

Lexington Police Station Site Plan



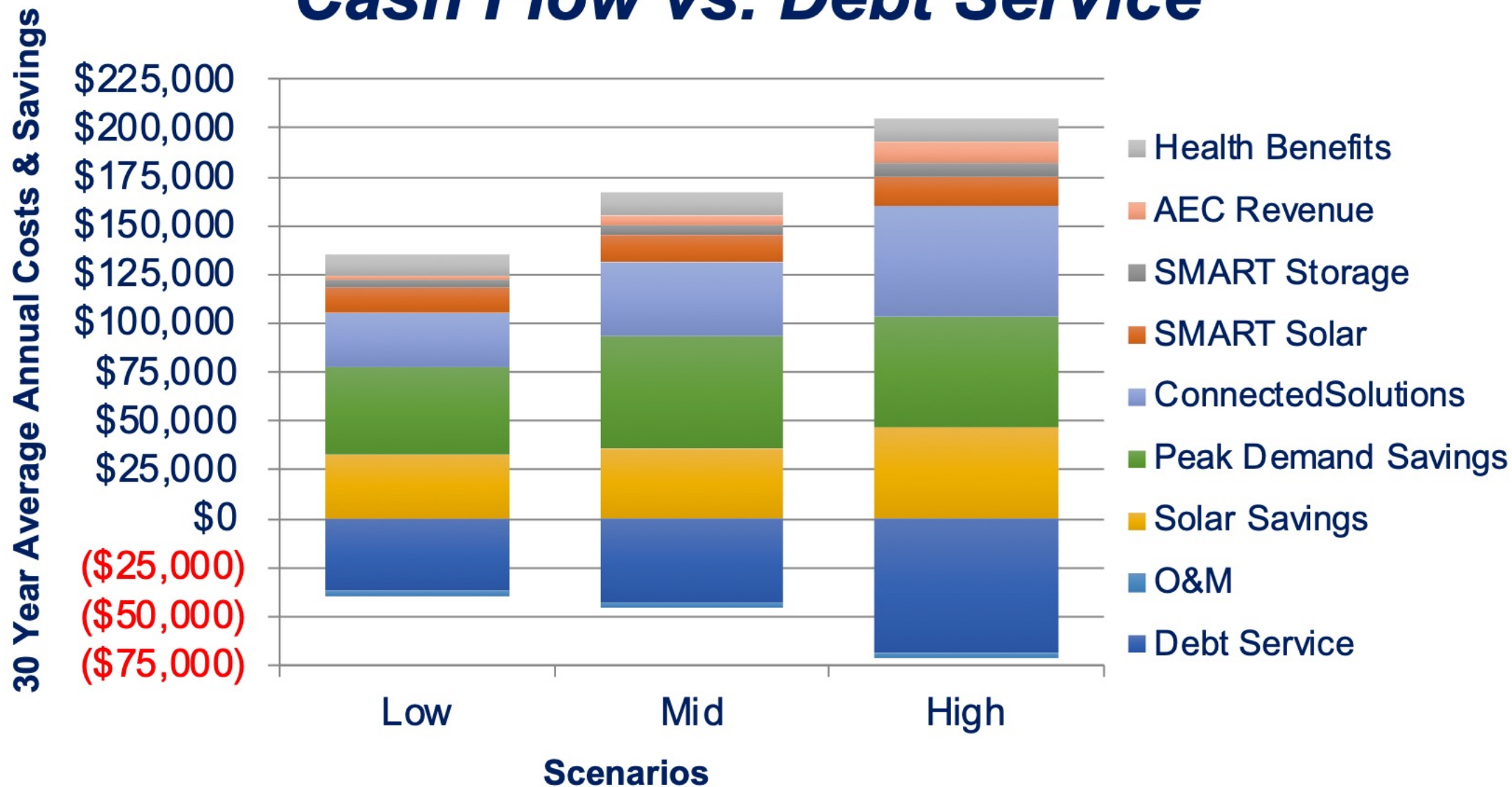
Lexington Solar Canopy Street View

Canopy Rendering



Solar Canopy + Storage

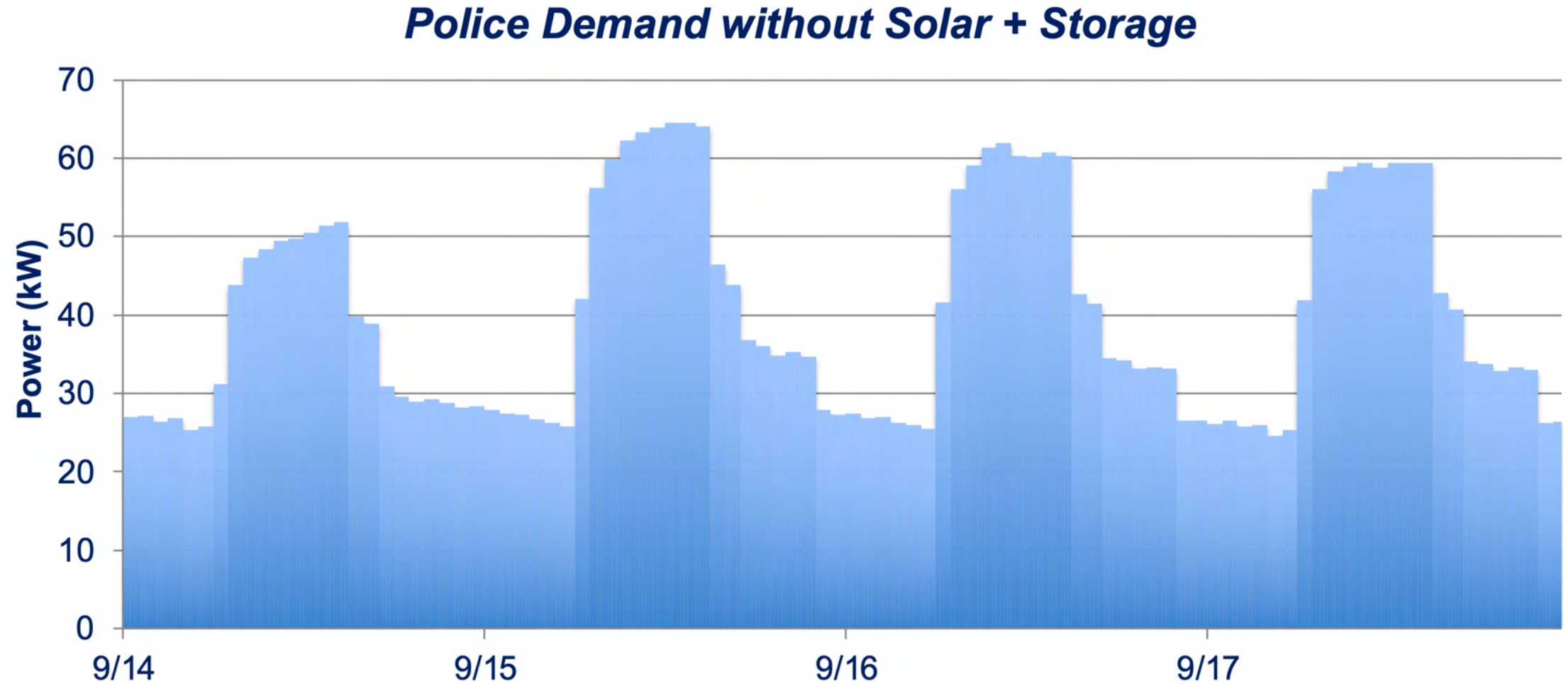
Cash Flow vs. Debt Service



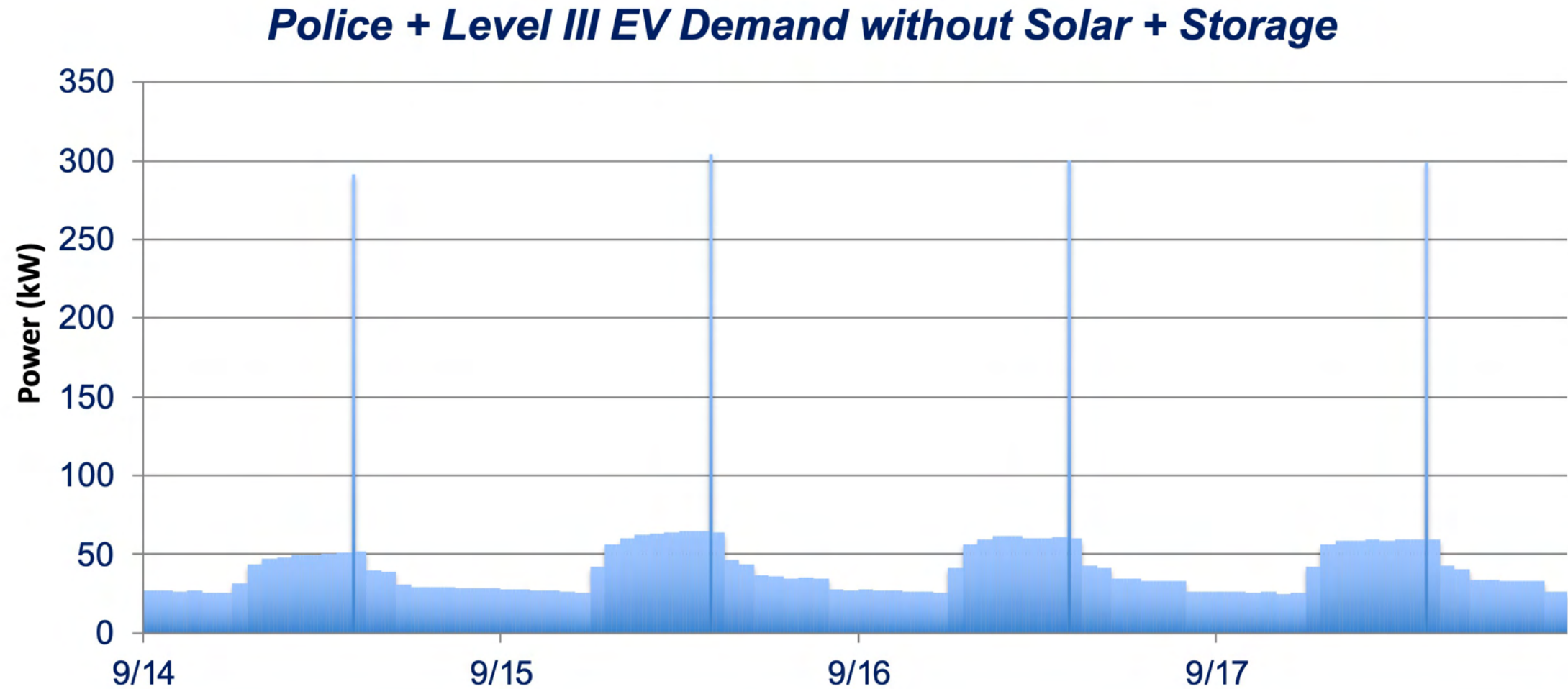
Farmers Market Solar View



Police Building Only Demand

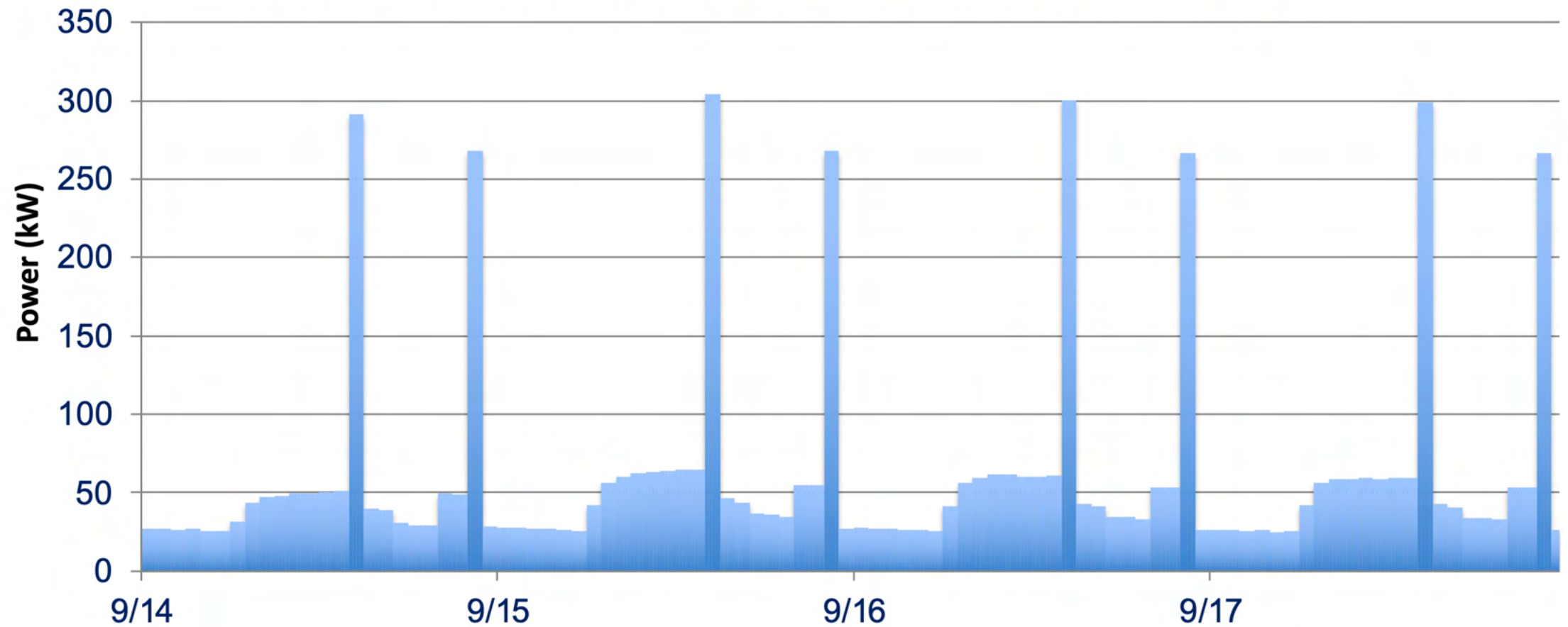


3 Mach-E Police Vehicles



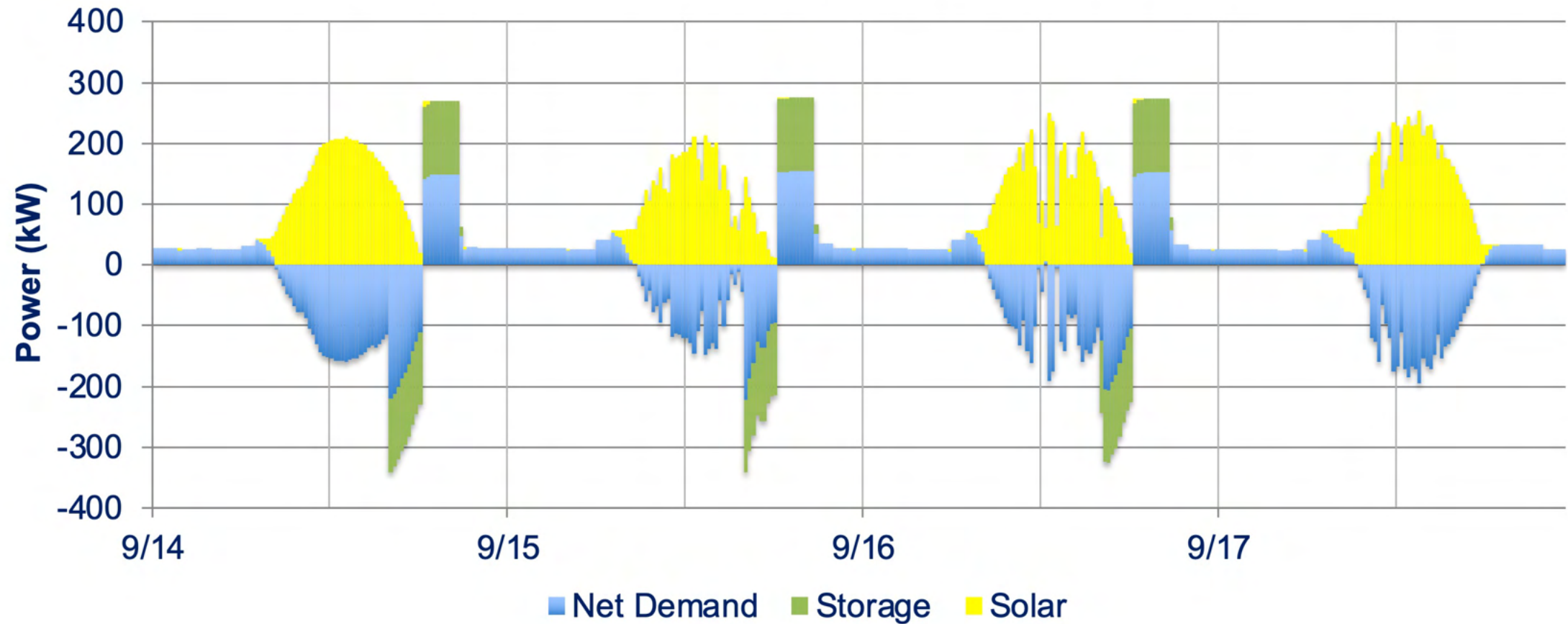
26 Mach-E Police Vehicles

Police + Level III EV Demand without Solar + Storage

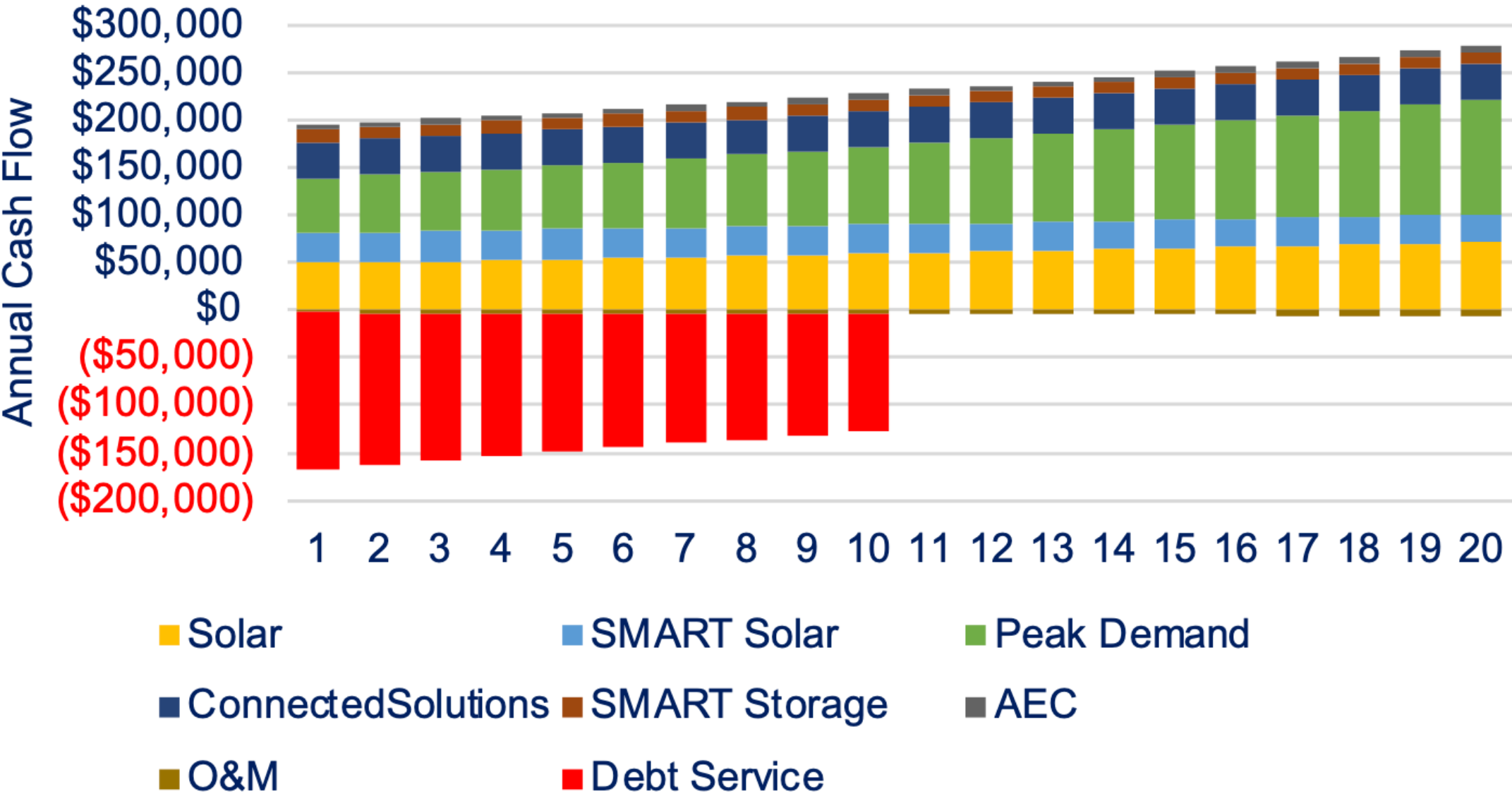


Police Demand with 26 Mach-E

Police + Level III EV Charging with Solar + Storage



Police Solar + Storage Cash Flow (Mid)



Lexington High School

PBC Meeting

05/08/2025



smma

dw
DORE + WHITTIER

Turner

Longspan Solar Option

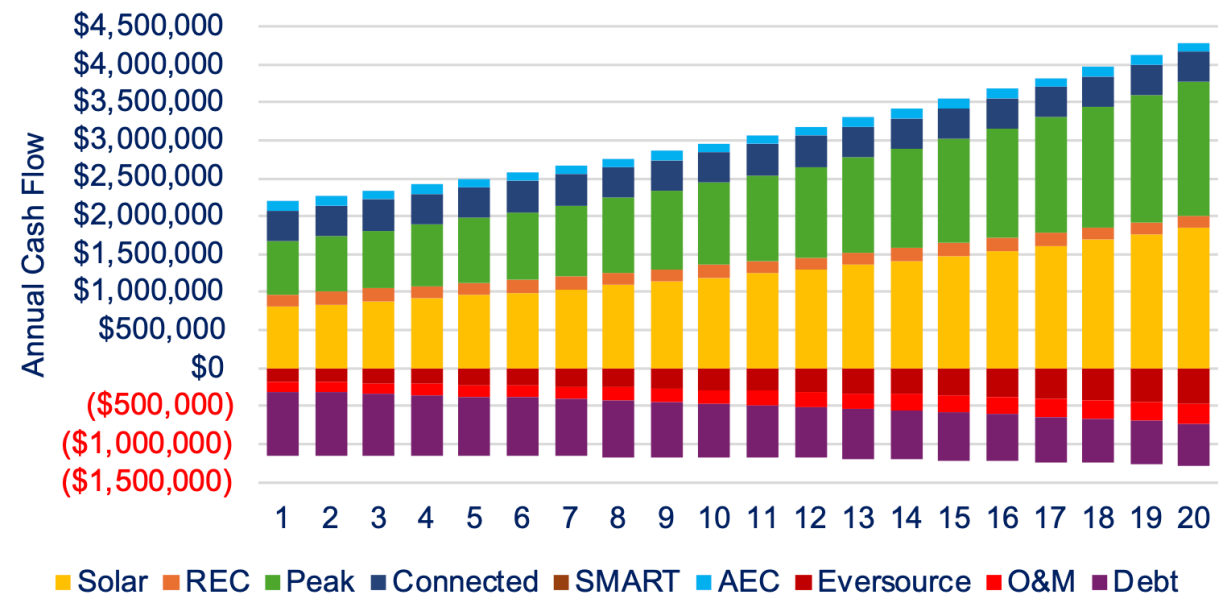
Pro

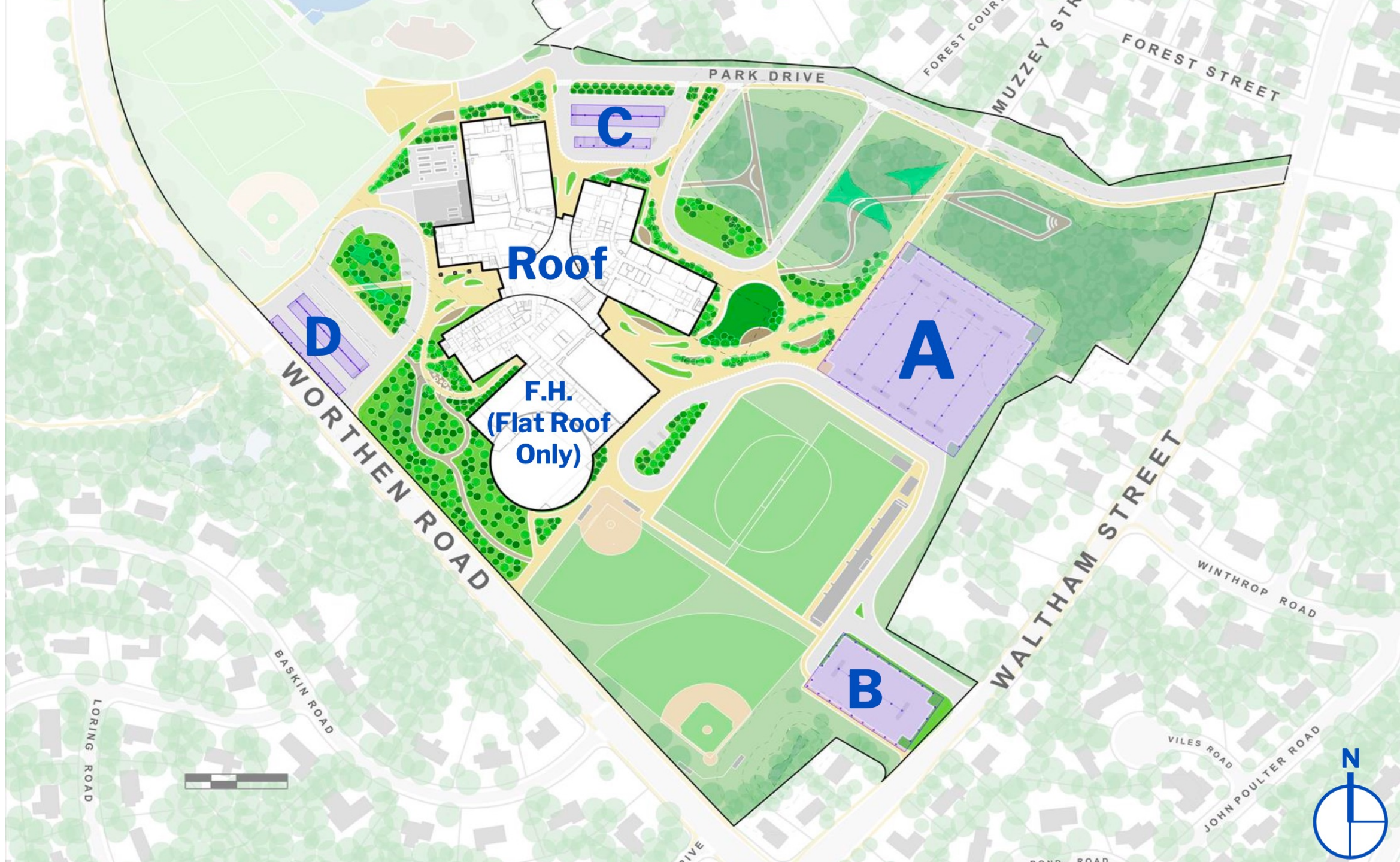
- \$23 to \$25M positive cash flow
- Address energy model cost risk
- Achieve Net Zero performance
 - For ASHP & Hybrid options
- Longspan lower cost per watt
 - Currently modeled as same cost

Con

- Increased upfront cost
 - \$5 to \$7M incremental for 1MW
(with and without IRA)

ASHP w Longspan Solar Cash Flow (No IRA)





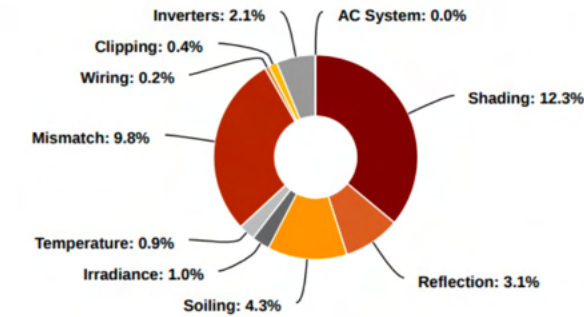
Renewable Energy/ Final PV Size

Solar Study – Building Rooftop

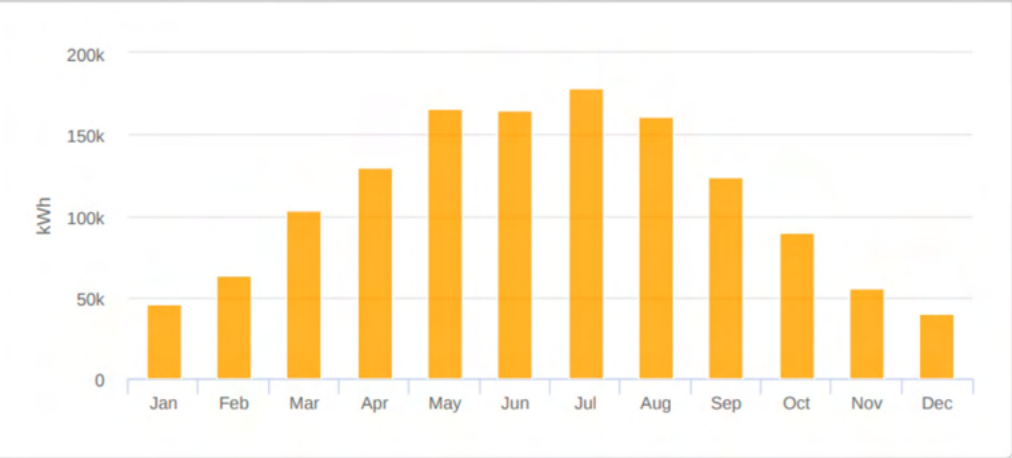
System Metrics

Design	2025-0319 - Rooftop - Option 3
Module DC Nameplate	1.25 MW
Inverter AC Nameplate	970.8 kW Load Ratio: 1.29
Annual Production	1.320 GWh
Performance Ratio	70.0%
kWh/kWp	1,052.9
Weather Dataset	TMY, BOSTON LOGAN INT'L ARPT, NSRDB (tmy3, I)
Simulator Version	e032c9a050-228dc61fe0-0788f319b9-63b45b76d4

Sources of System Loss



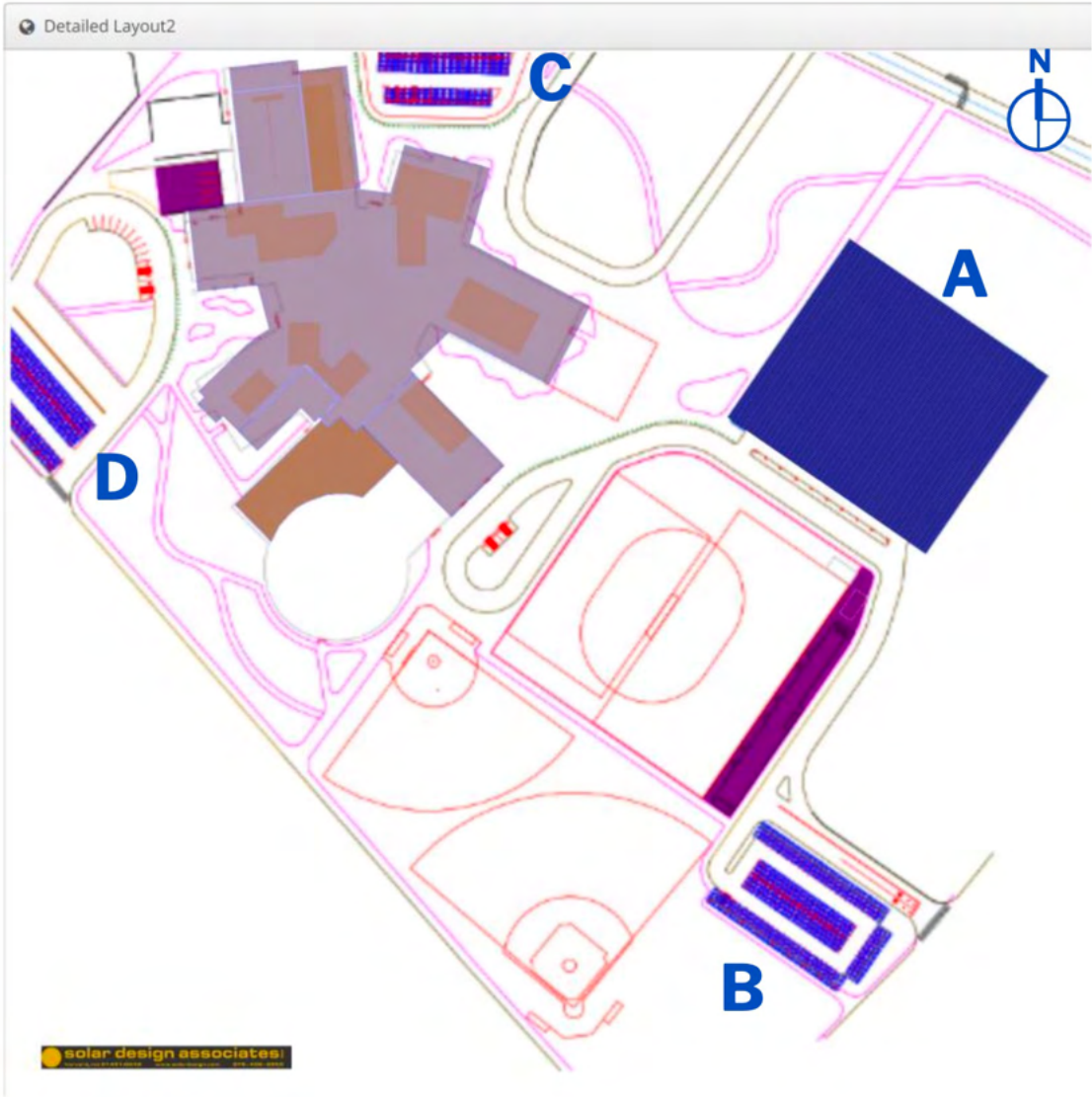
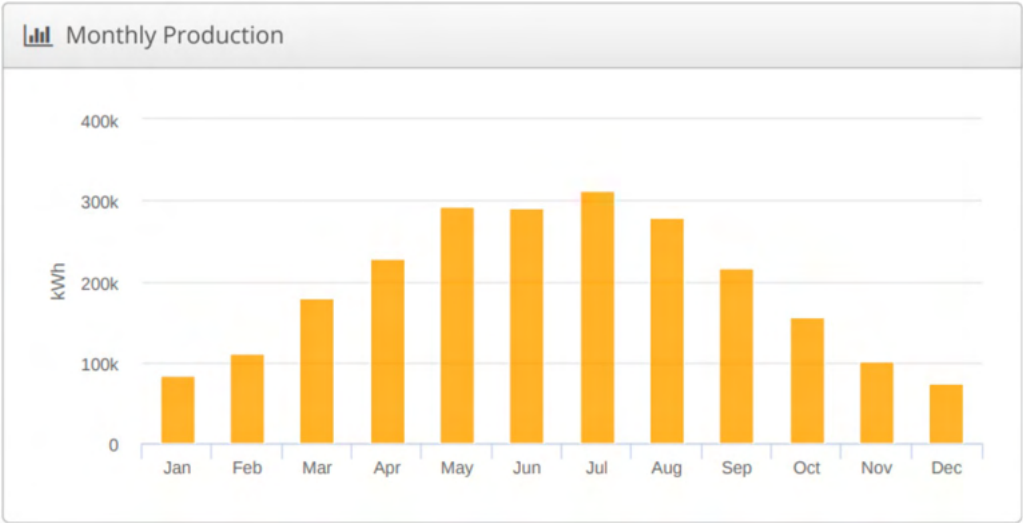
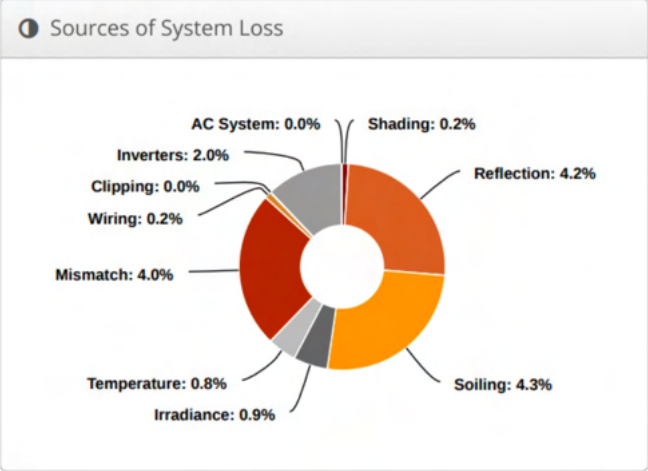
Monthly Production



Renewable Energy/ Final PV Size

Solar Study – Canopy A Longspan

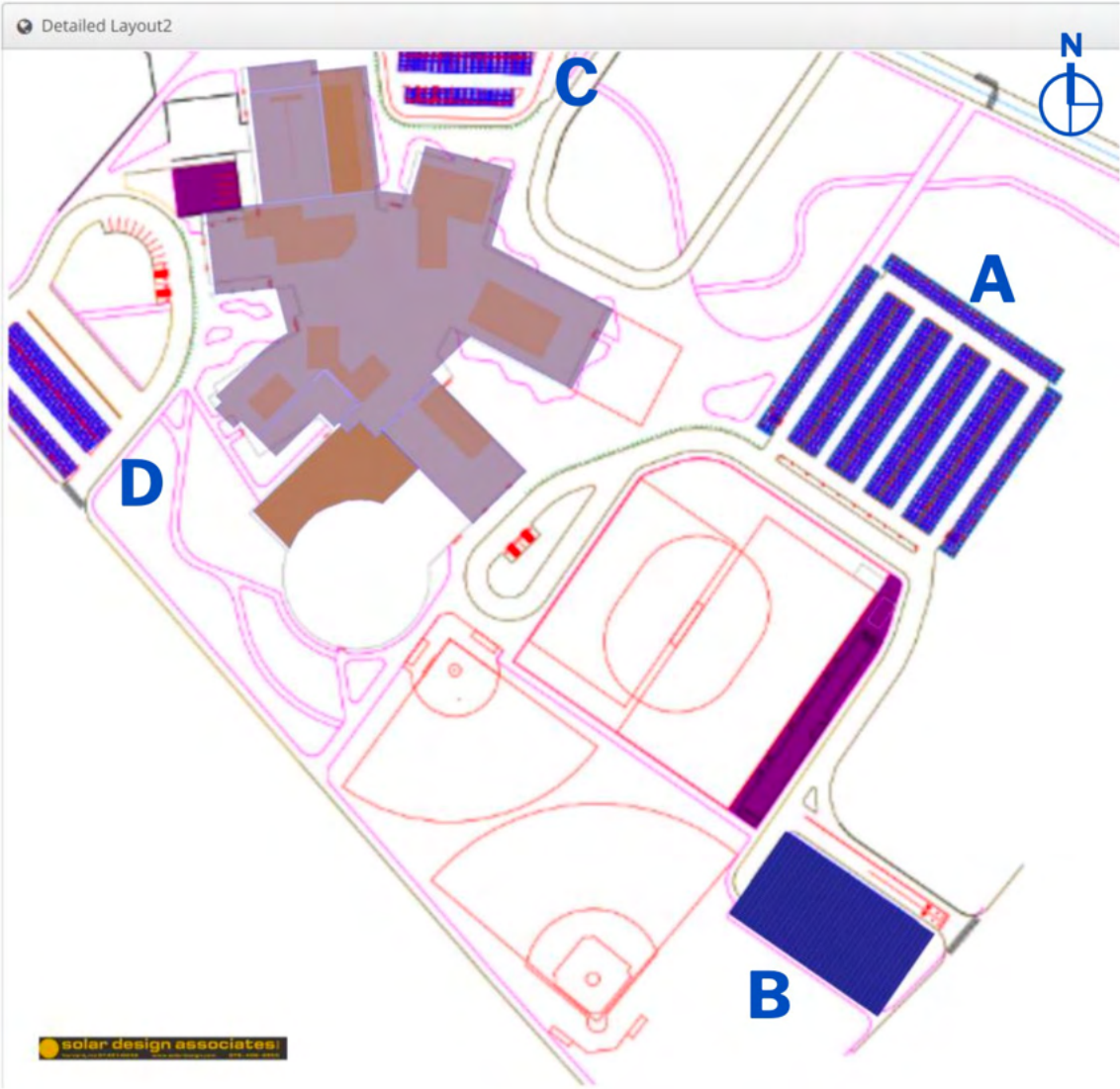
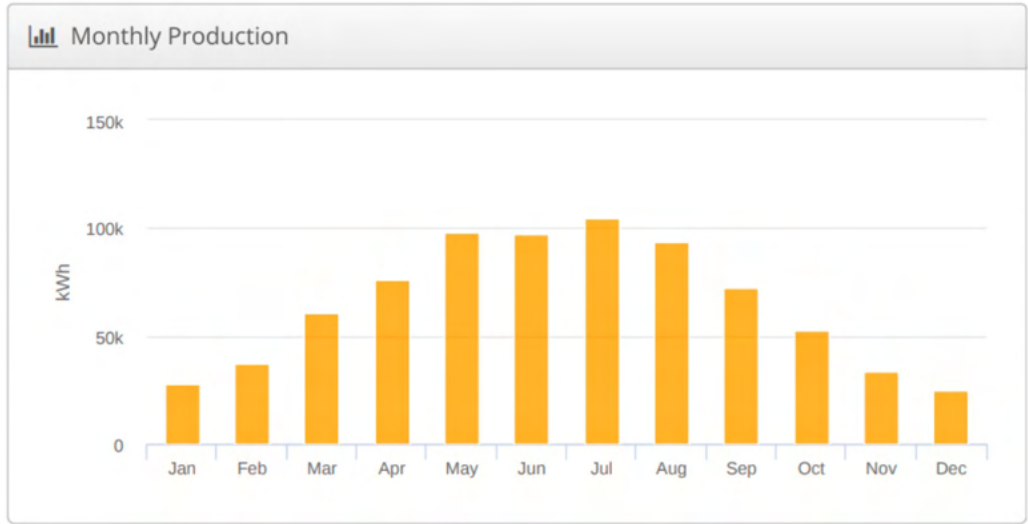
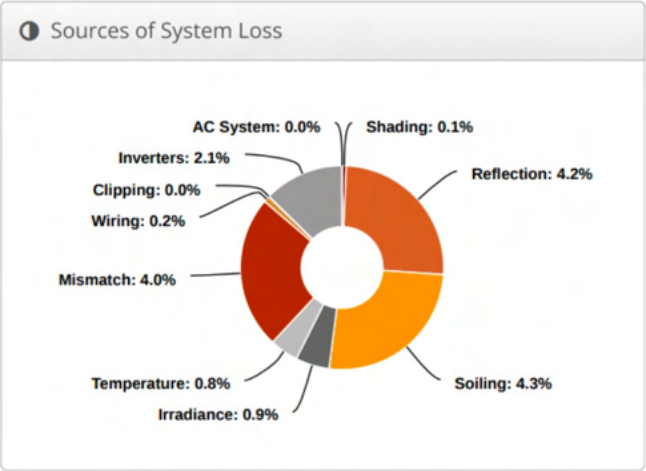
System Metrics	
Design	2025-0411 - Canopies - Location A - Longspan
Module DC Nameplate	1.96 MW
Inverter AC Nameplate	1.63 MW Load Ratio: 1.21
Annual Production	2,328 GWh
Performance Ratio	84.5%
kWh/kWp	1,188.7
Weather Dataset	TMY, BOSTON LOGAN INT'L ARPT, NSRDB (tmy3, I)
Simulator Version	379c79ee06-aa31df42b8-08d6812d16-1a381e8698



Renewable Energy/ Final PV Size

Solar Study – Canopy B Longspan

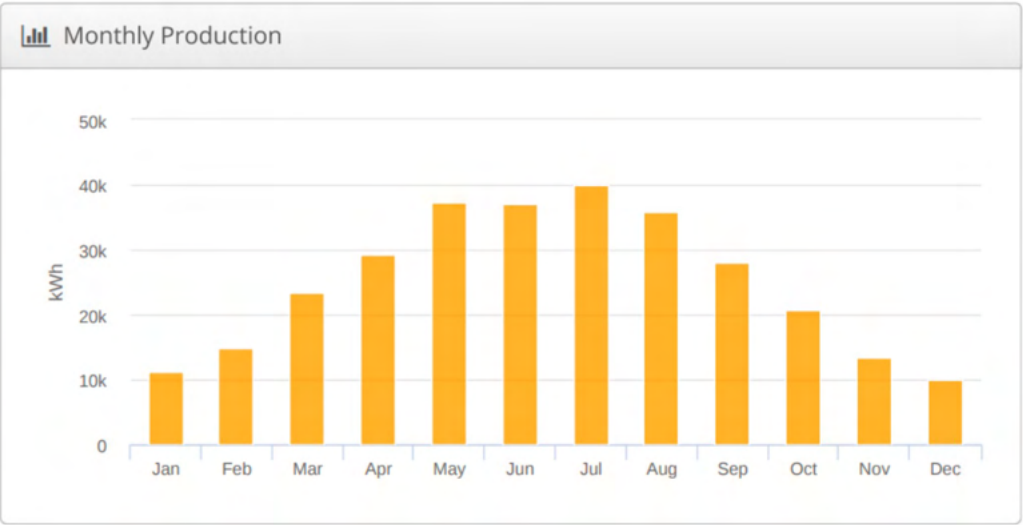
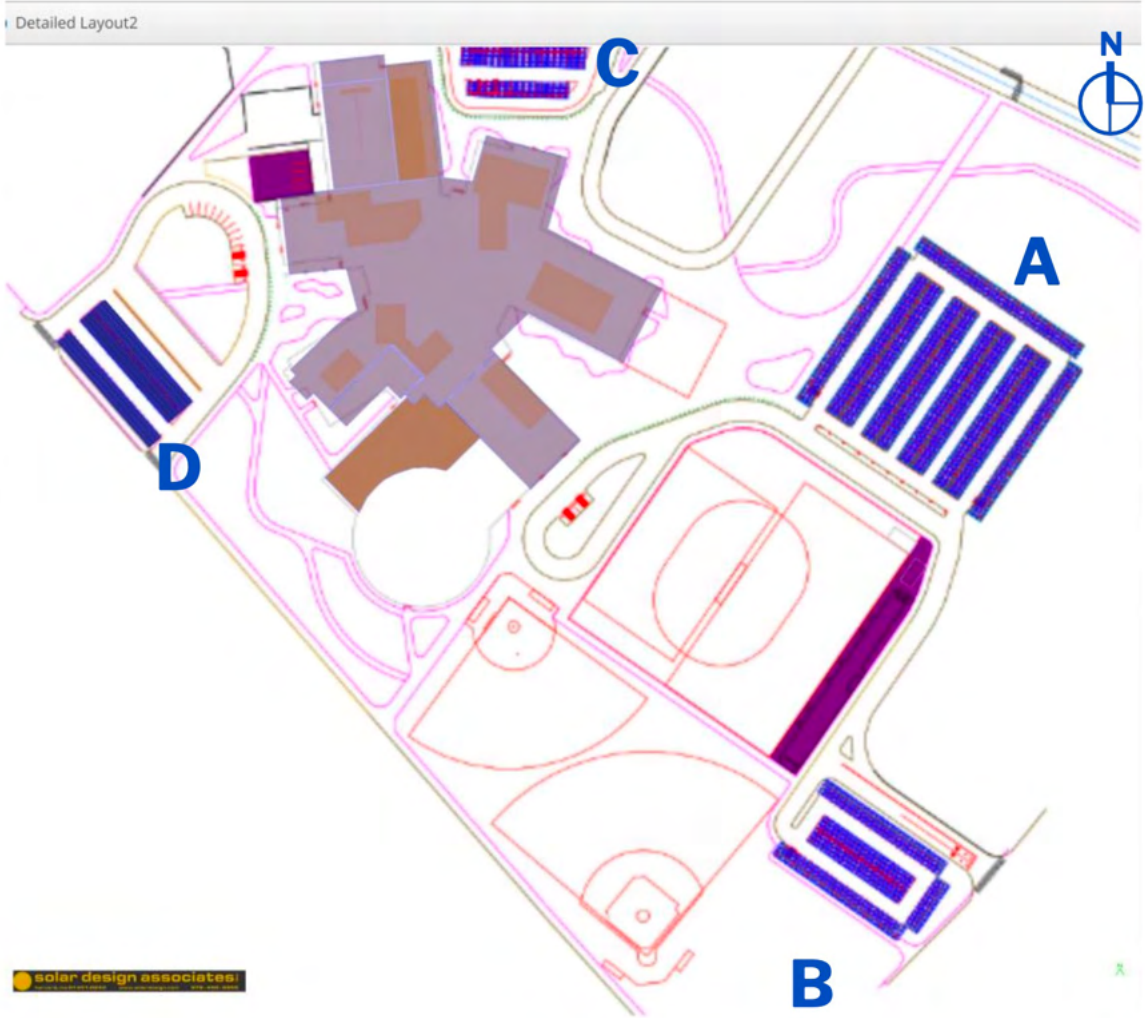
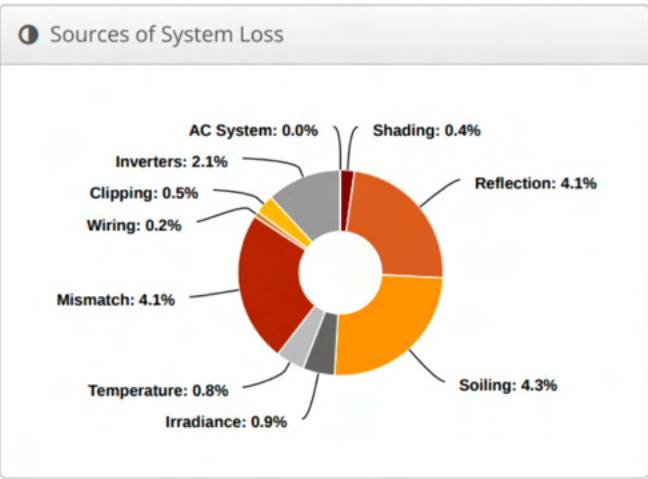
System Metrics	
Design	2025-0411 - Canopies - Location B - Longspan
Module DC Nameplate	656.4 kW
Inverter AC Nameplate	562.5 kW Load Ratio: 1.17
Annual Production	780.1 MWh
Performance Ratio	84.5%
kWh/kWp	1,188.6
Weather Dataset	TMY, BOSTON LOGAN INT'L ARPT, NSRDB (tmy3, I)
Simulator Version	379c79ee06-aa31df42b8-08d6812d16-1a381e8698



Renewable Energy/ Final PV Size

Solar Study – Canopy D

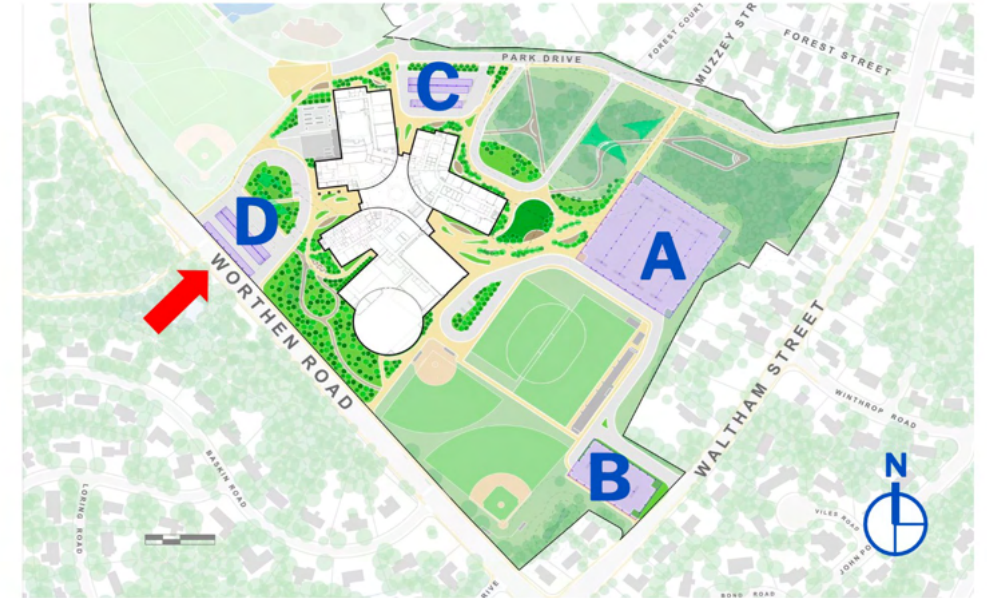
System Metrics	
Design	2025-0411 - Canopies - Location D - Standard
Module DC Nameplate	252.5 kW
Inverter AC Nameplate	187.5 kW Load Ratio: 1.35
Annual Production	301.6 MWh
Performance Ratio	83.9%
kWh/kWp	1,194.7
Weather Dataset	TMY, BOSTON LOGAN INT'L ARPT, NSRDB (tmy3, I)
Simulator Version	379c79ee06-aa31df42b8-08d6812d16-1a381e8698



View of West Entrance, Lot D with PV



View of West Entrance, Lot D without PV

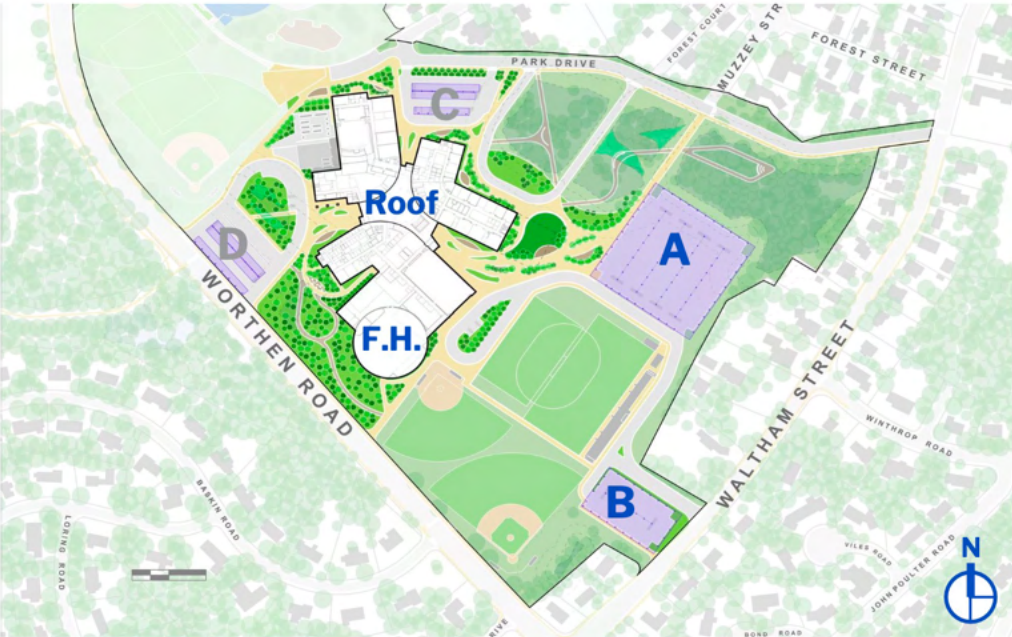
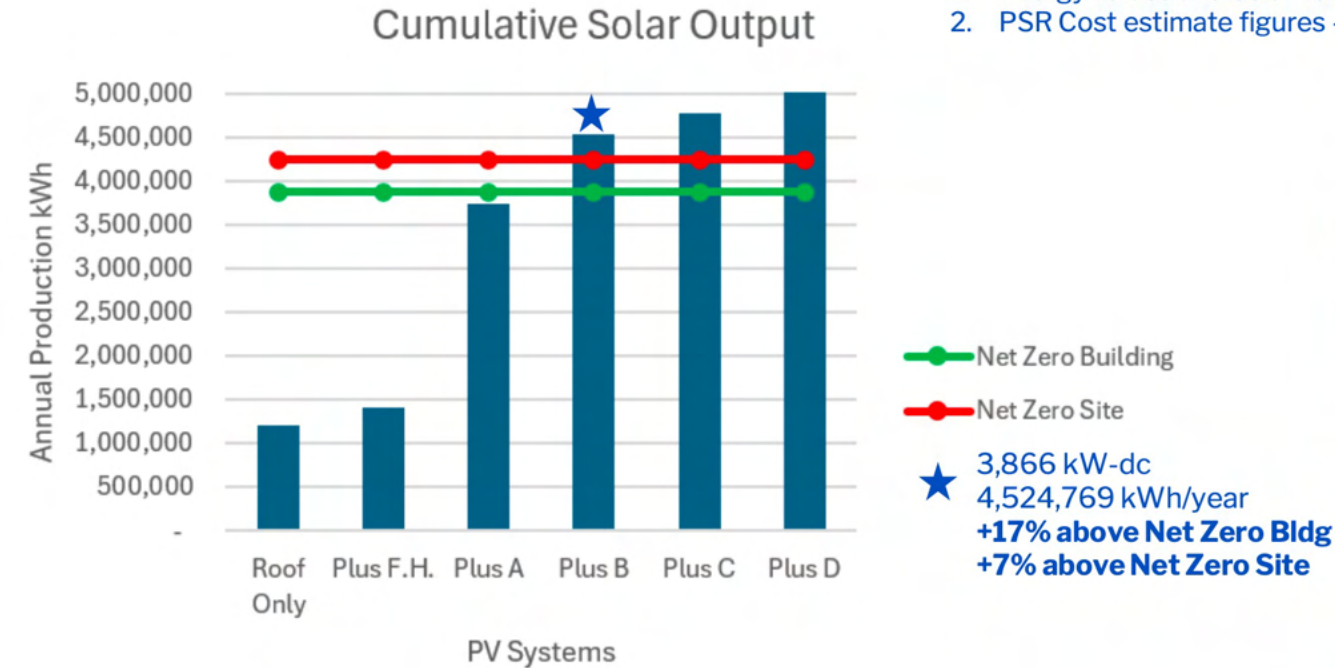


Renewable Energy/ Final PV Size

Building Area: 509,516 sf
Estimated Usage: 3,868,388 kwh/yr
Calculated EUI: 25.9

Photovoltaic System Location	PV Size (kW-dc)	Annual Production (kWh)	Shading Loss	Cost
Rooftop - Building	1,058	1,201,803	12.4%	\$4,760,550
Rooftop - Fieldhouse	192	215,000	8.2%	\$864,450
Canopy A (Longspan)	1,960	2,327,832	0.2%	\$9,800,000
Canopy B (Longspan)	656	780,134	0.2%	\$3,282,000
Canopy C	217	252,136	3.7%	\$1,084,000
Canopy D	253	301,607	0.4%	\$1,262,500

- Note:
- 1. Energy values and Solar values are estimated based on current Schematic Design phase.
 - 2. PSR Cost estimate figures – Roof System: \$4.50/watt, Canopy System: \$5.00/watt.



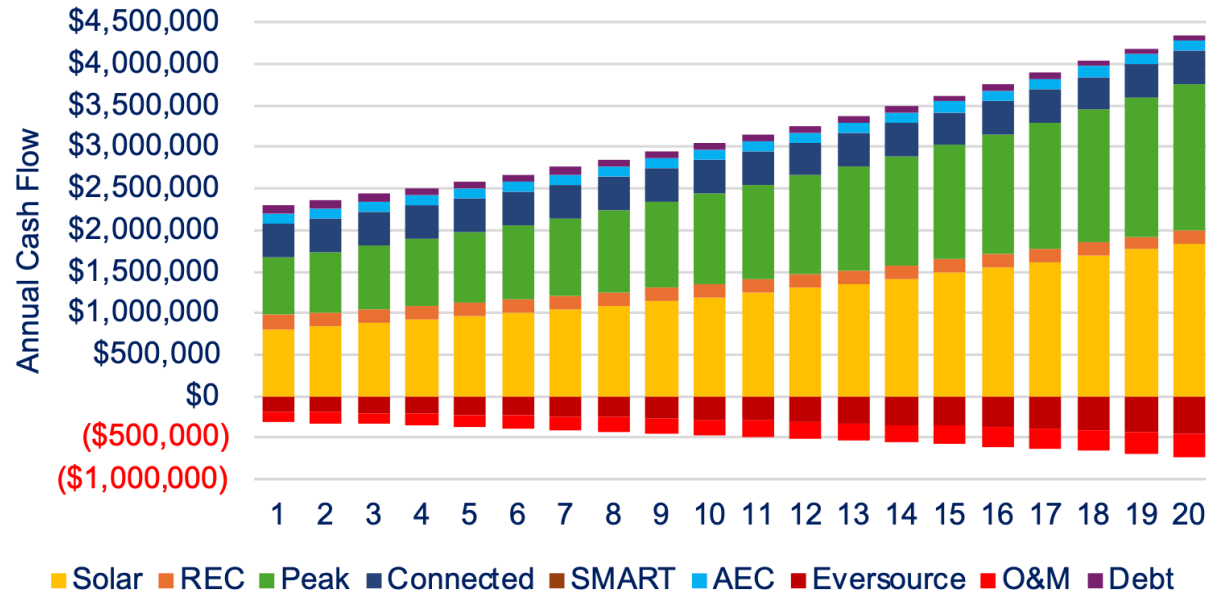
Executive Summary

LHS HVAC Options - 30 Year Life Cycle Cost

ASHP w/ Longspan Solar

- \$85 to \$107M positive cash flow
 - \$99M expected cash flow
- \$1.5M lower upfront cost
- \$12M Eversource charges

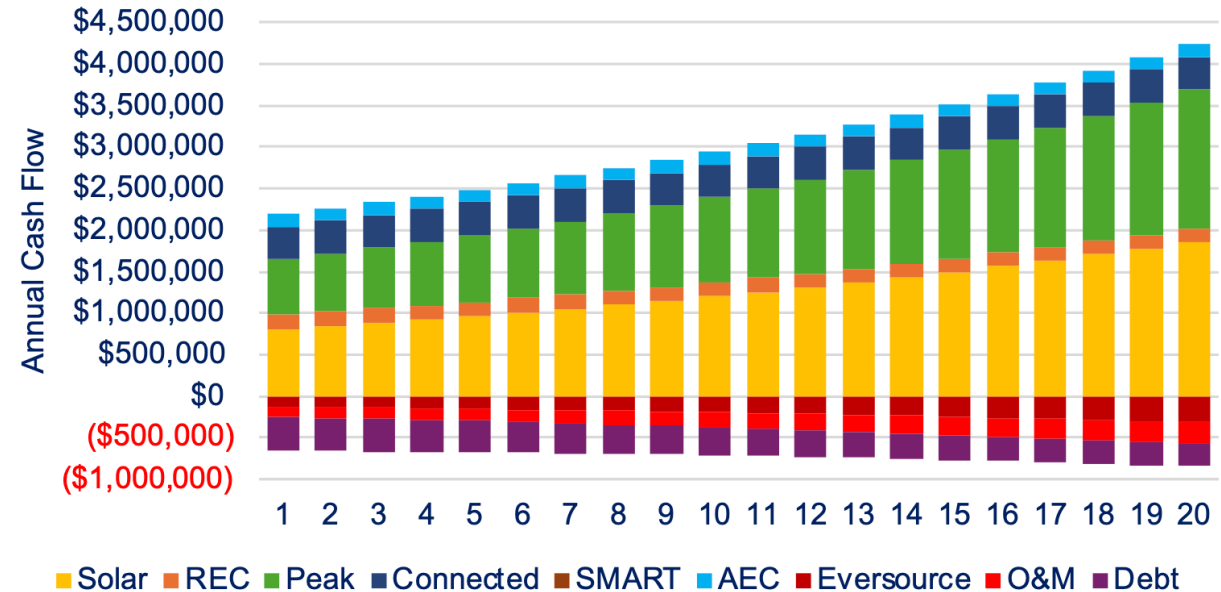
ASHP Longspan Cash Flow (Solar IRA)



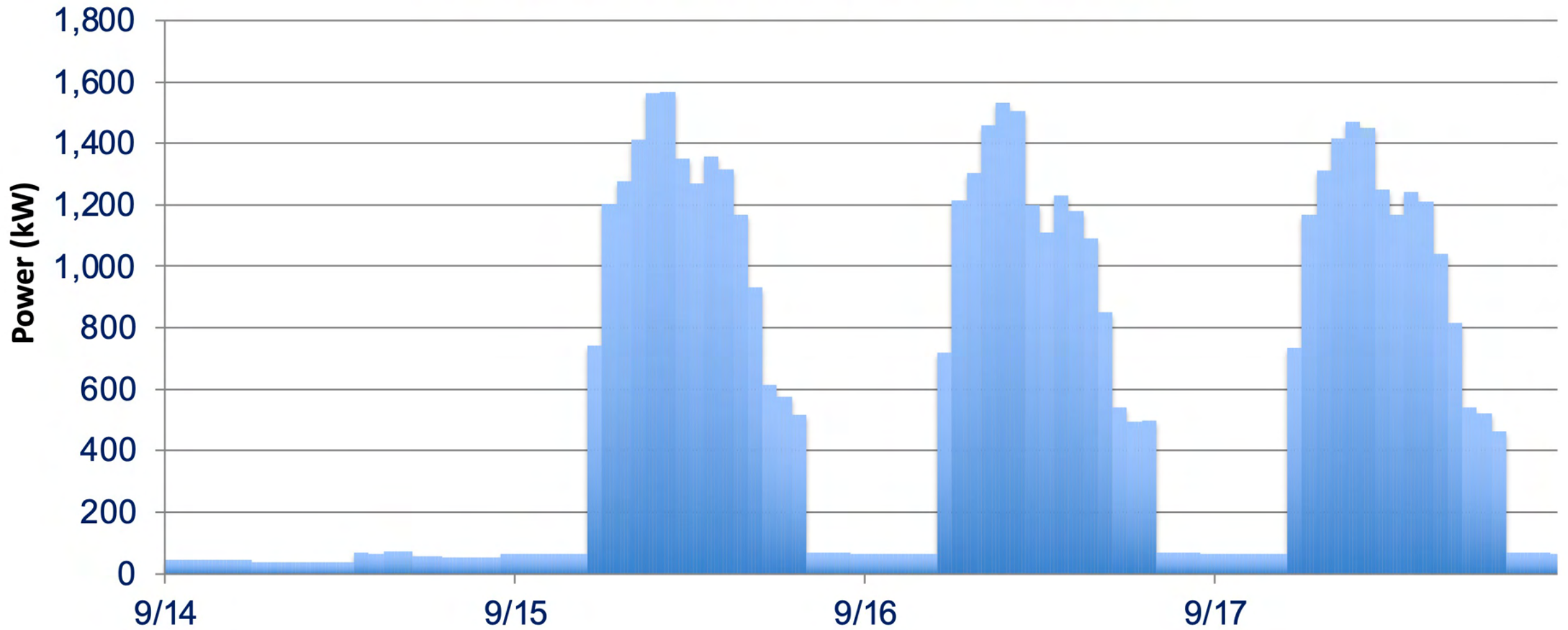
Hybrid w/ Longspan Solar

- \$76 to \$112M positive cash flow
 - \$91M expected cash flow
- \$5.2M additional upfront cost
- \$8.3M Eversource charges

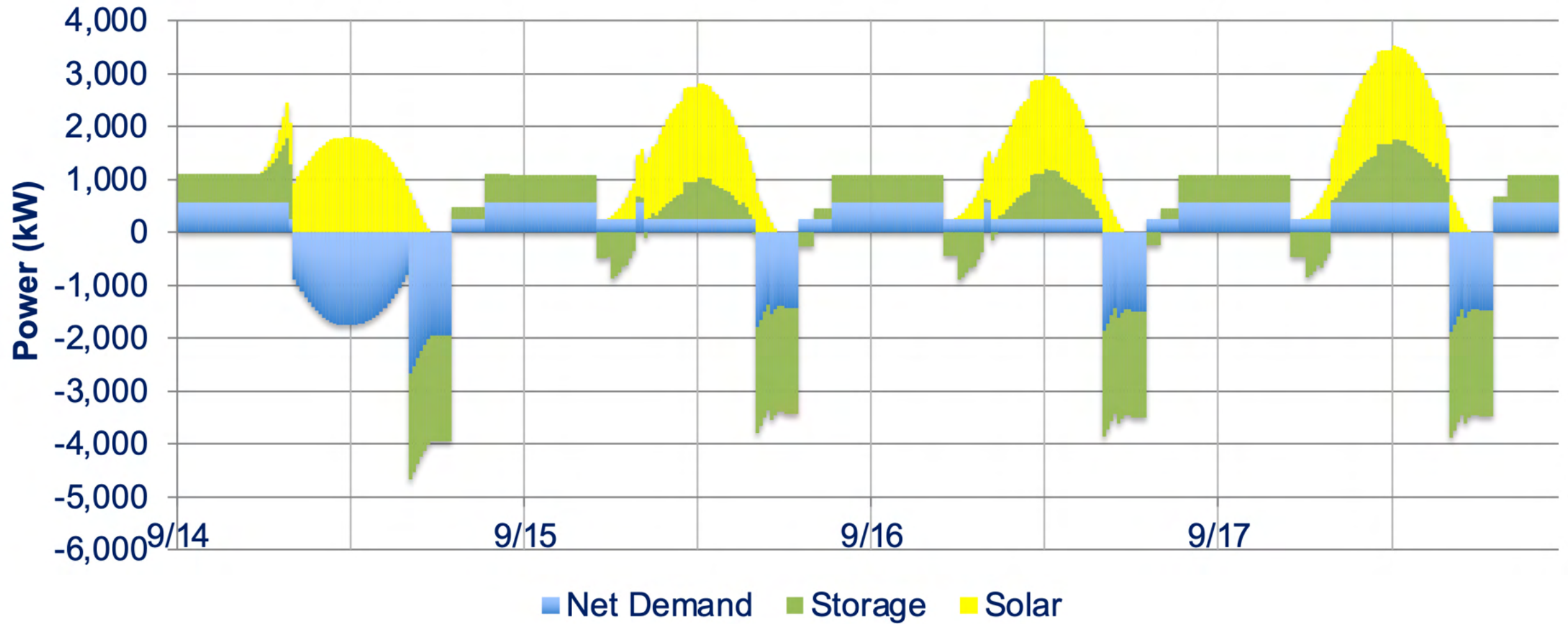
Hybrid Longspan Cash Flow (Solar IRA)



LHS Demand without Solar + Storage



LHS Hybrid Solar + Storage w Connected Solutions



Hybrid Solar + Storage Cash Flow (No IRA)

