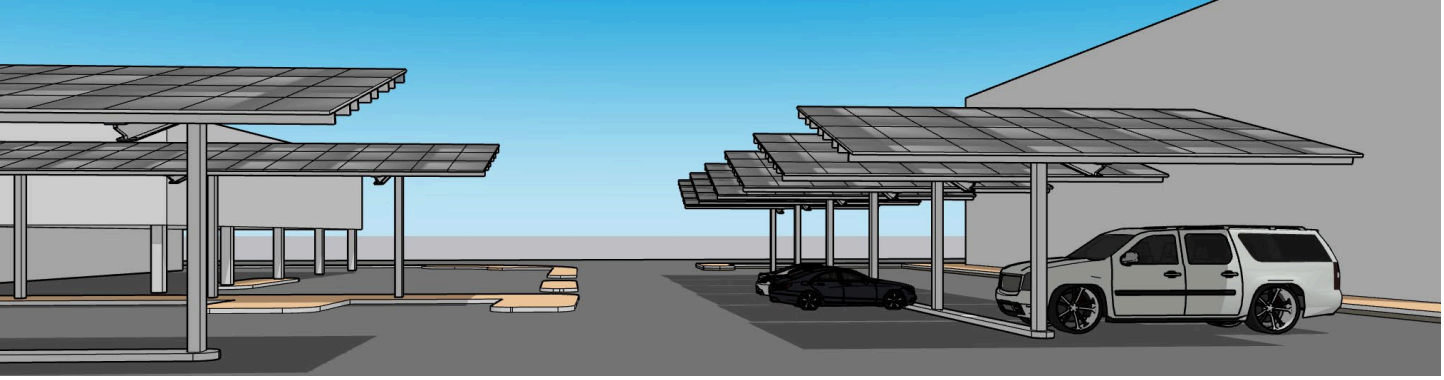


Municipal Solar Canopy Concept Plan

prepared for:

Township of West Orange

66 Main Street

West Orange, NJ 07052

prepared by:

DCG Corplan Consulting LLC

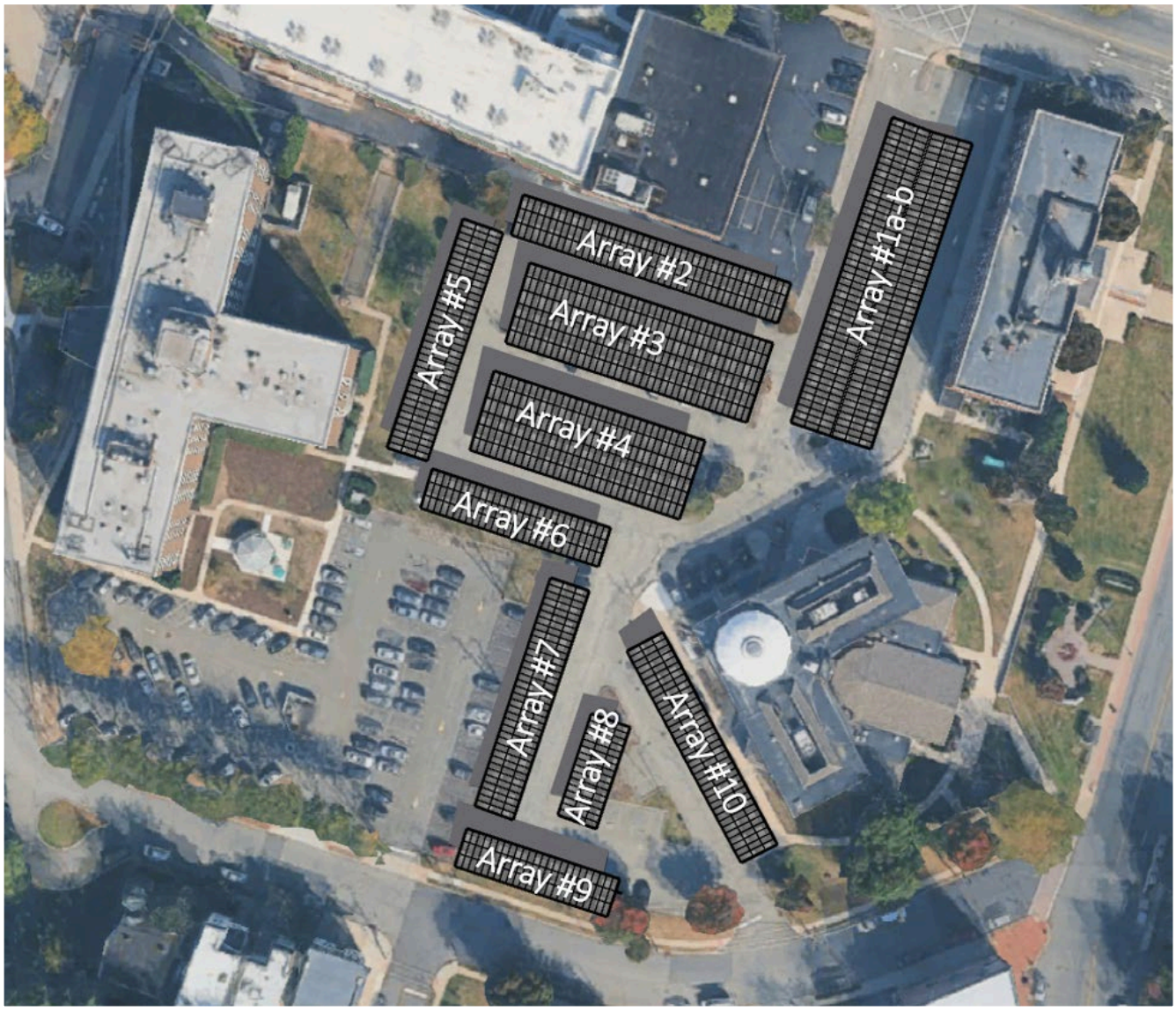
623 Eagle Rock Ave., Ste. 102

West Orange, NJ 07052

February 2026

--SAMPLE--

Solar Canopies- Overview



Solar Canopies – Data

Array #1a-b			
Array #1a		**Array #1b**	
144	total panels	144	total panels
600	wattage per panel	600	wattage per panel
86.4	total wattage kW	86.4	total wattage kW
108	azimuth	288	azimuth
10	degree tilt	10	degree tilt
#1a Output	**109,100 kWh**	**Array #1b Output**	**96,300 kWh**
Array #1a-b (combined)			
288	total panels	**Estimated Costs**	
173	total wattage kW	**$604,800**	w/o batteries
#1a-b Output	**205,400 kWh**	**$786,200**	w/batteries
Output Equivalence			
15,100 sf of office space/yr		**11 average WO houses/yr**	
Array #2			
126	total panels	**Estimated Costs**	
600	wattage per panel	**$264,600**	w/o batteries
75.6	total wattage kW	**$344,000**	w/batteries
198	azimuth	**Output Equivalence**	
10	degree tilt	**7,000 sf of office space/yr**	
#2 Output	**95,000 kWh**	**5 average WO houses/yr**	
Array #3			
228	total panels	**Estimated Costs**	
600	wattage per panel	**$478,800**	w/o batteries
136.8	total wattage kW	**$622,400**	w/batteries
198	azimuth	**Output Equivalence**	
10	degree tilt	**12,700 sf of office space/yr**	
#3 Output	**171,800 kWh**	**9 average WO houses/yr**	
Array #4			
198	total panels	**Estimated Costs**	
600	wattage per panel	**$415,800**	w/o batteries
118.8	total wattage kW	**$540,500**	w/batteries
198	azimuth	**Output Equivalence**	
10	degree tilt	**11,000 sf of office space/yr**	
#4 Output	**149,200 kWh**	**8 average WO houses/yr**	

Array #5			
108	total panels	**Estimated Costs**	
600	wattage per panel	**$226,800**	w/o batteries
64.8	total wattage kW	**$294,800**	w/batteries
108	azimuth	**Output Equivalence**	
10	degree tilt	**5,700 sf of office space/yr**	
#5 Output	**77,000 kWh**	**4 average WO houses/yr**	
Array #6			
84	total panels	**Estimated Costs**	
600	wattage per panel	**$176,400**	w/o batteries
50.4	total wattage kW	**$229,300**	w/batteries
198	azimuth	**Output Equivalence**	
10	degree tilt	**4,700 sf of office space/yr**	
#6 Output	**63,300 kWh**	**3 average WO houses/yr**	
Array #7			
108	total panels	**Estimated Costs**	
600	wattage per panel	**$226,800**	w/o batteries
64.8	total wattage kW	**$294,800**	w/batteries
108	azimuth	**Output Equivalence**	
10	degree tilt	**5,700 sf of office space/yr**	
#7 Output	**77,000 kWh**	**4 average WO houses/yr**	
Array #8			
48	total panels	**Estimated Costs**	
600	wattage per panel	**$100,800**	w/o batteries
28.8	total wattage kW	**$131,000**	w/batteries
108	azimuth	**Output Equivalence**	
10	degree tilt	**2,500 sf of office space/yr**	
#8 Output	**34,200 kWh**	**2 average WO houses/yr**	
Array #9			
72	total panels	**Estimated Costs**	
600	wattage per panel	**$151,200**	w/o batteries
43.2	total wattage kW	**$196,600**	w/batteries
198	azimuth	**Output Equivalence**	
10	degree tilt	**4,000 sf of office space/yr**	
#9 Output	**54,300 kWh**	**3 average WO houses/yr**	

Array #10			
108	total panels	**Estimated Costs**	
600	wattage per panel	**$226,800**	w/o batteries
64.8	total wattage kW	**$294,800**	w/batteries
241	azimuth	**Output Equivalence**	
10	degree tilt	**5,800 sf of office space/yr**	
#10 Output	**78,000 kWh**	**4 average WO houses/yr**	

All Combined Arrays			
1,368	total panels	**Estimated Costs**	
600	wattage per panel	**$2,872,800**	w/o batteries
820.8	total wattage kW	**$3,734,400**	w/batteries
Total Output	**1,005,200 kWh**	**Output Equivalence**	
		74,200 sf of office space/yr	
		55 average WO houses/yr	

Notes:

1. The canopies evaluated in the following pages do not consider battery storage systems (BESS). This is an alternative approach that could provide emergency or backup power as needed.
2. The federal ITC tax credit of 30% would be applicable if the project were to be put into service by December 2027. To be conservative, the ITC tax credit is excluded from consideration.
3. The solar array could support EV charging (Level 2) but this investment is also an alternate approach and is not evaluated at this time.
4. The financial calculation uses a combination of standard bank lending and NJ Clean Energy Fund financing. To reduce equity exposure, the use of Revenue Bonds in place of loans is a recommendable solution but is not explored in this report.

Project Summary

Project information	
Project Cost	$2,872,800
1st yr Solar production kWh	1,005,200
Inflation factor	2.5%
Electricity Price Inflation factor	3.7%
Retail electricity rate per kWh (yr. 0)	$0.1450
Estimated Delivery Costs Savings Percent	17%
Solar degradation factor/yr	0.5%
Federal Direct Pay factor	0%
SuSI per MWh*	$120
REC Class 1	$26
Annual Overhead & Maintenance (.5% of Project cost)	$14,400

Loan Information	Project	Bank	NJCE**
LTV	80%	80%	80%
Loan Rate		6.00%	2.00%
Loan term	15	15	15
Loan	$2,298,200	$1,149,100	$1,149,100
Equity		$287,300	$287,300
Debt service		$118,300	$89,400
Total Investment Equity			**$574,600**
Total Debt service			**$207,700**
Investment Interest on Running Proceeds			**4.0%**
NPV discount rate			**6.0%**

20-Yr. Pro Forma - with ITC (30%) excluded	
Net Annual Proceeds (Profit)	$2,631,900
Net Annual Proceeds (Profit) NPV	**$935,400**
Equity Investment	**$574,600**
Total cost NPV	**$574,600**
Return on Investment (ROI)	**163%**
Investment payback in yrs	**6**
Yr. 20 Cash on Hand	**$3,202,300**

Notes:

*New Jersey's Successor Solar Incentive (SuSI) Program offers premium incentives for 15 years. The lower value REC-1 engages after the SuSI Incentive expires.

**The NJ Clean Energy Fund (NJCE) provides 50% financing at 4% below standard bank financing rates.

Cash Flows

Yr.	Solar kWh Prod'n	Retail Elect. Rate	Value of Solar Prod'n	Est. Delivery Costs Savings	Fed. ITC Direct Pay	SuSI Incentive	REC-1 Incentive	Overh'd & Maint.	Equity & Debt Service	Net Annual Proceeds	Net Annual Proceeds Running
0	0	$0.1450	$0	$0	$0	$0	$0	$0	($574,600)	($574,600)	($574,600)
1	1,005,200	$0.1504	$151,100	$25,300	$0	$120,600	$0	($14,400)	($207,700)	$74,900	($499,700)
2	1,000,200	$0.1559	$155,900	$26,100	$0	$120,000	$0	($14,800)	($207,700)	$79,500	($420,200)
3	995,200	$0.1617	$160,900	$26,900	$0	$119,400	$0	($15,200)	($207,700)	$84,300	($335,900)
4	990,200	$0.1676	$166,000	$27,800	$0	$118,800	$0	($15,600)	($207,700)	$89,300	($246,600)
5	985,200	$0.1738	$171,200	$28,600	$0	$118,200	$0	($16,000)	($207,700)	$94,300	($152,300)
6	980,300	$0.1802	$176,700	$29,500	$0	$117,600	$0	($16,400)	($207,700)	$99,700	($52,600)
7	975,400	$0.1869	$182,300	$30,500	$0	$117,000	$0	($16,800)	($207,700)	$105,300	$52,700
8	970,500	$0.1938	$188,100	$31,500	$0	$116,500	$0	($17,200)	($207,700)	$111,200	$166,000
9	965,600	$0.2010	$194,000	$32,400	$0	$115,900	$0	($17,600)	($207,700)	$117,000	$289,600
10	960,800	$0.2084	$200,200	$33,500	$0	$115,300	$0	($18,000)	($207,700)	$123,300	$424,500
11	956,000	$0.2161	$206,600	$34,500	$0	$114,700	$0	($18,500)	($207,700)	$129,600	$571,100
12	951,200	$0.2240	$213,100	$35,600	$0	$114,100	$0	($19,000)	($207,700)	$136,100	$730,000
13	946,400	$0.2323	$219,900	$36,800	$0	$113,600	$0	($19,500)	($207,700)	$143,100	$902,300
14	941,700	$0.2409	$226,900	$37,900	$0	$113,000	$0	($20,000)	($207,700)	$150,100	$1,088,500
15	937,000	$0.2498	$234,100	$39,100	$0	$112,400	$0	($20,500)	($207,700)	$157,400	$1,289,400
16	932,300	$0.2590	$241,500	$40,400	$0	$0	$24,200	($21,000)	$0	$285,100	$1,626,100
17	927,600	$0.2686	$249,100	$41,700	$0	$0	$24,100	($21,500)	$0	$293,400	$1,984,500
18	923,000	$0.2785	$257,100	$43,000	$0	$0	$24,000	($22,000)	$0	$302,100	$2,366,000
19	918,400	$0.2888	$265,200	$44,300	$0	$0	$23,900	($22,600)	$0	$310,800	$2,771,400
20	913,800	$0.2994	$273,600	$45,800	$0	$0	$23,800	($23,200)	$0	$320,000	$3,202,300
		Totals	**$4,133,500**	**$691,200**	**$0**	**$1,747,100**	**$120,000**	**($369,800)**	**($3,690,100)**	**$2,631,900**	
		Total NPV								**$935,400**	
		Return on Equity Investment								**163%**	
		Investment payback in yrs								**6**	
		Yr. 20 Cash on Hand								**$3,202,300**	