US SOLAR
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INTRODUCTION

US Solar is proposing a 1.25MWac community solar project on an approximately 16-acre main parcel with roughly 10 acres being used for solar. The proposed project premises is currently being used for agricultural purposes, as are the majority of the surrounding parcels.

The proposed project premises is situated on relatively flat land with a gentle slope down towards the northeast corner of the site. The project premises appear to drain primarily to the northeast. The site will be accessed from the west via the existing driveway off Brier Hill Road. A new previous access road consisting of crushed limestone aggregate (CA-7 or equivalent) will be constructed off this shared main access road to allow fire and maintenance access to the proposed site. The solar panels will be aligned N/S and track the sun throughout the day for increased efficiency, for more information regarding the specifications of the proposed equipment please see attachment 6_Solar Equipment Specifications.

PROPOSED STORMWATER MANAGEMENT PLAN

As discussed in the technical meeting for USS Webb Solar LLC, stormwater detention is required for projects with over 25,000 sq ft of new impervious area added to the site's existing condition and for areas of disturbance over 3 acres.

Using the Minnesota method to calculate hydrologically disconnected surfaces we found that the total BMP volume for the site is approximately 4275.7 cu ft.

H = 7.45 ft
W = 3.72 ft
Y = 13.3 ft
amax = 60 degrees or 1.0472 radians
amin = 0 degrees or 0 radians

$Z=(COS(\alpha max)H+COS(\alpha min)H)/2$

Z= 7.4 ft

Imp Area Z * W = 77.004 sq ft
Perv Area (Y + Z) * W = 27.53 sq ft

2990 (modules) * 1.43 (cu ft, Water Quality Volume per panel) = total BMP Volume Required = **4275.7 cu ft or 0.098 ac-ft**

Proposed BMPs will be sized and designed in accordance with the final engineered plans that will be submitted for a building permit.

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DRAINAGE & EROSION

As stated previously the proposed project premises drain primarily to the northeast of the site. Because of the location of the site and the historic land use of these parcels it is likely that there is drain tile on the proposed project premises or in the immediate vicinity. A formal drain tile survey of the proposed project premises will be commissioned by US Solar as it will be required for final engineering and the building permit.

The final engineering plans submitted for the building permit will include sufficient erosion and sedimentation control strategies in compliance with all applicable local, county, and state regulations. US Solar will submit a Notice of Intent to receive support under the National Pollution Discharge Elimination System Permit (NPDES).

WETLANDS

According to data from the United States Fish and Wildlife Service (USFWS) National Wetland Inventory (NWI) there are not any wetlands on the proposed project site.

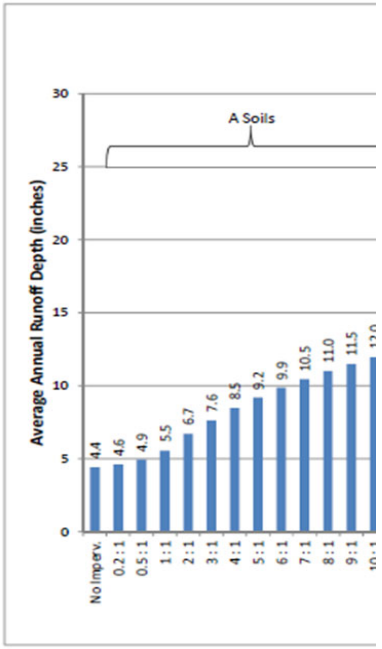
FLOODPLAINS

According to data from the Federal Emergency Management Agency (FEMA) National Flood Hazard Layer (NFHL) there is an area to the north of the main parcel on the proposed project site that is classified as existing Zone A (1% Chance of Annual Flooding). As shown on the site plan the floodplain is being avoided entirely and will not be disturbed by the proposed community solar energy system.

This spreadsheet makes calculations for an individual solar panel.

Enter values in blue cells

Soil	D		select from dropdown; determine soil on site
I/P ratio	0.358		calculated
Term	**Value**	**Units**	
Pervious area	77.00	square feet	user entered; determine on site
Impervious area (area of solar panel)	27.53	square feet	user entered; determine on site
Runoff depth from pervious areas	7.20	inches	default = 4.4 for A soil, 5.7 for B, 6.1 for C, 7.2 for D
Redirected runoff depth from solar panel (called average annual runoff depth)	9.00	inches	determine from plot called ***Average annual runoff depth***
Runoff depth from solar panel	22.50	inches	default = 22.5 inches
Performance goal	1.00	inches	

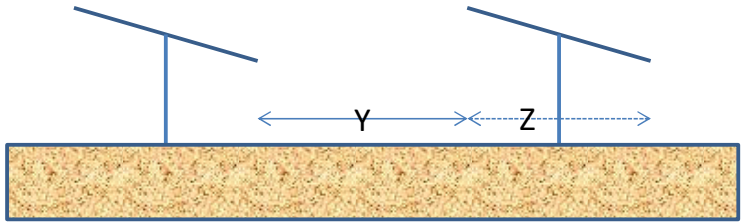


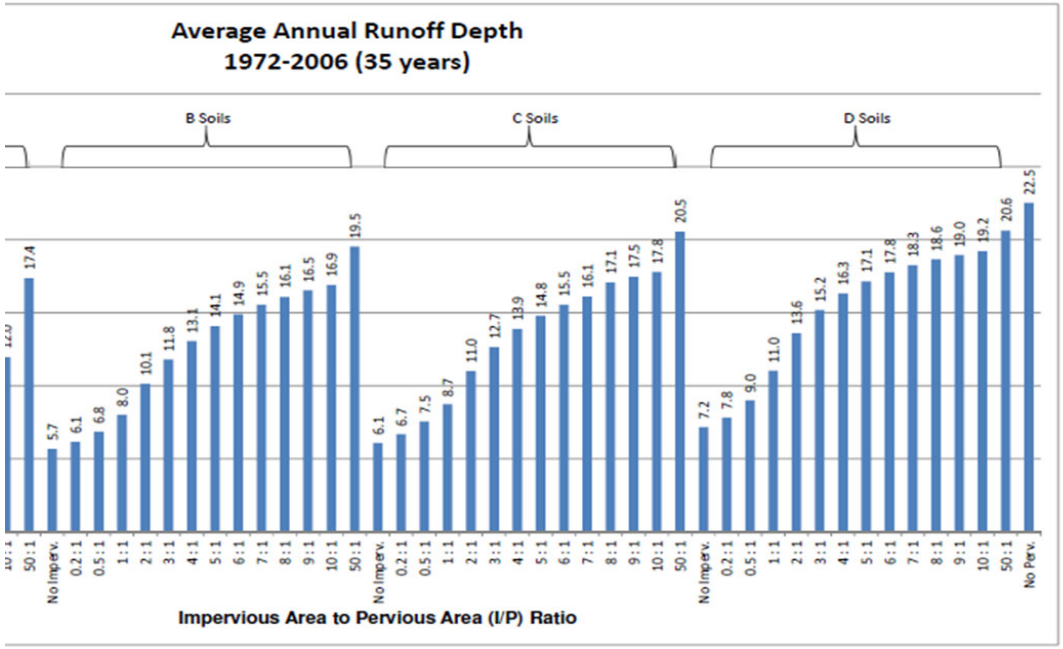
SUMMARY

Pre-disconnection			
Runoff from impervious	52	ft3	calculated
Runoff from pervious	46	ft3	calculated
Total runoff	98	ft3	calculated
Post-disconnection			
Total runoff	78	ft3	calculated
Total runoff reduced	19	ft3	calculated
Runoff from pervious	46	ft3	calculated
Runoff from impervious	32	ft3	calculated
Adjusted impervious	17.172	square feet	calculated
Performance Goal Summary			
Performance goal	**2.29**	ft3	calculated
BMP volume credit ($BMP_{volume\ credit}$)	**0.86**	ft3	calculated
% of performance goal achieved	**37.6**	%	calculated
Remaining water quality volume to be treated (per panel)	**1.43**	ft3	calculated

Pervious area = (Y + Z) * W; where W is the width of the solar panel and Z is the average horizontal distance of the panel

Impervious area = Z * W; where W is the width of the solar panel and Z is the average horizontal distance of the panel




Average Annual Runoff Depth
1972-2006 (35 years)
B Soils
C Soils
D Soils
17.4
5.7
6.1
6.8
8.0
10.1
11.8
13.1
14.1
14.9
15.5
16.1
16.5
16.9
19.5
6.1
6.7
7.5
8.7
11.0
12.7
13.9
14.8
15.5
16.1
17.1
17.5
17.8
20.5
7.2
7.8
9.0
11.0
13.6
15.2
16.3
17.1
17.8
18.3
18.6
19.0
19.2
20.6
22.5
50:1
No Imperv.
0.2:1
0.5:1
1:1
2:1
3:1
4:1
5:1
6:1
7:1
8:1
9:1
10:1
50:1
No Imperv.
0.2:1
0.5:1
1:1
2:1
3:1
4:1
5:1
6:1
7:1
8:1
9:1
10:1
50:1
No Imperv.
0.2:1
0.5:1
1:1
2:1
3:1
4:1
5:1
6:1
7:1
8:1
9:1
10:1
50:1
No Perv.
Impervious Area to Pervious Area (I/P) Ratio