

FOWLER ARCHITECTS

1819 D Street SE
Washington, DC 20003
202.546.0896 p
202-546.2078 f

November 4, 2021

Re: BZA Case No. 20537 (1227 E Street SE)

The following comparative solar shading study establishes the increase in shading incident by the proposed addition at 1227 E St SE on the solar energy system at 1225 E St SE. SketchUp was used for 3D modeling with the Skelion solar design plugin used to calculate the difference in solar shading.

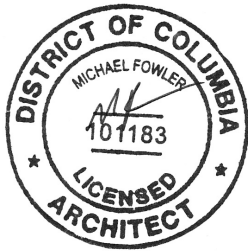
Proposed Shading Loss: 8.03%

Existing Shading Loss: -7.6%

Increase in Shading Loss: 0.43%

The increase in Shading Loss of 0.43% is less than the 5% maximum allowed by the Zoning Regulations.

Thank you,
Mike Fowler, AIA - Fowler Architects





Basic report

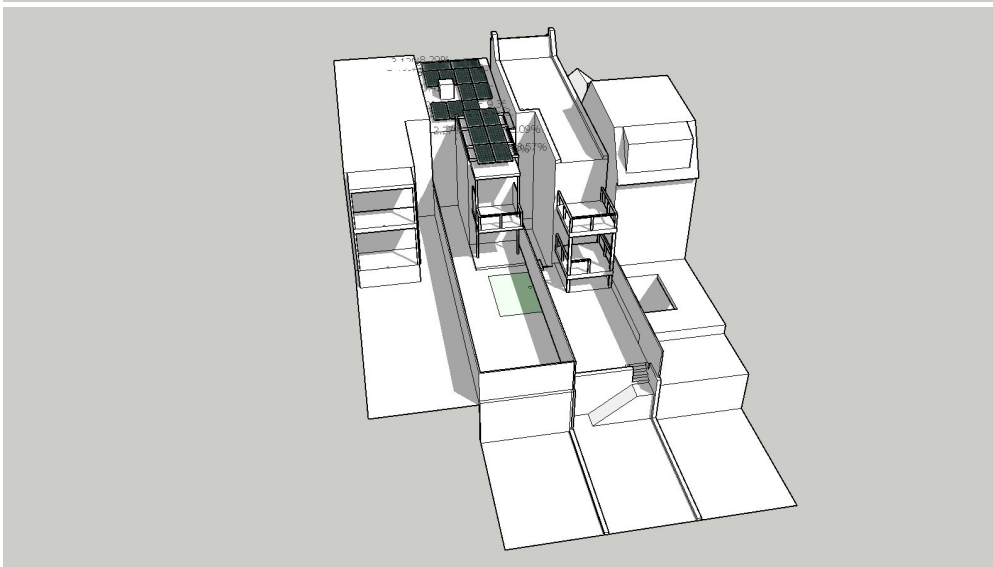
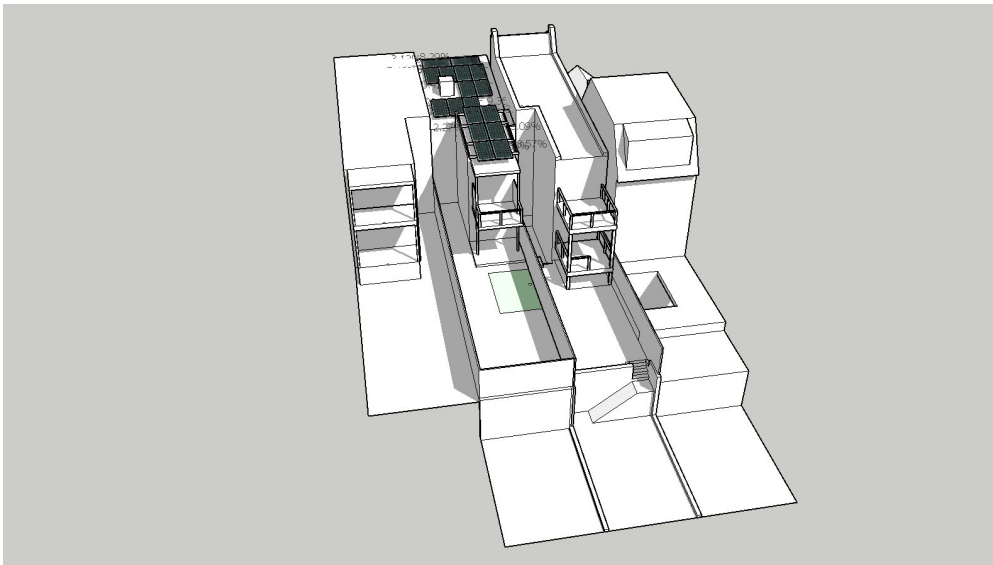
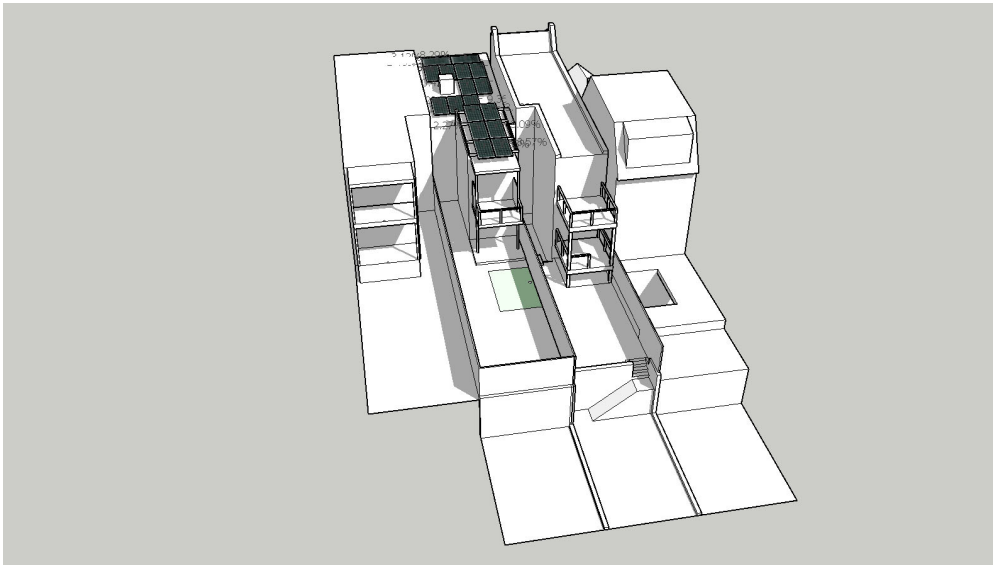
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Washington, DC United States

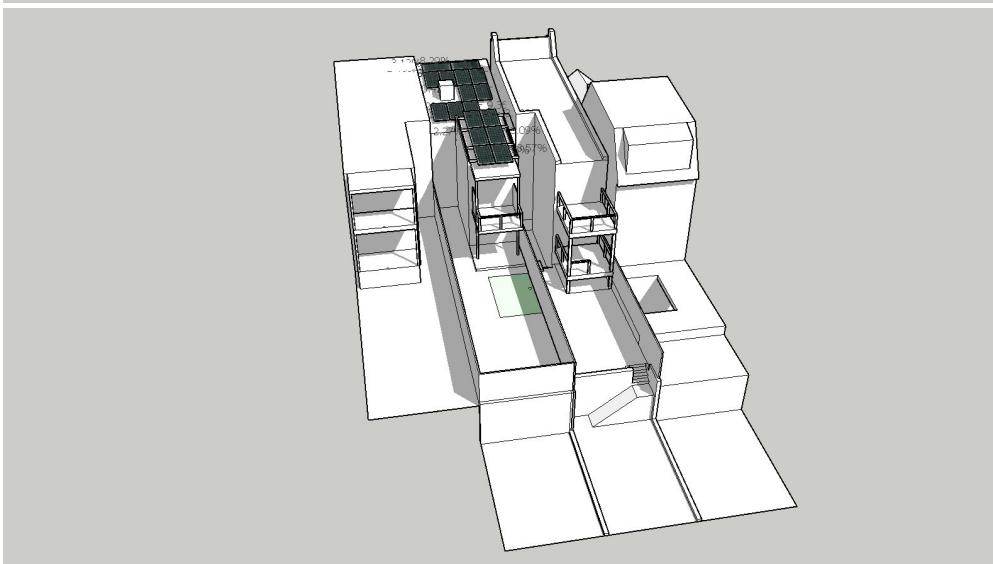
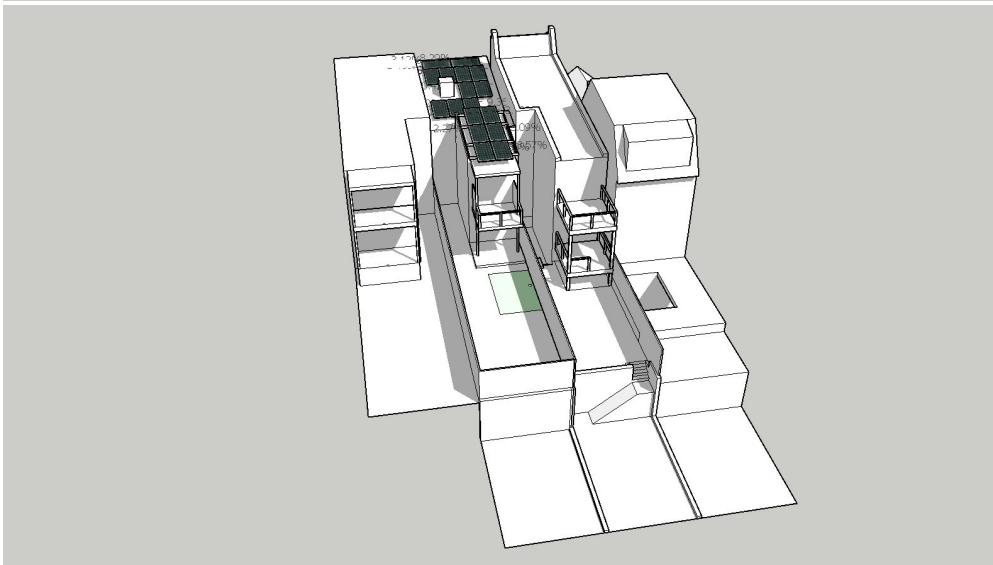
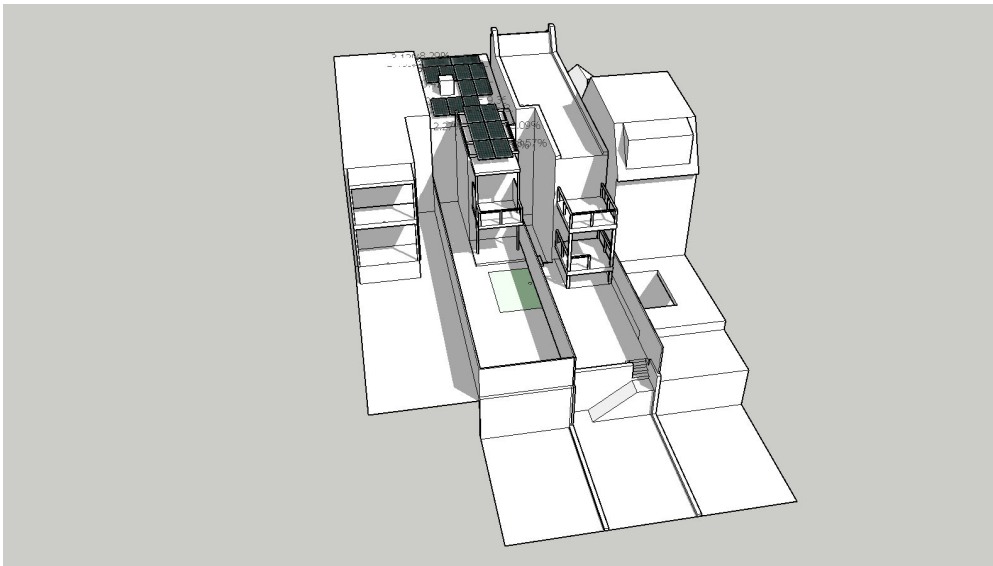
Groups analysis

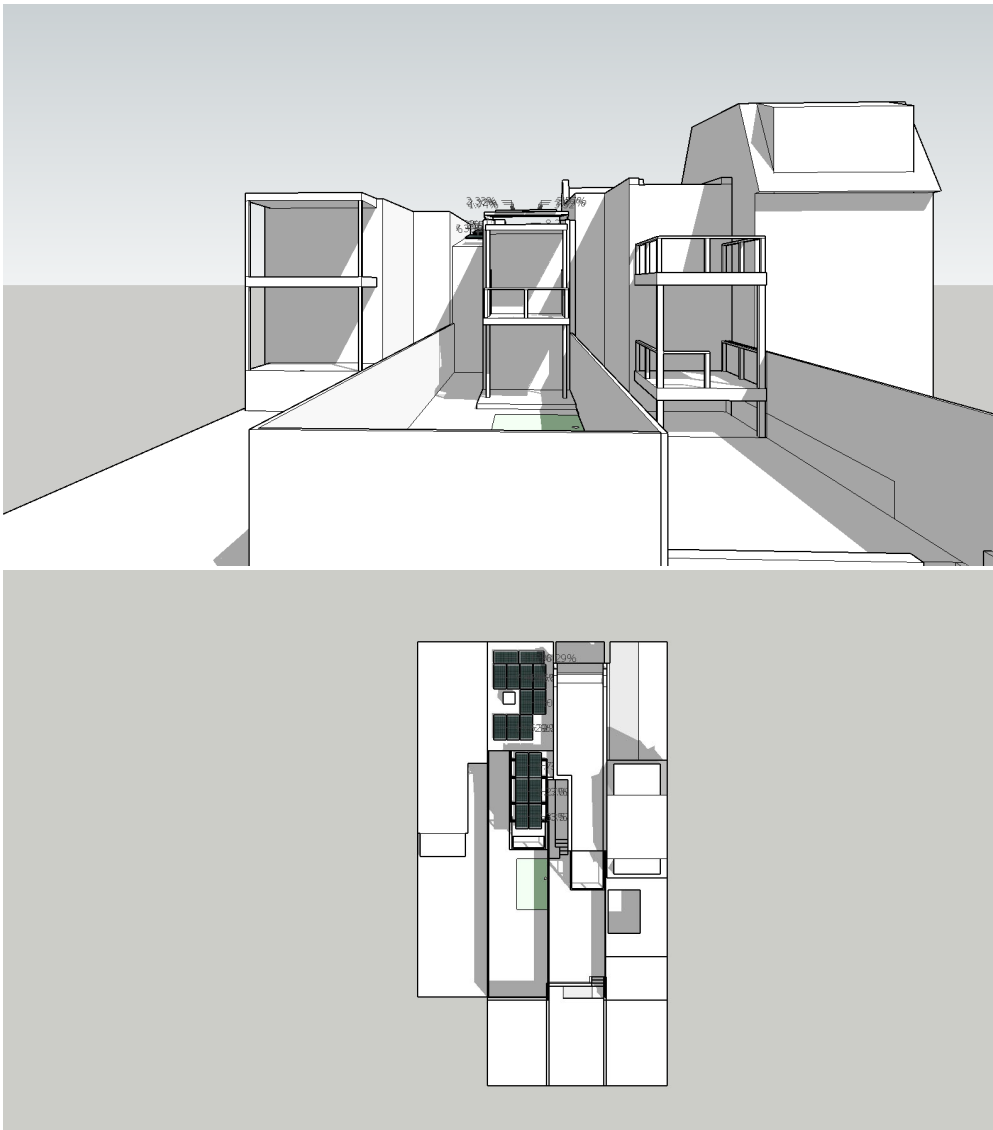
Groups global results				
Solar panels	N°p.	P. power (Wp)	Power (kWp)	Shading L. (%)
Boviet:BVM6612M-PERC	17	385.00	6.54	7.60

Results for solar modules in each group (grouped by same tilt, azimuth and panel model)							
Group	Model	N°p.	P. power (Wp)	Power (kWp)	Azimuth	Tilt	Shading L. (%)
1	Boviet:BVM6612M-PERC	11	385.00	4.24	180.00	8.13	10.20
2	Boviet:BVM6612M-PERC	6	385.00	2.31	180.00	5.64	2.72

Monthly Shading Losses (%)												
Group	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1	14.45	10.36	9.66	10.68	8.82	8.94	8.26	9.20	10.97	12.61	10.48	13.83
2	3.28	3.41	3.16	3.71	1.47	1.28	1.85	3.40	3.55	2.95	3.63	2.71
Mean	8.86	6.89	6.41	7.19	5.15	5.11	5.06	6.30	7.26	7.78	7.05	8.27





**Nomenclature:**

N°P.: Number of panels.

P.power: Power of the solar panel (Wp).

Power: Nominal power of the given system (KWp).

Face: Number assigned to the face with the solar array. (Activate layer TX:Face_names to see what it is).

Group: Number of the group of solar panels with same tilt, azimuth and model. **Azimuth:** Solar panel azimuth in grades.

Tilt: Solar panel tilt in grades.

Relative tilt: Angle between solar panel and roof in grades.



Basic report

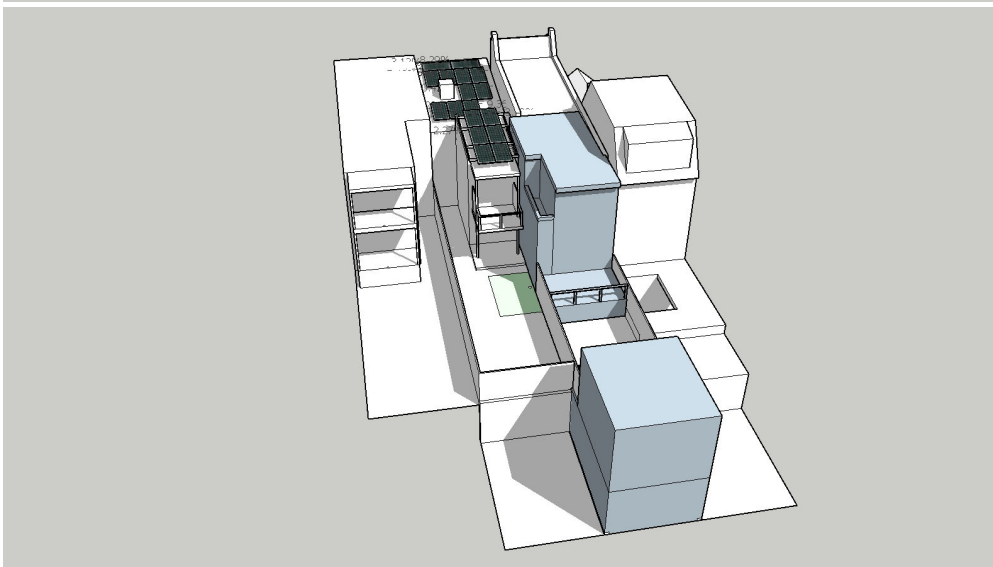
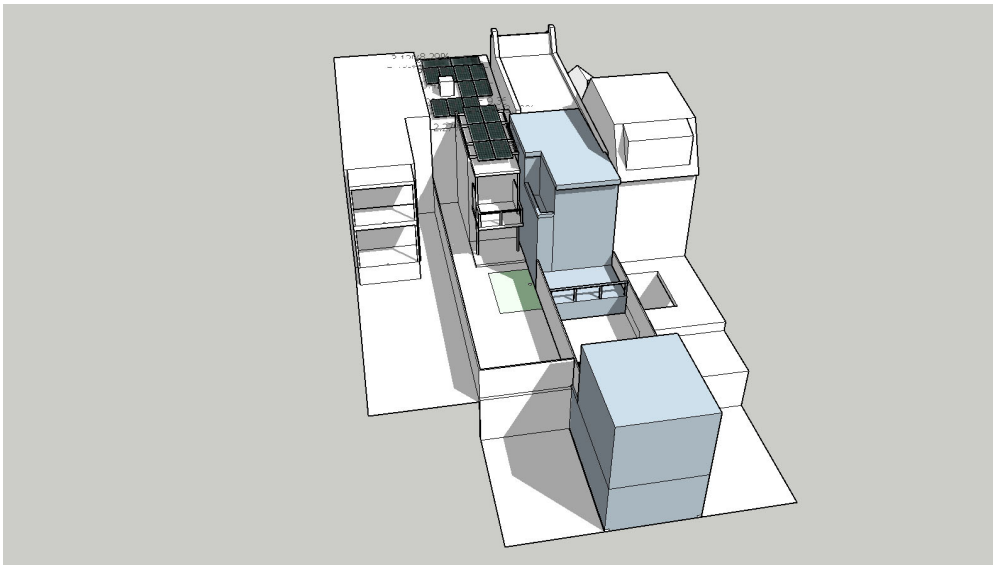
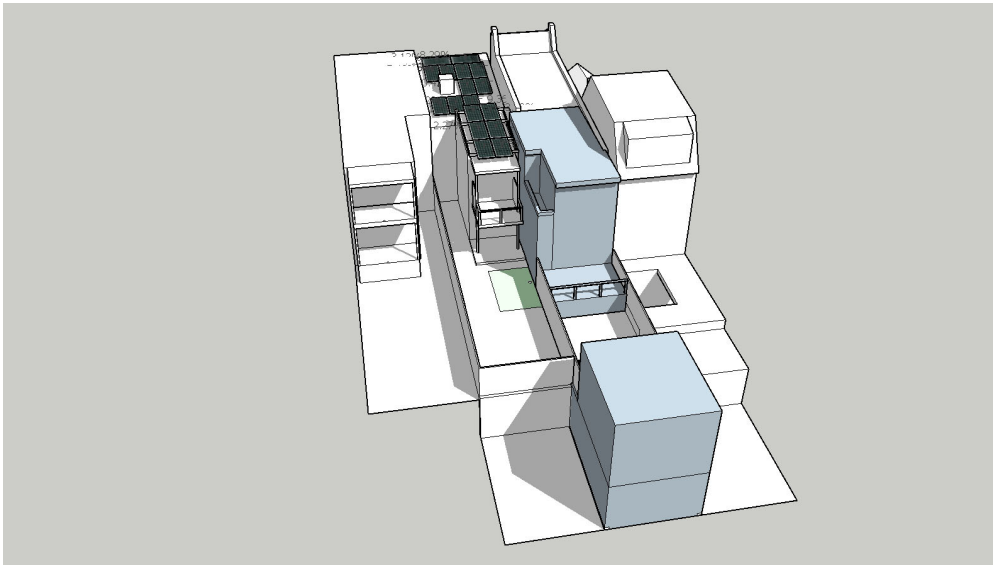
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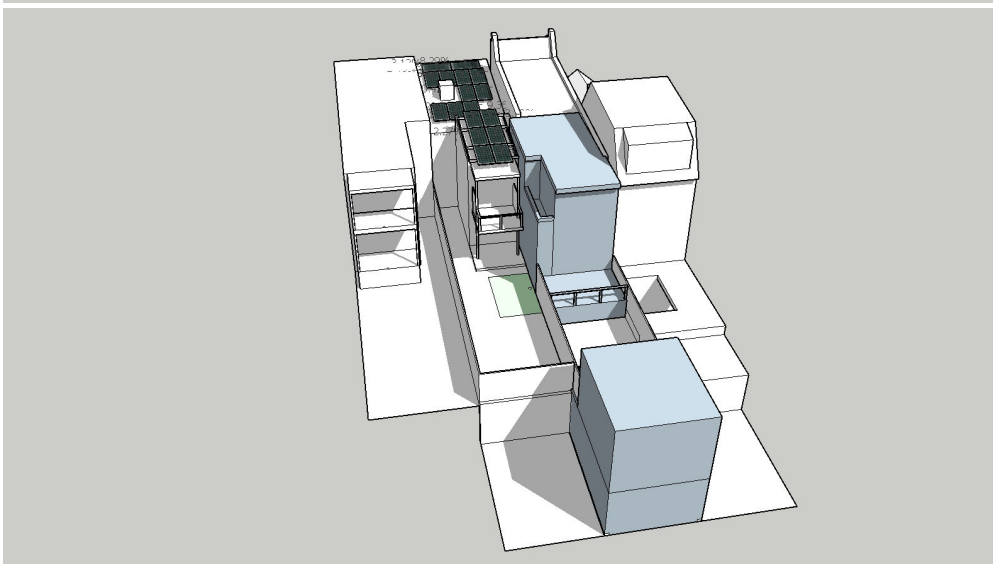
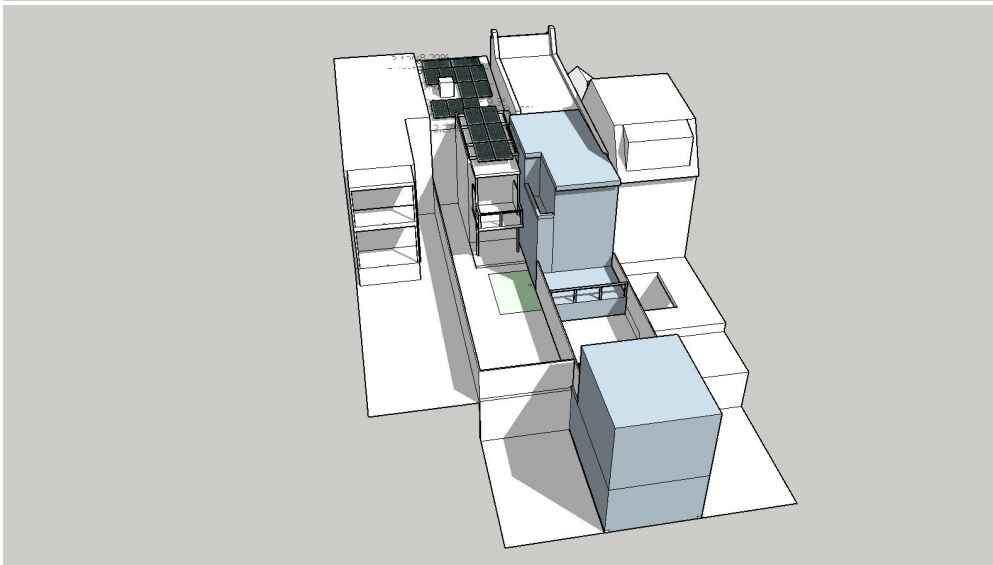
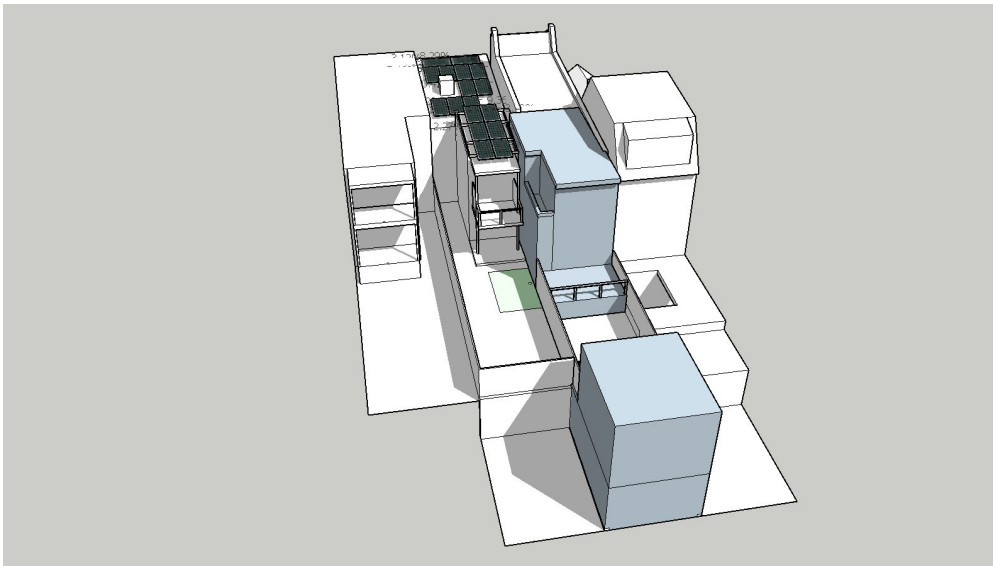
Groups analysis

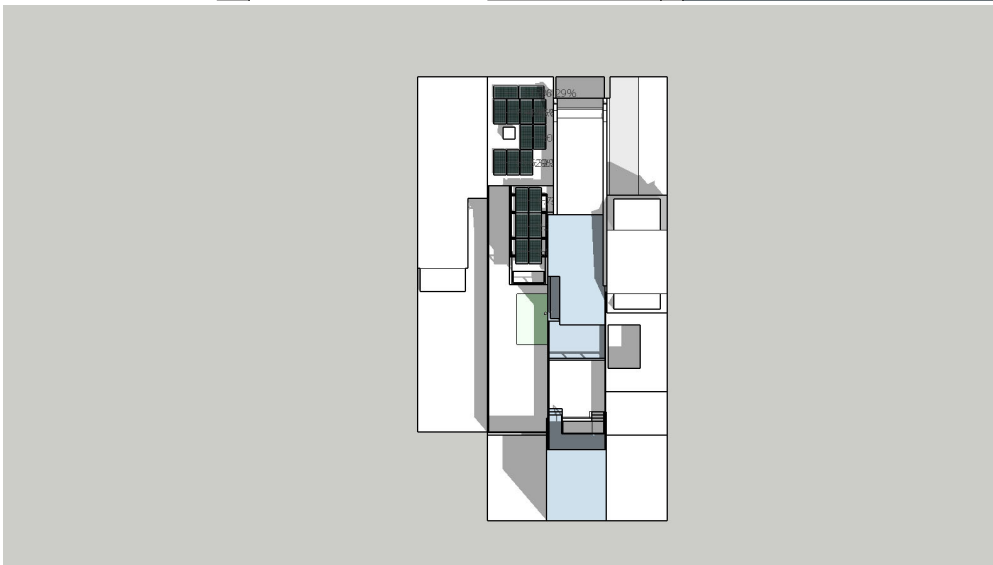
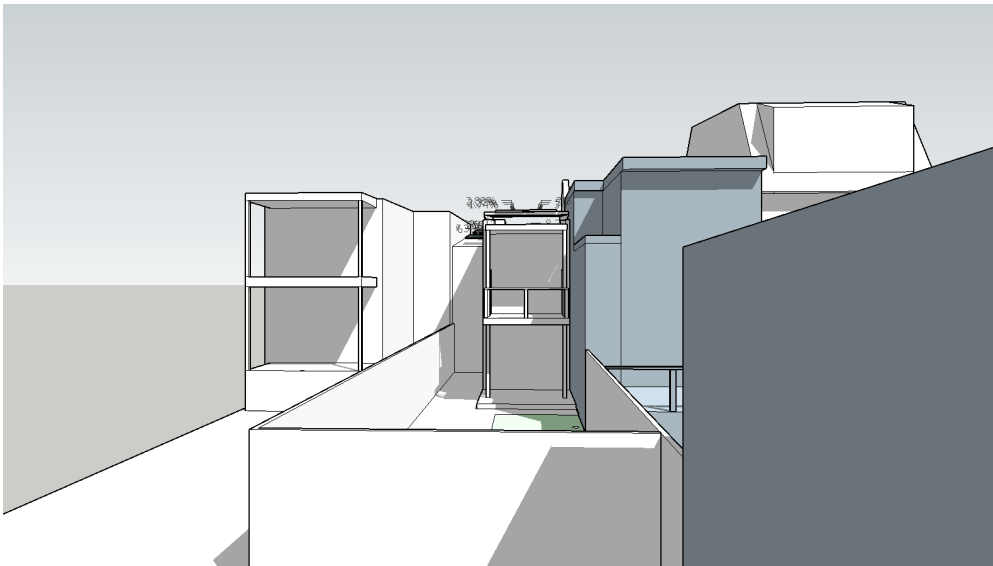
Groups global results				
Solar panels	N°p.	P. power (Wp)	Power (kWp)	Shading L. (%)
Boviet:BVM6612M-PERC	17	385.00	6.54	8.03

Results for solar modules in each group (grouped by same tilt, azimuth and panel model)							
Group	Model	N°p.	P. power (Wp)	Power (kWp)	Azimuth	Tilt	Shading L. (%)
1	Boviet:BVM6612M-PERC	11	385.00	4.24	180.00	8.13	10.20
2	Boviet:BVM6612M-PERC	6	385.00	2.31	180.00	5.64	3.96

Monthly Shading Losses (%)												
Group	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1	14.45	10.36	9.66	10.68	8.82	8.94	8.26	9.20	10.97	12.61	10.48	13.83
2	6.65	4.78	4.00	4.11	2.33	3.02	2.42	3.83	4.60	5.06	5.59	5.69
Mean	10.55	7.57	6.83	7.39	5.58	5.98	5.34	6.52	7.78	8.84	8.03	9.76





**Nomenclature:**

N°P.: Number of panels.

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