



TOWN OF RIVERHEAD

Opportunities for Low-Impact Solar Siting

The Town of Riverhead has the potential to host as much as 2,561 MW of solar capacity, enough to power more than 642,100 New York homes. The town is home to 11.6 square miles of low-impact sites, consisting of parking lots, rooftops, and areas previously altered or impacted by human activities (Table 1).¹ Riverhead has the second highest potential for low-impact solar siting in Suffolk County, with 17% of the countywide total. Most of the potential in Riverhead is for ground-mounted installations (92% or 2,350 MW on 10.5 square miles). This is the second largest amount of ground-mounted siting potential in Suffolk County, with 22% of the countywide ground-mounted potential. Much of this ground-mounted installation potential (1,487 MW) is located on agricultural lands (Figure 1).

Table 1. Low-Impact Siting Potential for Each Solar Installation Type

Solar Type	Low-Impact Area (mi ²)	Potential Installation Capacity	Portion of Total Capacity
Ground-mounted	10.5	2,350	92%
Parking lot	0.6	111	4%
Rooftop	0.5	101	4%
Total	11.6	2,561	100%

¹ These results are meant to illustrate low-impact siting potential only. Technical, policy, economic, and social constraints may limit the feasibility of solar development on these sites. Therefore, these results likely overestimate the total area available for low-impact solar siting. Capacity of solar installations is reported in MW of direct current (DC), and all reports of estimated capacity have been rounded to the nearest whole number, except when the estimate is less than one. Due to rounding, numbers presented in tables and figures may not add up to the totals listed.

Land-Use Characteristics of Low-Impact Sites

The Long Island Solar Roadmap overlaid land-use data² on low-impact sites to examine the amount of potential installation capacity within each land-use class.³ In the Town of Riverhead, agricultural lands offer the greatest potential for low-impact solar development (1,486 MW or 58% of the total), followed by areas classified for recreational or open space uses (440 MW or 17%) and commercial and industrial spaces (284 MW or 11%) (Figure 1, Table 2). Potential for ground-mounted installations on areas that have been previously impacted by human activities dominates all land uses in Riverhead; the greatest opportunities for rooftop (48 MW) and parking lot (83 MW) are in commercial and industrial properties.

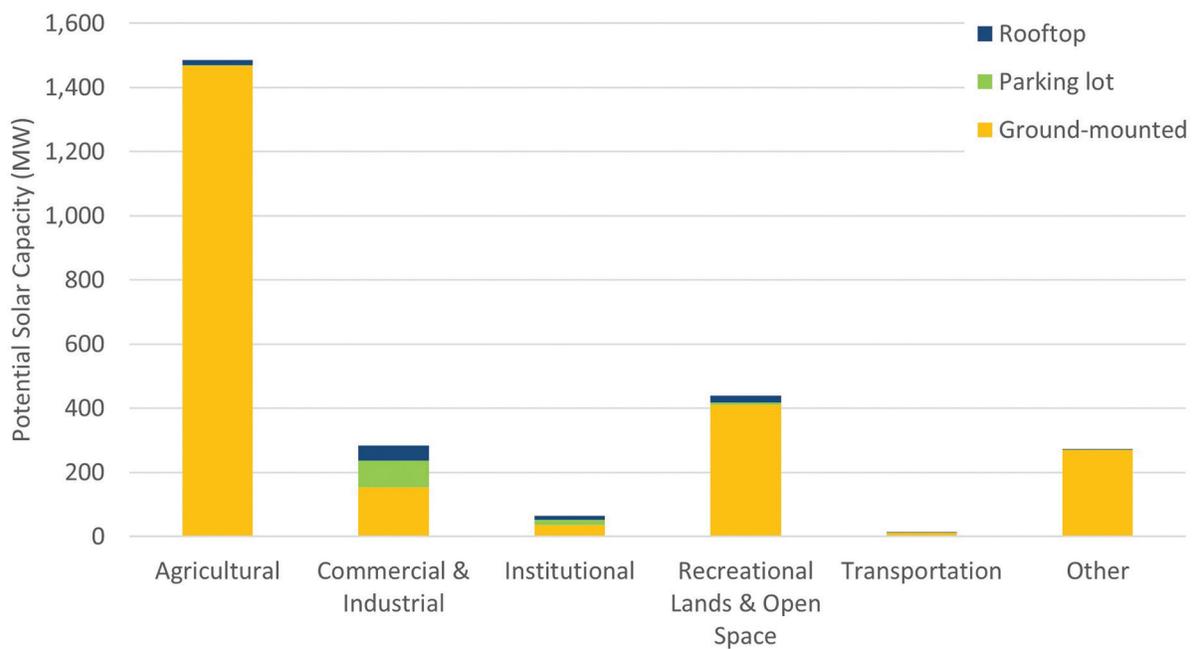


Figure 1. Potential installation capacity of low-impact ground-mounted, parking lot, and rooftop solar across land-use types in the Town of Riverhead. Land uses included in the “Other” category are utilities, vacant, waste management, and parcels that did not have an assigned land-use type.

Agricultural lands in Suffolk County have been described as either protected or unprotected, based on the Suffolk County Agriculture & Farmland Protection Plan.⁴ In the spatial analysis, only rooftop and parking lot solar were considered suitable for protected agricultural lands, and ground-mounted solar was considered unsuitable. All three types of installations were considered suitable for unprotected farmland.

Riverhead has the greatest potential of all Long Island towns and cities for low-impact solar on lands used for agriculture. The majority of Riverhead’s potential sites on agricultural land (1,468 MW) are located on non-forested

² Suffolk County parcel data (2016) from the Suffolk County Real Property Tax Services Agency included land-use classifications. Each parcel is assigned one land-use designation, regardless of mixed or multiple uses.

³ The Roadmap condensed county-defined land-use designations into broader categories to make it easier to interpret results. Residential parcels were removed from the Roadmap analysis and thus excluded from this land-use overlay. For more information on how land-use categories were condensed, and for full spatial analysis methodology, visit solarroadmap.org/research.

⁴ The Suffolk County Agriculture & Farmland Protection Plan (2015) was developed by the Suffolk County Department of Economic Development & Planning.

or previously altered land and are potential sites for ground-mounted solar (Table 3). It is important to note that some of this farmland may not be appropriate for ground-mounted solar even if it is not protected by farmland preservation programs. This is especially true if it is comprised of prime soils — our nationally significant productive fertile land. An additional 16 MW of rooftop solar and 2 MW of parking lot solar is available on agricultural lands.

These results are not intended to imply that solar energy production should replace active farming. Rather, they are meant to highlight areas where solar and farming may be compatible. Recommendations for siting low-impact solar to complement existing farms can be found in the Long Island Solar Roadmap.

Table 2. Distribution of Low-Impact Sites Across Land-Use Types

Land Use	Rooftop Capacity (MW)	Parking Lot Capacity (MW)	Ground-Mounted Capacity (MW)	Total Capacity (MW)	Portion of Total
Agricultural	16	2	1,468	1,486	58%
Commercial & Industrial	48	83	153	284	11%
Institutional	13	15	36	64	3%
Recreational Lands & Open Space	22	7	411	440	17%
Transportation	0	2	11	13	0%
Other	1	2	270	273	11%

Land uses included in the “Other” category are utilities, vacant, waste management, and parcels that did not have an assigned land-use type.

Table 3. Potential Low-Impact Solar Installation Capacity on Agricultural Lands

Protection Status of Agricultural Lands	Ground-mounted (MW)	Parking Lot (MW)	Rooftop (MW)	Total Capacity (MW)
Protected ⁵	0	0	1	1
Unprotected	1,468	2	15	1,485
Total	1,468	2	16	1,486

⁵ Potential opportunities for ground-mounted solar installations on protected farmlands were excluded from the analysis.

Zoning of Low-Impact Sites

The Long Island Solar Roadmap overlaid zoning district boundaries provided by the Town of Riverhead on maps of low-impact sites to estimate the potential low-impact areas available within each zone. Note that zoning categories are different from land-use categories, and that zoning districts have been generalized to make it easier to interpret results. These sites are located in one of four district types: agricultural protection districts, residential districts, land zoned for commercial and industrial use, and other districts. These results are provided for reference only and do not exclude locations where solar development might be restricted by land-use policies.

Agricultural Protection District

Half of the total siting potential (1,275 MW) in the Town of Riverhead occurs in the Agricultural Protection zoning district (Table 4). Note that “protected and non-protected farmlands” in the Long Island Solar Roadmap are defined separately from land that may or may not occur within the Agricultural Protection zoning district.

Table 4. Potential Low-Impact Solar Installation Capacity in Each Zoning District

Zoning District	Installation Capacity (MW)	Portion of Total
Agricultural Protection	1,275	50%
Residential	840	33%
Industrial	267	10%
Businesses	158	6%
Rural Corridor	7	< 1%
Riverfront/Waterfront	5	< 1%
Defense	4	< 1%
Village Center	4	< 1%
Main Street	2	< 1%
Hamlet Center	1	< 1%

Residential Districts

Over a third of the total potential sites (840 MW) are on land zoned as residential, even though residential parcels (as defined by land-use categories) were removed from the mapping analysis. Some examples of non-residential properties located within residential zoning districts include golf courses, multifamily rental complexes, schools, and community services. These results suggest that having solar-friendly land-use policies that address mid- to large-scale installations for residential zoning districts could help unlock significant low-impact siting potential in the Town of Riverhead.

Land Zoned for Commercial and Industrial Uses

About 16% of low-impact potential sites are located on land zoned for commercial and industrial uses, areas where solar development is more likely to be allowed by local land-use policies.



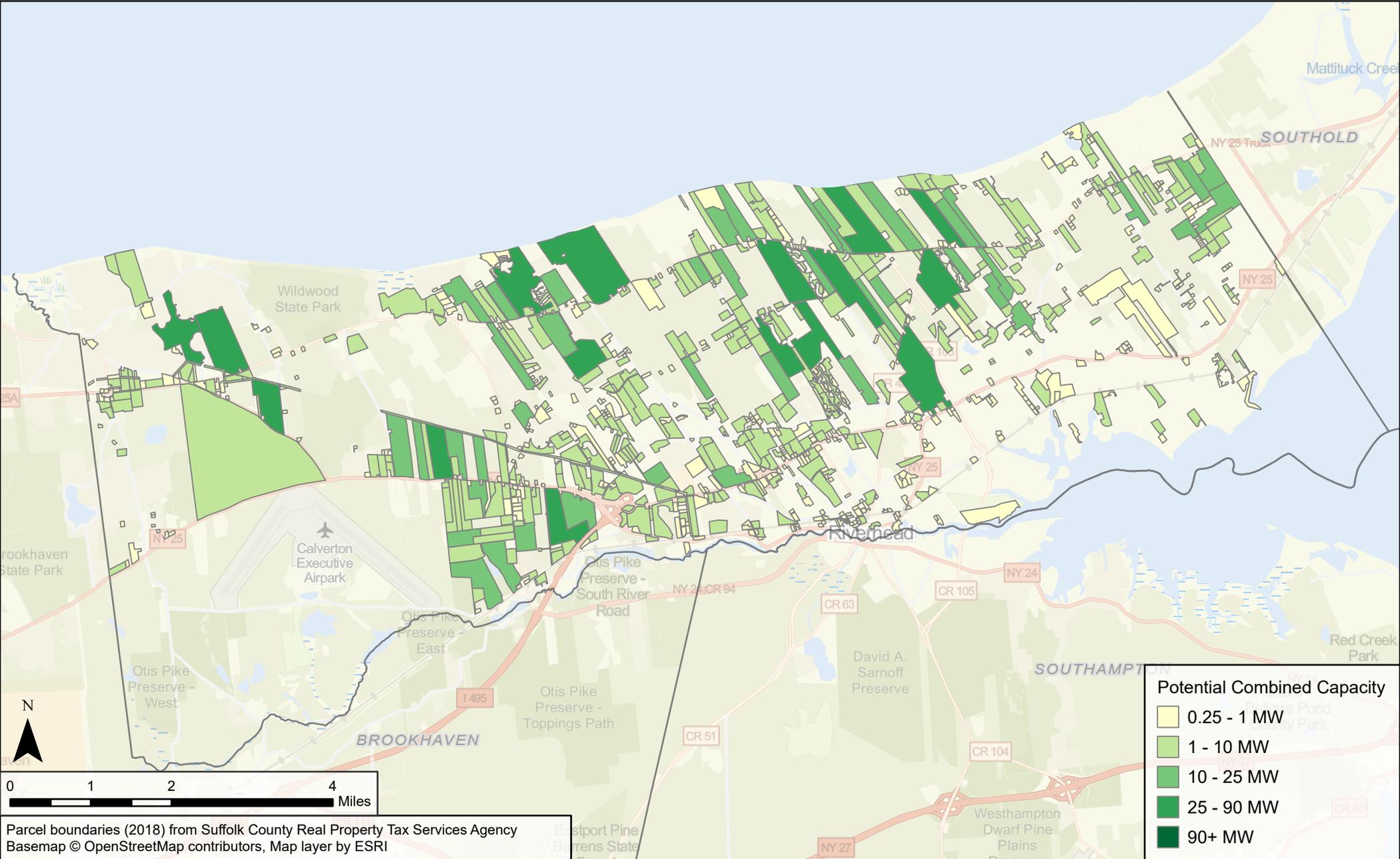
Rooftop solar on the barns at Stratford Ecological Center, a nonprofit educational organic farm and nature preserve.
© Above the Light Photography

Long Island Solar Roadmap

The Long Island Solar Roadmap, a partnership between The Nature Conservancy and Defenders of Wildlife, aims to advance deployment of mid- to large-scale solar power on Long Island that minimizes environmental impacts, maximizes benefits to the region, and expands access to solar energy, including access by traditionally underserved communities. The Roadmap identified and mapped low-impact areas of opportunity for siting mid- to large-scale solar installations (250 kW DC and larger) on rooftops, parking lots, and other land already impacted by development. The analysis indicates that there is potential on Long Island to host enough solar capacity to power more than 4.8 million homes. The Roadmap includes strategies and actions for accelerating low-impact solar development.

To access the full report and interactive web map, visit solarroadmap.org.

Town of Riverhead: Potential Combined Capacity

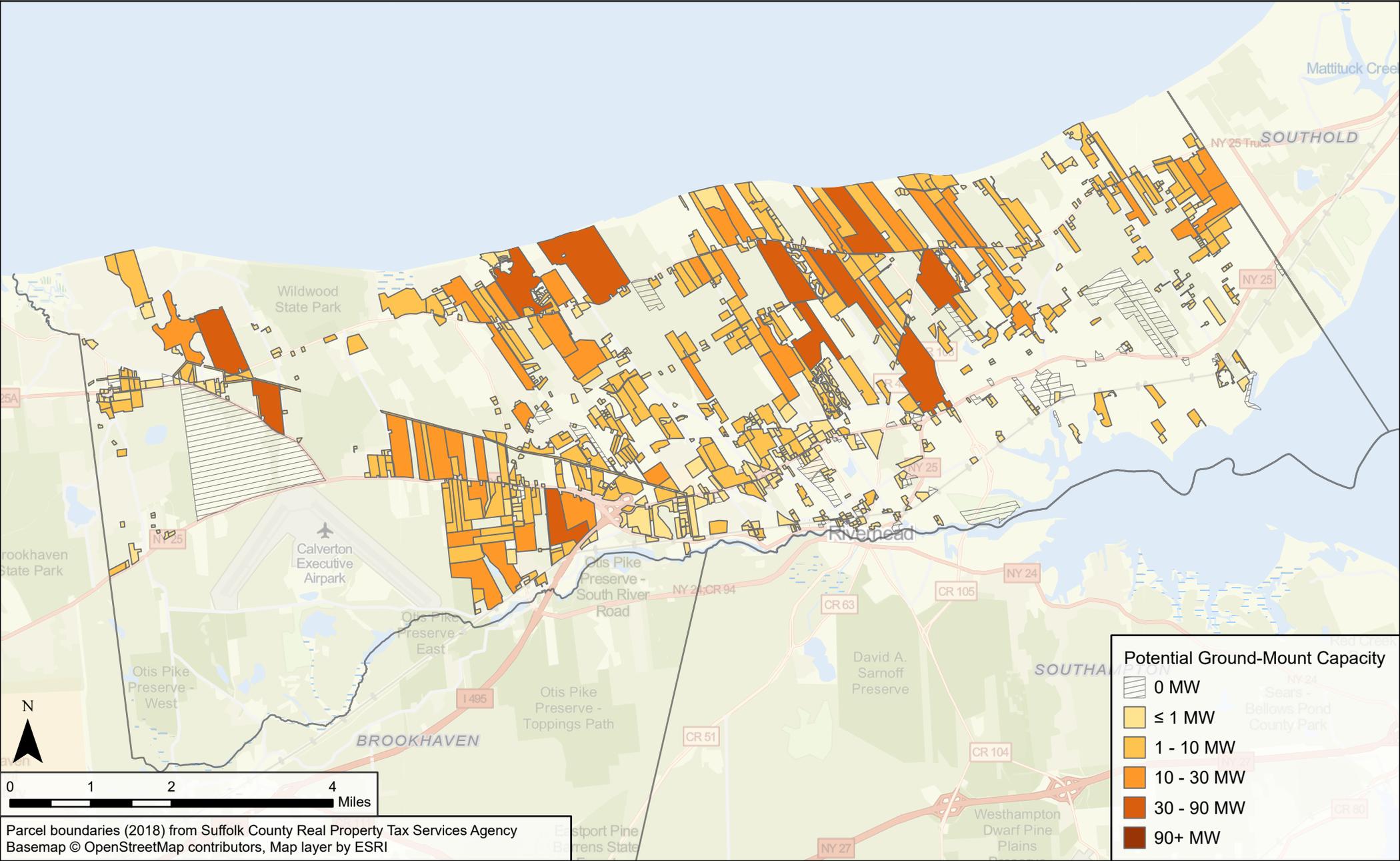


Potential Combined Capacity	
Lightest Green	0.25 - 1 MW
Light Green	1 - 10 MW
Medium Green	10 - 25 MW
Dark Green	25 - 90 MW
Darkest Green	90+ MW

This map shows areas of opportunity for low-impact solar development in the Town of Riverhead identified as part of the Long Island Solar Roadmap. Parcels shown here could each host a total solar installation capacity of 250 kW or larger on rooftops, parking lots, and land areas previously impacted by human activities. Parcels are symbolized based on estimated installation capacity as shown in the legend. Some capacity ranges in the legend may not appear in this town. Solar development may not be suitable on all areas within a parcel.

This map illustrates low-impact siting potential only and do not take into account technical or policy constraints. These results are not intended to express where solar development should occur or to replace site-level evaluations. For more information about the Long Island Solar Roadmap, visit solarroadmap.org.

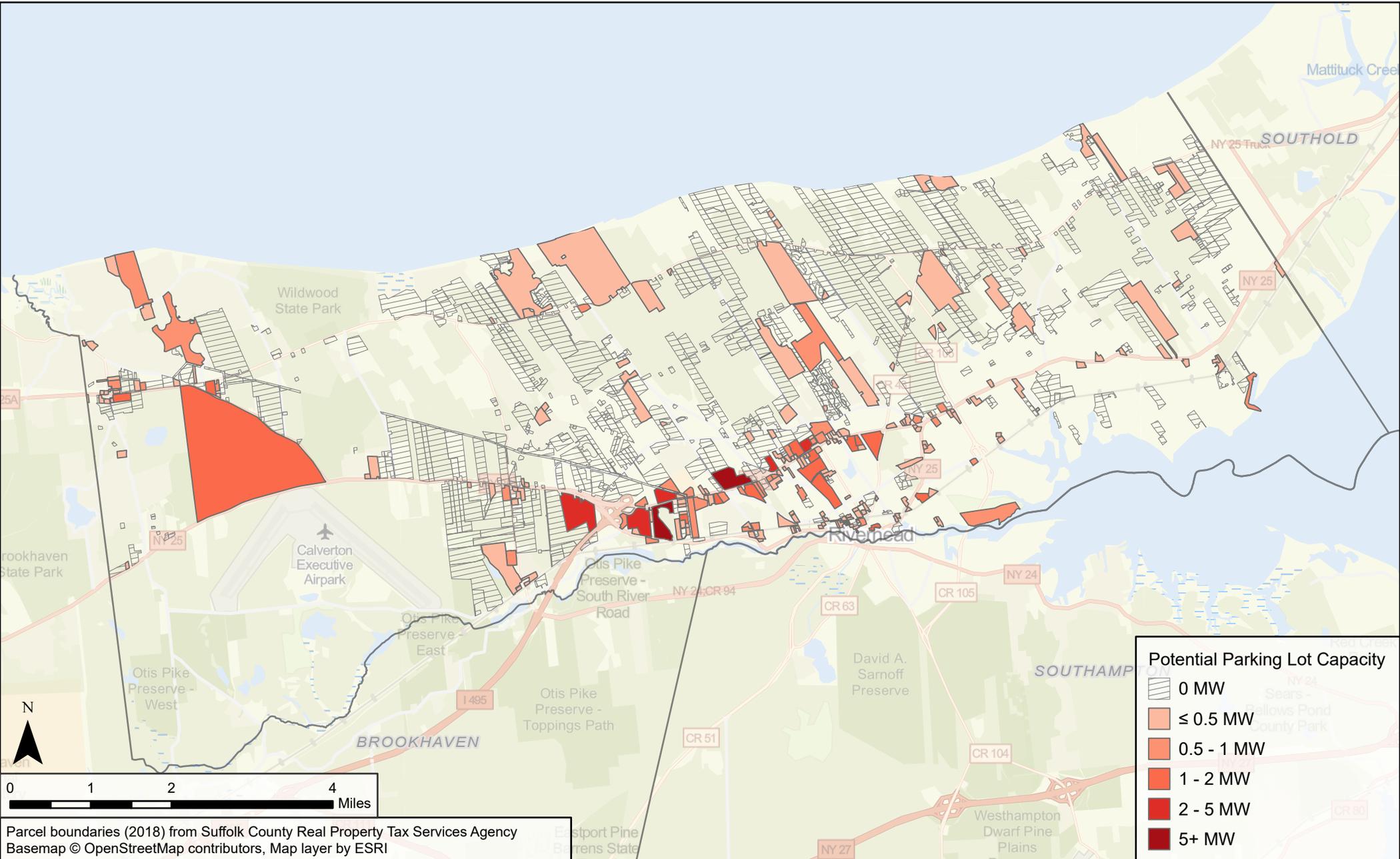
Town of Riverhead: Potential Ground-Mount Capacity



This map shows areas of opportunity for low-impact solar development in the Town of Riverhead identified as part of the Long Island Solar Roadmap. Parcels shown here could each host a total solar installation capacity of 250 kW or larger on rooftops, parking lots, and land areas previously impacted by human activities. Parcels are symbolized based on estimated installation capacity as shown in the legend. Some capacity ranges in the legend may not appear in this town. Solar development may not be suitable on all areas within a parcel.

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Town of Riverhead: Potential Parking Lot Capacity



This map shows areas of opportunity for low-impact solar development in the Town of Riverhead identified as part of the Long Island Solar Roadmap. Parcels shown here could each host a total solar installation capacity of 250 kW or larger on rooftops, parking lots, and land areas previously impacted by human activities. Parcels are symbolized based on estimated installation capacity as shown in the legend. Some capacity ranges in the legend may not appear in this town. Solar development may not be suitable on all areas within a parcel.

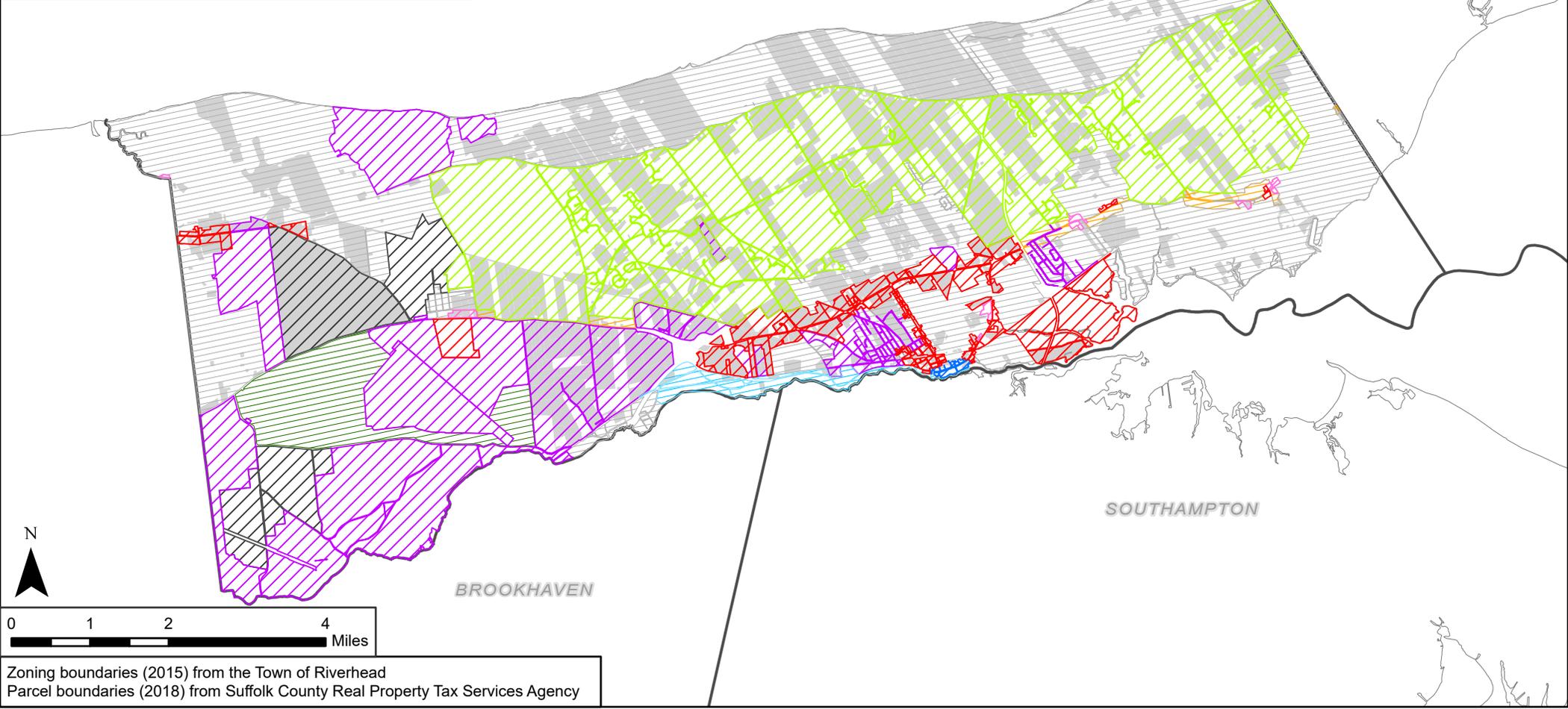
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Town of Riverhead: Zoning Overlay

Riverhead Zoning Groupings

 Agricultural: (APZ) Agricultural Protection	 Riverfront/Waterfront: (DC-2) Waterfront; (RFC) Riverfront Corridor	 Residential: (HR) Hamlet Residential; (DC-5) (RA40) (RA80) (RB40) (RB80) (RC)
 Businesses: (BC) (BUS CR) (BUS F) (BUS PB) (DC-3) (DC-4) (MRP) (CO) (CRC) (DRC) (SC) (TRC) (VC)	 Industrial: (Ind A) (Ind B) (Ind C) (PIP) (LI)	 OS Protection: (NRP) Natural Resources Protection; (OSC) Open Space Conservation; (PRP) Planned Recreational Park
 Main Street: (DC-1) Main Street	 Hamlet Center: (HC) Hamlet Center	 Rural Corridor: (RLC) Rural Corridor
	 Defence: (Def Ins) Defence Institutional	

 Parcels suitable for low-impact siting



Zoning boundaries (2015) from the Town of Riverhead
 Parcel boundaries (2018) from Suffolk County Real Property Tax Services Agency

This map shows areas of opportunity for low-impact solar development in the Town of Riverhead identified as part of the Long Island Solar Roadmap. Parcels shown here (in gray) could each host a total solar installation capacity of 250 kW or larger on rooftops, parking lots, and land areas previously impacted by human activities. Solar development may not be suitable on all areas within a parcel. Overlaid on the parcels are generalized zoning district boundaries for the town.

This map illustrates where low-impact siting potential is in relation to the town's zoning boundaries. These results are provided for reference only and do not represent where solar development may be restricted by land use policies. For more information about the Long Island Solar Roadmap, visit solarroadmap.org.