for:

- “future expansion”
- “multi-phase”
- “ultimate capacity”
- “campus buildout”

Those terms often reveal the true long-term scale.

What does 500k cable mean?

“500k cable” can mean different things depending on the context, but in power infrastructure and data center discussions it usually refers to one of these:

1. 500 kcmil (Most Common for Power Cables)

In electrical work, “500k cable” often means:

500 kcmil = 500,000 circular mils

This is a **large electrical conductor size** used for:

- substations,
 - feeders,
 - industrial facilities,
 - data centers.
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What It Looks Like

A 500 kcmil cable is:

- thick,
- heavy,
- high-current capable.

Usually made from:

- copper,
- or aluminum.

Used for:

- medium-voltage distribution,
- large UPS systems,
- generator connections,
- switchgear feeds.

Approximate Capacity

Depending on insulation and installation, a 500 kcmil copper cable may carry roughly:

300 to 500 amps

or more in some configurations.

At higher voltages, that can support very large electrical loads.

2. 500 kV Transmission Line

Sometimes people say “500k line” meaning:

500 kV = 500,000 volts

This is extremely high-voltage utility transmission infrastructure.

These lines:

- feed cities,
- major factories,
- hyperscale data centers,
- regional grids.

If locals hear:

“500k transmission”

that usually indicates a massive power project.

3. Fiber Cable Context

Less commonly, “500k cable” could mean:

- 500,000-foot fiber order,
- or a large-capacity communications cable project.

But in infrastructure discussions around data centers, it almost always refers to electrical cable or voltage.

In Data Centers

Large data centers use huge conductors because they require enormous power.

Examples:

- UPS (Uninterruptible Power Supply) feeds
- Generator feeds
- Switchgear connections
- Substation distribution

A hyperscale campus may use:

- many parallel 500 kcmil conductors,
- medium-voltage feeders,
- or dedicated high-voltage transmission lines.

Simple Comparison

Cable Type	Typical Use
Romex in homes	15–50 amps
Small commercial feeder	100–200 amps
500 kcmil cable	Large industrial/data center power
500 kV transmission	Regional utility grid

Bottom Line

If someone says:

“They’re installing 500k cable”

they most likely mean:

- **500 kcmil heavy electrical conductors** for large power distribution,

or possibly:

- **500 kV transmission infrastructure** for very large utility-scale power delivery.