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MnSEIA Gateway to Solar Conference | October 21, 2019

Features of Solar PV Projects on Brownfields

Specialized State Permit Commonly Required

- MN Pollution Control Agency/State Department of Environmental Protection
- May add 3+ Months to Development Timeline

Contract Provisions

- Insurance
- Liability

Engineering & Construction Considerations

- Fully-ballasted construction
- Above-ground wiring to point of interconnection
- Semi-permanent gravel roads for all tire vehicles; only track vehicles off-road
- Robust soil erosion prevention measures
- Modular feature of solar PV preserves access to gas vents, monitoring wells, underground gas collection pipes, etc.

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Solar PV Construction on Capped Landfill

Site Preparation

Ballast Installation

Panel Installation

Inverter Installation

Tracked Equipment

Ballasted Racking

Above Grade Conduit Runs

Ballasted Fencing

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City of Hutchinson, MN Landfill – 440 kW DC

Serves Water Treatment Plant Adjacent to Site

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Town of Weston, MA Landfill – 2,268 kW DC

We relocated existing walkway to outside of fence for community use

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City of Northampton, MA Landfill – 3,174 kW DC

Solar module placement maintains access to under cap gas collection piping

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City of Newton, MA Landfill - 2,170 kW DC

Cleared 70,000 cubic yards of material stored on-site before construction

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Adams County, CO Landfill ~2.5 MW DC

In development for 2020 construction; had been used as shooting range

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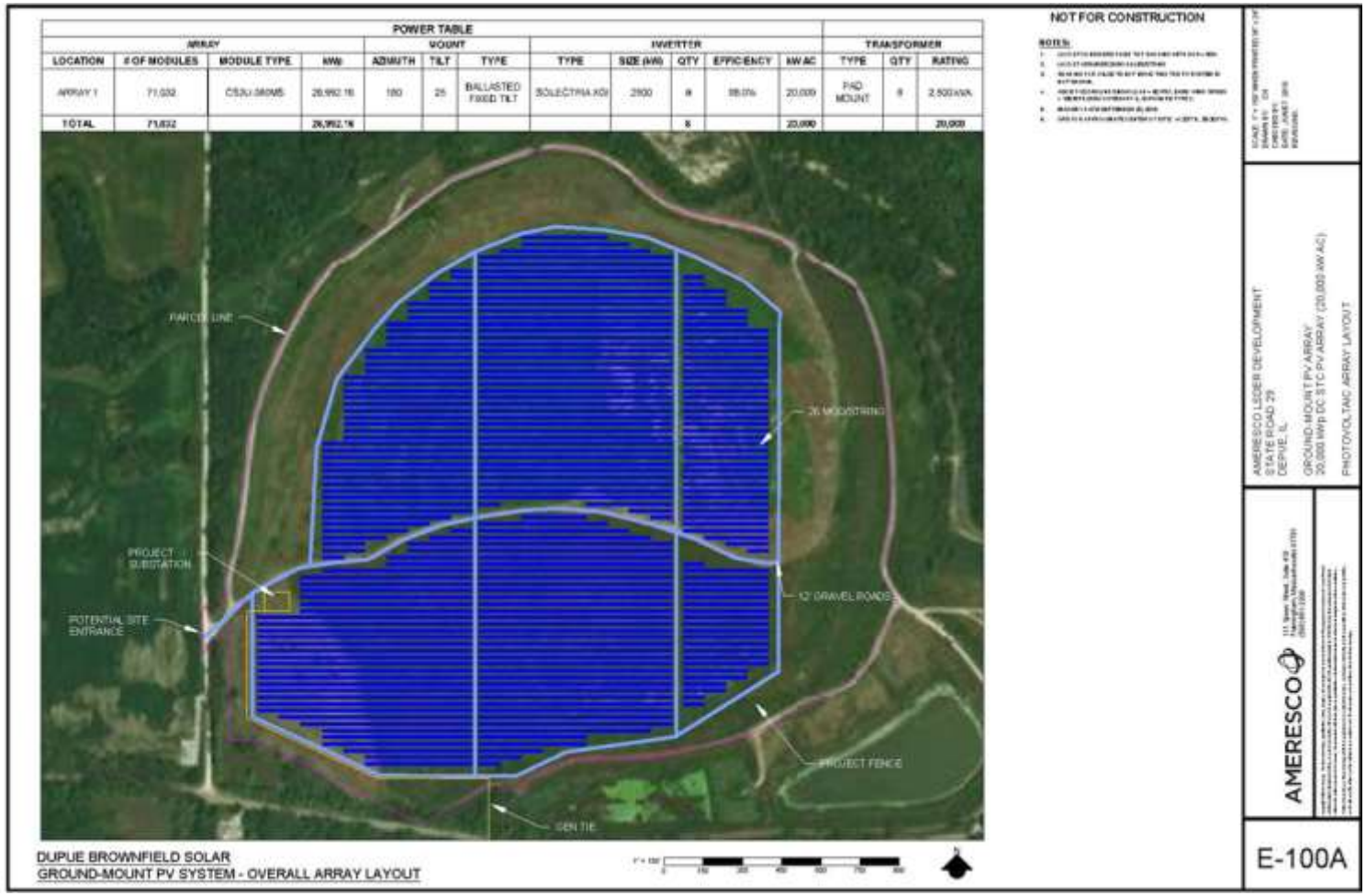
Village of DePue, IL Brownfield - 27 MW DC

DePue/New Jersey Zinc/Mobil Chemical Corp. Superfund site

Permitting fees & Property tax revenue to County & Village are significant

Project will pay $10,000/year towards Village electricity costs



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Sample Policy to Further Solar Development on Brownfields and Landfills

Incentive to Accommodate Higher Costs

- MA: $0.03-$0.04/kWh adder to base incentive (Block 1)
- IL: REC solicitation for brownfields/landfills separate from solicitation for other solar projects
- ME: New 2019 legislation effectively procures solar on landfills/brownfields at a 10% premium

Virtual Net-Metering or Similar Mechanism

- Solar on many of MPCA's owned landfills would have to be grid-tied
- VNM or similar would allow a municipality or public entity to benefit from the project's full generation (as in MA)
    - Otherwise grid-tied projects would have to be community solar, a qualifying facility, MISO participants, or established under a negotiated agreement with utility

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