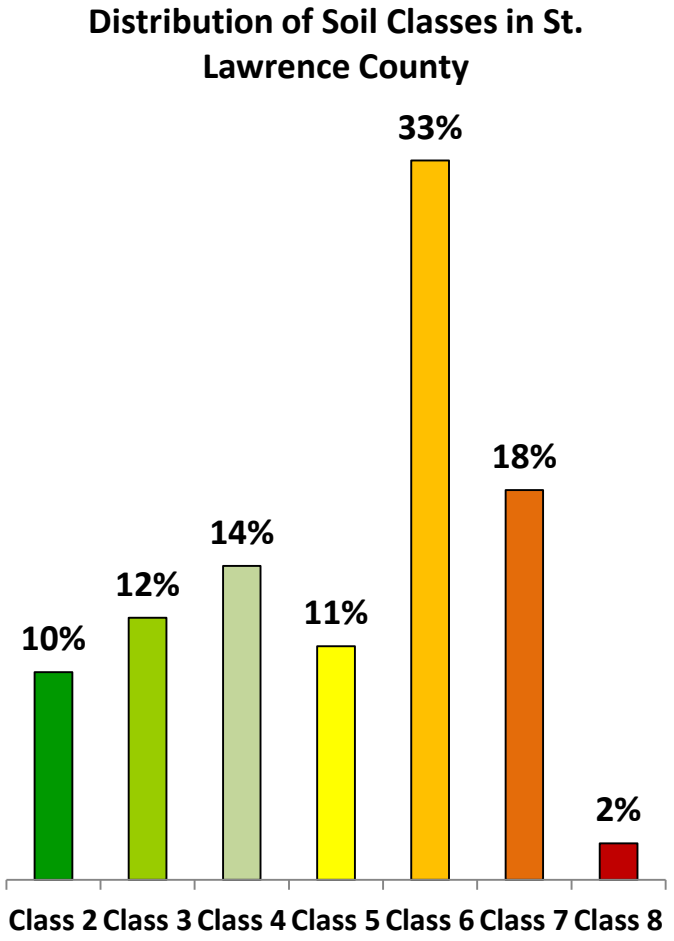
Minimizing Solar Impacts on Prime Farmland

Soils in SLC

- Zero Class 1 Soils Present
- 36% of soils suitable for production

Classes	SLC	USA
1 & 2	10%	23%
3 & 4	26%	35%
5 – 8	64%	42%



Soil Class Distribution in St. Lawrence County

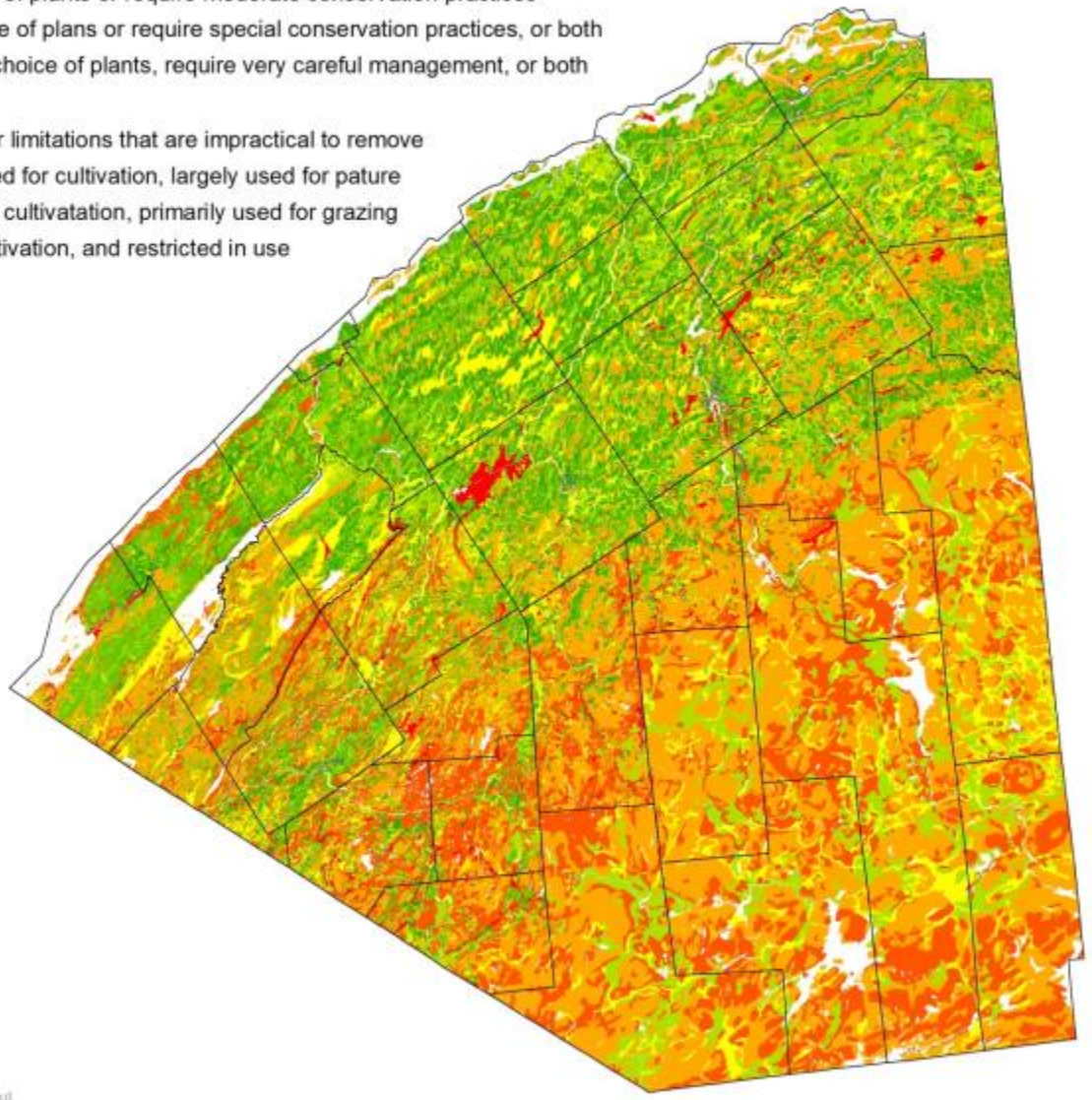
Legend

Soils Suitable for Cultivation

- Class 2: Some limitations that reduce choice of plants or require moderate conservation practices
- Class 3: Severe limitations that reduce choice of plans or require special conservation practices, or both
- Class 4: Very severe limitations that restrict choice of plants, require very careful management, or both

Unsuitable Soils

- Class 5: Little or no erosion hazard, but other limitations that are impractical to remove
- Class 6: Severe limitations; generally unsuited for cultivation, largely used for pature
- Class 7: Very severe limitations; unsuited for cultivatation, primarily used for grazing
- Class 8: Limitations that preclude use for cultivation, and restricted in use
- Town boundary



0 4 8 Miles

1:650,000

G:\ArcGIS\SLCounty\AgAtlas\Maps\SLCounty\SLC Soil Classes 2 - 8 - Landscape.mxd

Prime Soils

Best combination of physical and chemical characteristics

Adequate and dependable supply of moisture

Acceptable acidity and alkalinity

Acceptable sodium content

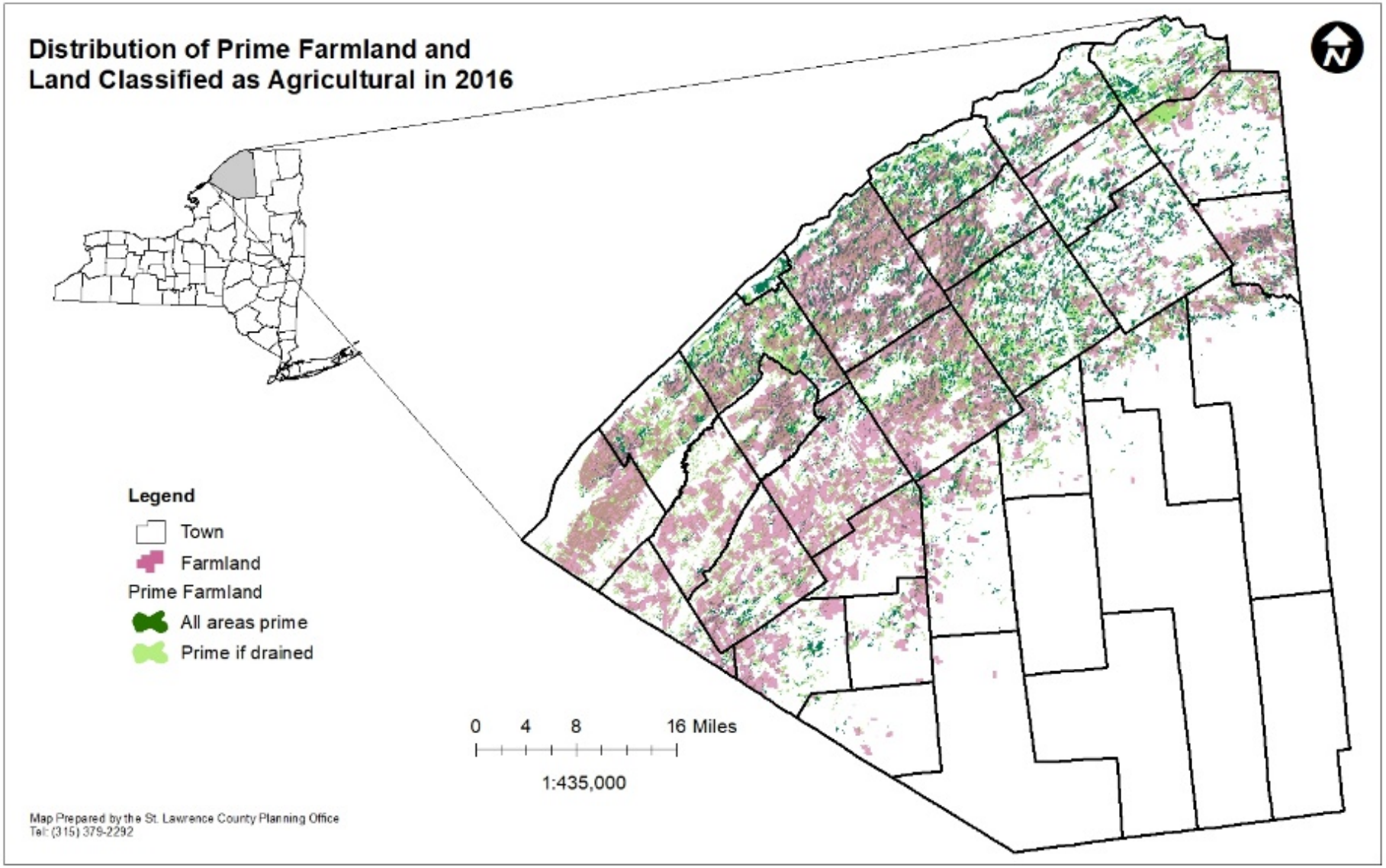
Permeable

Few rocks

Not excessively erodible or saturated

Not frequently flooded

Slopes 0 to 6%



Prime & Prime if Drained = 19% of land in SLC

→ Less than 1 in 5 acres available

Prioritize Farmland

- Active rotational farmland
- Permanent hayland
- Improved pasture
- Unimproved pasture
- Other support lands
- Fallow/inactive farmland

SLC's Ag Industry

- Market Value = $191 million in 2017
- Dairy = $139 million or 73%
- Top 10 in NE Milk Market Order Area
- Ranks 53rd in the US
- 2nd in NYS for hay

Prime Farmland Lost to Non-Ag Uses

→ Farm on less suitable soils

Increased production pressure on marginal land

→ Not easily cultivated

→ Less productive

→ More erodible and droughty

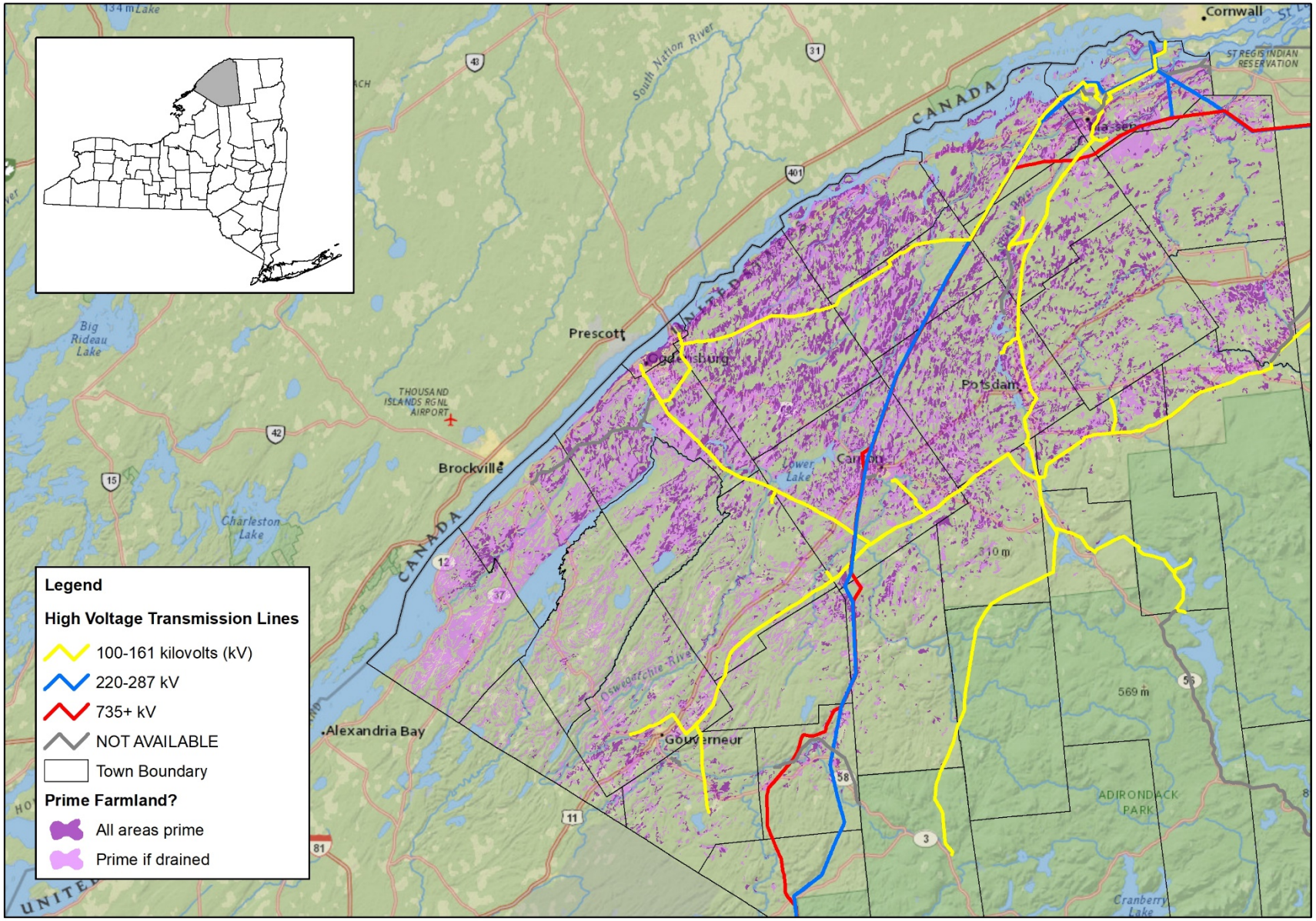
Increases production costs (time, energy, money)

Less competitive

Siting Characteristics

- Access to power
- 20-40 acres
- Flat
- Cleared
- Not in flood plain

Distribution of Prime, and Prime if Drained Soils and Location of Electrical Transmission Lines in St. Lawrence County



Map prepared by the St. Lawrence County Planning Office, Tel: (315) 379-2292

G:ArcGIS/Louisville/NYSP83/Prime Soils in Louisville w Power Transmission Lines.mxd

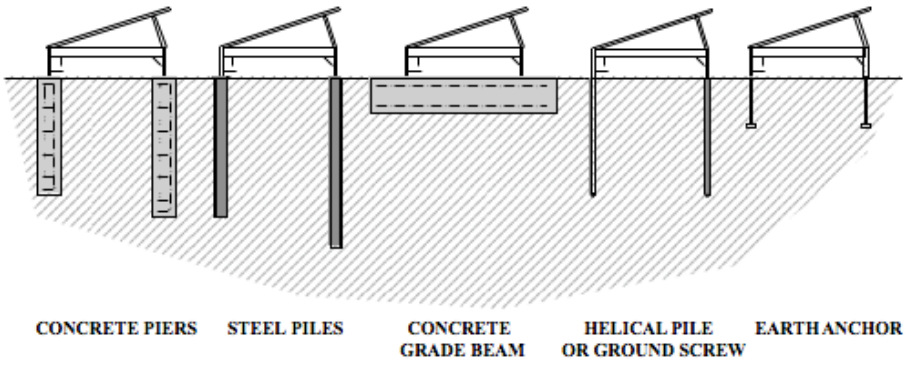
https://maps.dancgis.org/ima/

Site Plan Elements

- Prime soils and ag valuations
- Rotational crops, hayland, pasture, support lands, fallow land
- Tile drainage, ditches, diversions
- Road access (along edges, at grade, pervious, 16’ wide)
- Utility lines (taller poles, wider spans, no guy wires)
- Cross section of subsurface foundation

Concentrate on Single Lot

Stockpile Topsoil



Use Ballast Footers Instead

Features to Avoid

- Drain Tile
- Diversions
- Ditches
- Fencing

Access Along Field Edges

Path Construction

- Timbermats
- Geotextile fabric
- 16’ wide
- At grade

Transmission Lines

- Underground
- 2’ – 4’ deep
- Taller utility poles
- Larger spans
- No guy wires

Restoration

- Decompaction
- Rocks
- Debris
- 4’ depth
- Regraded
- Seeded
- Revegetated
- Monitoring

Decommissioning

- Depth to 4’
- Decompaction 18” – 24”
- Access
- Transmission Lines
- Decommissioning funds

Alternatives to Prime Farmland

- Former landfills with baseload of methane
- Former quarries
- Remediated brownfields

Repurpose Former Uses

2 MW on 11 acres
Dennings Point Landfill, Beacon, NY

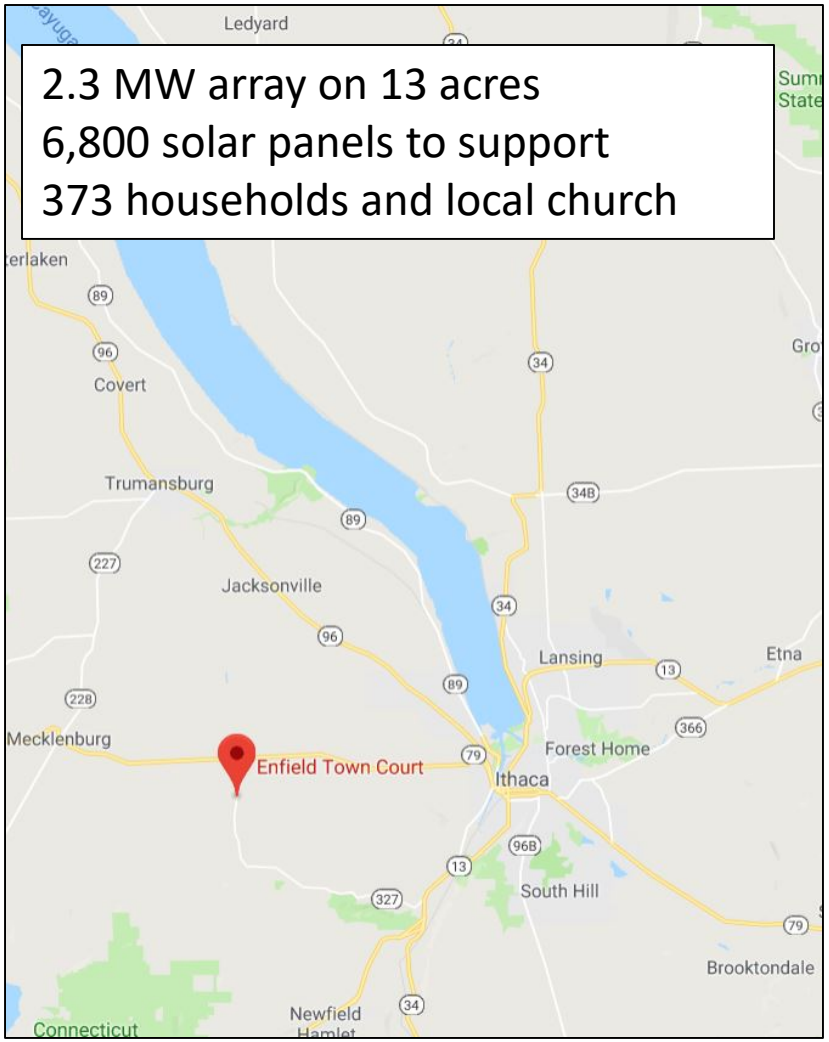
= 60% of public's power usage (≈ 1,600 homes)
= $2 million savings through Power Purchase Agreement

6 MW on 22 acres
Former Brownfield (Palmer Airfield, MA)

Energy ≈ 1,000 homes
$2 million PILOT over 20 years

Community Solar:
Town of Enfield, Tompkins County

- Subscriptions for users who don't have land or buildings ideal for solar panels
- 10% discount in year 1, with 2% increase in costs each year
- Community can lease site
- 20-Year PILOT



Questions?

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