



Energy (Battery) Storage in Municipal:

Use Case and Zoning

Metropolitan Mayors Caucus

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Nexamp – Built for Long Term Impact

- Since 2007, Nexamp has successfully developed, financed, and constructed more than 350 solar and energy storage assets nationwide.
- Developer, owner, and operator of assets long term.
- Developing in Illinois since 2021.



Energy Storage – Various Use Cases

Use cases

FRONT-OF-THE-METER

Utility/grid-connected; supports capacity, peak demand, and grid services.

BEHIND-THE-METER

Customer-sited; serves on-site load, peak management, and backup/resilience.

How use connects to the grid

	DISTRIBUTION	TRANSMISSION
FRONT-OF-THE-METER	✓ 3+ MWac • 8,000+ sq. ft.	✓ 50+ MWac • 10+ acres
BEHIND-THE-METER	✓ Size varies	—

How use creates developer value

INTERCONNECTABLE

Supports a real grid need



PERMITTABLE

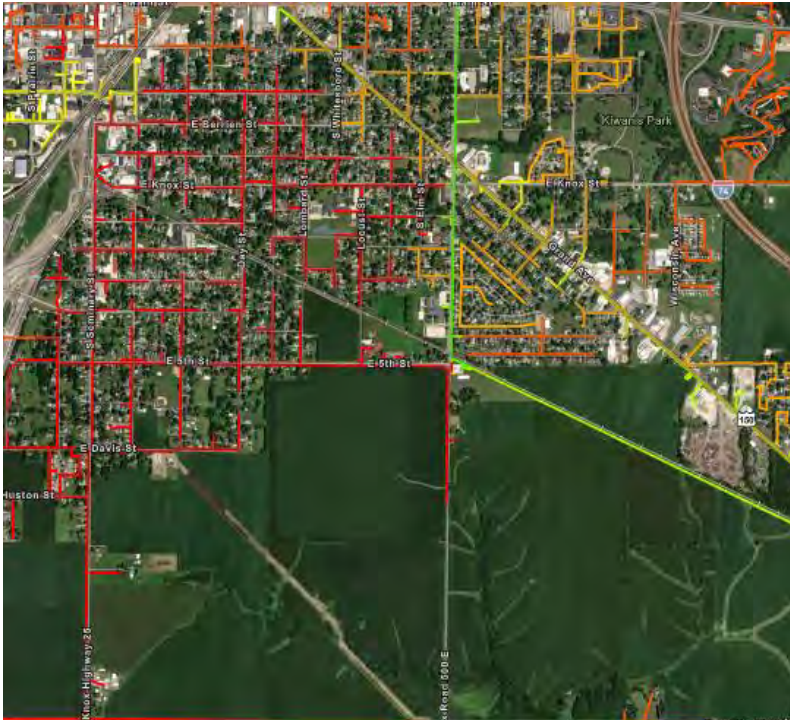
Clear permitting pathway



FINANCEABLE

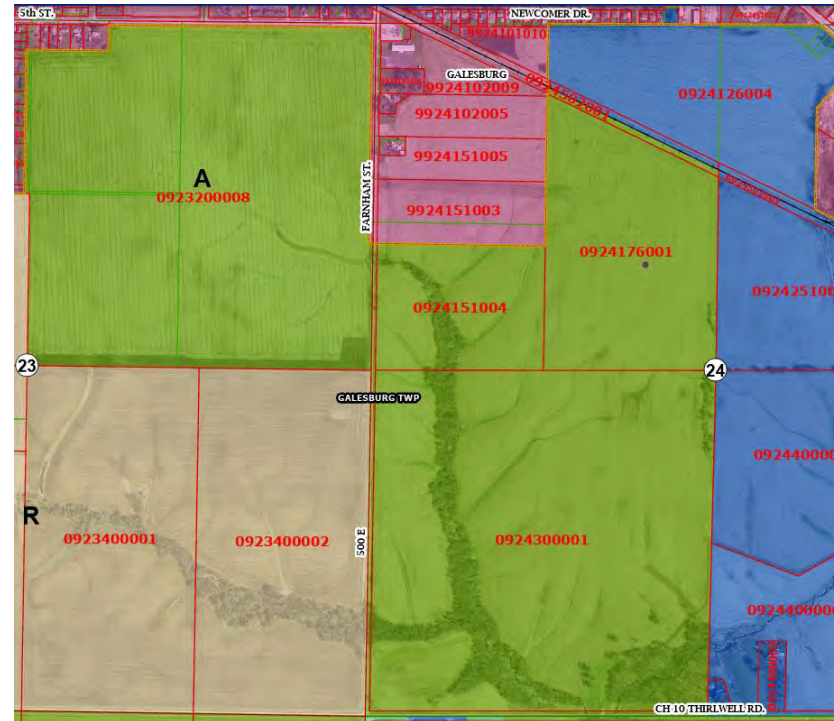
Supports a viable investment

Siting and Layout of Energy (Battery) Storage



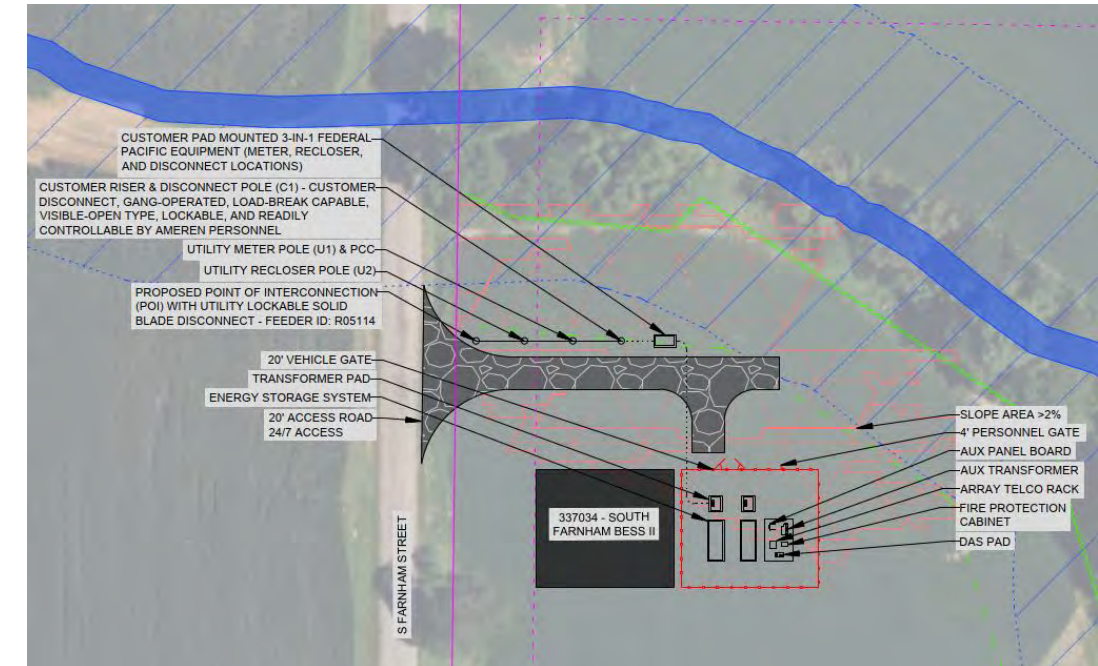
GRID FIT

Interconnection · capacity ·
upgrade requirements



LAND-USE FIT

Zoning path · setbacks ·
adjacent uses



SITE FIT

Wetlands, floodplains,
stormwater · access

Municipal Considerations: determine zoning path

Start with established resources

CRGA siting framework · Model zoning ordinances · Safety standards

STEP 1

Review the existing ordinance

Determine whether BESS qualifies as a “utility” use under the existing municipal ordinance.

STEP 2

Adopt a model-based ordinance, if needed

Identify zoning districts where BESS can be permitted by right or special use.

A strong energy storage code benefits communities and developers!

Municipal Considerations: ordinance essentials

If adopting a BESS special-use ordinance, address:

1 Scope and zoning districts

- Define BESS and supporting facilities; set the minimum capacity threshold (kW).
- Define requirements by zoning district and identify by-right or special-use approval paths.

2 Development standards

- Setbacks, height, and bulk.
- Illinois Pollution Control Board noise limits.
- Dark-sky-compliant lighting.

3 System augmentation

- Allow augmentation without renewing the special use permit (SUP), within approved project parameters and applicable safety requirements.

4 Safety standards

- NFPA 855: installation of stationary energy storage systems.
- UL 9540A: thermal-runaway fire-propagation testing documentation.

5 Commissioning and decommissioning

- Commissioning requirements.
- Emergency response plan.
- Hazard mitigation analysis.
- Fire department training.
- Decommissioning plan.

| Residential and Small Commercial Installations

Electrical Permit Process with a Short Energy Storage Checklist

1 Submit the application

Installer submits the electrical permit application, equipment details, location plan, and one-line diagram.

2 Town review

Town reviews equipment approval, wiring and disconnects, mounting, clearances, labeling, and any relevant fire-safety conditions.

3 Permit and installation

Town issues the permit; the qualified installer completes the work.

4 Inspection and closeout

Inspector verifies the installation matches the approved plans before closing the permit.

5 Utility interconnection

Owner or installer completes any separate utility interconnection steps.

Residential and Small Commercial Installations

Potential Model Checklist for a Typical Home Battery Installation

Applicant or installer submits

- ☐ Property address, owner contact, and installer/electrical contractor information
- ☐ Battery manufacturer, exact model, chemistry, rated kWh capacity, and kW output
- ☐ Equipment listing/certification and manufacturer installation instructions, as required by local code
- ☐ Site or floor plan showing the battery location, exits, doors/windows, property lines, and other batteries
- ☐ Electrical one-line diagram showing the battery, inverter/controller, service panel, disconnects, and connection to the home
- ☐ Mounting and anchorage details; structural calculations if the location or installation warrants them
- ☐ Utility interconnection information, if applicable
- ☐ Existing-condition photo, if required by the town

Municipality checks

- ☐ Equipment is approved for the intended use and installed per its instructions
- ☐ Location, access, clearances, and mounting meet applicable code
- ☐ Wiring, grounding, overcurrent protection, disconnects, and backup-power controls are shown
- ☐ Required warning labels and emergency shutoff information are provided
- ☐ Any special fire-safety measures are addressed where required by code

Final inspection

- ☐ Installed equipment matches the approved application
- ☐ Clearances, mounting, wiring, disconnects, and labels are in place
- ☐ Required utility approval and commissioning documentation are complete

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Thank you

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