Kathleen McDonald

From: calebm@saltenergy.net
Sent: Thursday, April 15, 2021 3:04 PM
To: Kathleen McDonald
Subject: RE: 210 Olivia and 898 United solar
Attachments: 210 Layout 1-Production Report.pdf; 210 Layout 2-Production Report.pdf; 210 Layout 3-Production Report.pdf; 210 Layout 4-Production Report.pdf; 898 Layout 1-Production Report.pdf; 898 Layout 1R-Production Report.pdf; 898 Layout 2-Production Report.pdf; 898 Layout 2R-Production Report.pdf

Hey Kathleen,

See the attached production reports from our helioscope software for both projects.

For 210 Olivia:

Generation of Electricity:

Energy generation for each layout is listed below:

- 210 Layout 1: 20.59 MWh produced per year, 1673.6 kWh/kWp
- 210 Layout 2: 19.07 MWh produced per year, 1550.1 kWh/kWp
- 210 Layout 3: 20.35 MWh produced per year, 1654.7 kWh/kWp
- 210 Layout 4: 20.30 MWh produced per year, 1650.8 kWh/kWp

Layout 2 has over 9% lower annual production compared with the other 3 layouts, which all have very similar annual production. This 9% lower production is due to the 9 panels being mounted on north facing surfaces. These 9 panels, when mounted on NW, NE1, and NE2, produce only 81% of the energy that they would produce if mounted on SW.

Roof area in red:

I suppose my thinking with those roof surfaces was that moving panels there would result in disjointed arrays visible from Olivia. Lets call it SW2. Only 3 panels could fit on that surface and they would be separated into a group of 2 visible from Olivia with a single panel mounted in the central area. This would result in two roof surfaces visible from Olivia with solar panels (SW2 and SW) versus just one surface if only the Hutchinson Lane roof (SW) is utilized.

I created a Layout 4 with a production report using those roof surfaces, which results in only 6 solar panels mounted on SW. If the 3 panels on SW2 and 6 panels on SW is considered to be less visible than simply the 9 on SW, I would say that Layout 4 is SALT's preferred layout.

For 898 United:

Roof area in red:

We could fit 2 more panels in that area. Space is tight due to the mandatory 36" perimeter around the AC and our 10" offset from the roof edge but I must have overlooked that extra space.

Revised Layout 1 and 2 production reports are also attached with 5 panels on SE, remaining panels on SW/NE.

Only 1 proposed layout:

After putting all possible panels on SE, the remaining panels can only be mounted on SW or NE. I demonstrated that NE is a less efficient surface and doesn't necessarily solve the visibility issues. However, I should have included both of these in the application, please find all production reports and layouts for 898 United attached using NE or SW and SE. At this point, I would say Layout 1R is SALT's Preferred Layout that maximizes energy production while minimizing visibility.

Generation of Electricity:

Energy Generation for each layout is listed below:

- 898 Layout 1: 6.200 MWh produced per year, 1512.3 kWh/kWp
- 898 Layout 1R: 6.185 MWh produced per year, 1508.5 kWh/kWp
- 898 Layout 2: 5.487 MWh produced per year, 1338.4 kWh/kWp
- 898 Layout 2R: 5.691 MWh produced per year, 1388.0 kWh/kWp

Layout 2 produces over 11% less energy than layouts 1 and 1R. This is because the 7 panels on NE only produces about 83% of what they would produce on SW or SE due to its northern orientation.
Layout 2R produces over 9% less energy than layouts 1 and 1R for the same reasons above except only 5 panels are mounted on NE slightly reducing the overall energy losses of the system.

One question, the meeting is said to be on the 4th Tuesday of every month but the April meeting is set on the 28th which is a Wednesday. Is the meeting actually on Wednesday April 28th?

Please let me know if you need any more info.

Thanks!

Caleb Mandile
SALT Energy LLC
Phone: 305-289-1150
2992 Overseas Highway
Marathon FL, 33050

SALTENERGY

> --------- Original Message ---------
> Subject: 210 Olivia and 898 United solar
> From: "Kathleen McDonald" <kmcdonald@cityofkeywest-fl.gov>
> Date: 4/15/21 12:12 pm
> To: "calebm@saltenergy.net" <calebm@saltenergy.net>
>
> Hello Caleb,

Hope you are doing well! I wanted to reach out to you after Enid and I had our monthly agenda-setting meetings with our HARC Chairman and Vice Chair. Both of them expressed that they would like some more information before the meeting on the 28th, in regards to both your 210 Olivia project, as well as your 898 United project. I have explained what they requested below:

210 Olivia:

-a straightforward indication of the generation of electricity for all proposed layouts

-an explanation why the roof areas indicated in red below cannot be utilized:

898 United:

-explanation why there is only 1 layout proposed

-if other layouts were considered, a straightforward indication of the generation of electricity for other layouts

-an explanation why the roof area indicated in red below cannot be utilized:

Our staff reports are due next Wednesday, so if you can have this info to me by Monday or Tuesday, that would be great. If you have any questions about the above, please let me know!

Best,

Kathleen McDonald, MHP

Historic Preservation Planner II

City of Key West at

Josephine Parker City Hall

1300 White Street

Key West, Florida 33040

305.809.3975

kmcdonald@cityofkeywest-fl.gov