

## Solar System List for James & Ana Duval Only

February 19 **Updated 28th**. Some items less expensive were left out due to possible price increases. (see items 8,9,12,10,15)\*\*

Below is a list of required components for your solar system.

=====UPDATED MARCH 20 TO RETURN =====

Returned Items 4 & 9 to update to commercial schnieder equipment

Key Elements needed as listed:

- 1 Solar Panels 12 sets of solar panel mounts (t-posts and brackets)
- 3 wiring from solar panels to charge controller 12 to 8 ga.300 ft. 8ga 2 conductor
- 4 Charge Controller (one for each 2 pairs of solar panels) (3)
- 5 Wiring from charge controller to batteries. 6 gauge.
- 6 Batteries
- 7 fuse panel box from inverter to main house fuse panel
- 8 Wiring from batteries to Inverter for AC power
- 9 Inverter (3 units with possible spares) 3000 watts ea.
- 10 Wiring from Inverter to AC fuse panel (2 pair of 10 gauge UF1 wires)
- 11 Fuse or switch or circuit breaker for inverter to fuse panel
- 12 Battery interrupt switch or breaker.
- 13 Battery monitor with DC shunt
- 14 Wiring between batteries for interconnection (2/0 copper welding cable)
- 15 will be miscellaneous items for panel mounts, wiring connectors, screws, nuts and bolts as needed for the panel mounts and inverter mounting.

1. Solar panels: 12 pcs 535 watt heliene you already have. \$ 1668.00 (12x139)

2. Mounts will be built from t-posts and brackets.

Quantity 24 t-posts, 8 feet long

Quantity 24 t-posts, 5 feet long both available from farm supply houses like tractor supply. This gives a total of 48 posts, equaling 4 posts per solar panel, one on each corner.  $4 \times 12 = 48$

Quantity: 48 T-post brackets from amazon. Order 2 sets of 24.  $\$69.63 \times 2 = 139.26$

[https://www.amazon.com/ICokin-T-Post-Target-Bracket-Mount%EF%BC%8CAR500/dp/B0CLY5FHZ3/ref=sr\\_1\\_5?crd=3UXOIWEMB1F9V&dib=eyJ2IjoiMSJ9.Y88ZuIWPKg6kQsS1oxEenMf1gi5NsulCahrTbmHa49xny4JuVN8HqVr9sXxGcPAecSt7HwHeBYTCWjUsMVVZqGE3wU1eSV03U4v1wauHrbSN4mh3k0dG88LihT9NI1GdVoNIgEKQo\\_BDKOOyJATkjMjd6\\_ngUSZ1x1e9qFQXW-Ju5ohkDifF4seQoeK0dG7YhZsG1DmVTNj5rhLeYAm9SYZo7ydYEDDO6KG8tSJMWB05bpnJFUx3bd aSvnCfrBPEDOXDgf5NytjdV65YRz46riXET7r7hPZpT3PinsgqlgzLNh6sTAYBNrTvwfzPug95N8P6jv22v hU2qbh-cyAU145bhTLVr7vNyqIJ4od4tJQHfY-ATkN1-xpj-7ECuSsdVQEmN8AqgGztme\\_tDzdaRyftgsa-U9BfLU3xsfs7rIhl9906P4f\\_lqUITV\\_aEGbr.gkGoEv0wYjQo\\_ckSL8hzzvIpu7WcEBBUCGwe-ju-tXM&dib\\_tag=se&keywords=tpost%2Bbracket%2Bfor%2Bwood&qid=1740004400&srefix=tpost%2Bb%2Caps%2C160&sr=8-5&th=1](https://www.amazon.com/ICokin-T-Post-Target-Bracket-Mount%EF%BC%8CAR500/dp/B0CLY5FHZ3/ref=sr_1_5?crd=3UXOIWEMB1F9V&dib=eyJ2IjoiMSJ9.Y88ZuIWPKg6kQsS1oxEenMf1gi5NsulCahrTbmHa49xny4JuVN8HqVr9sXxGcPAecSt7HwHeBYTCWjUsMVVZqGE3wU1eSV03U4v1wauHrbSN4mh3k0dG88LihT9NI1GdVoNIgEKQo_BDKOOyJATkjMjd6_ngUSZ1x1e9qFQXW-Ju5ohkDifF4seQoeK0dG7YhZsG1DmVTNj5rhLeYAm9SYZo7ydYEDDO6KG8tSJMWB05bpnJFUx3bd aSvnCfrBPEDOXDgf5NytjdV65YRz46riXET7r7hPZpT3PinsgqlgzLNh6sTAYBNrTvwfzPug95N8P6jv22v hU2qbh-cyAU145bhTLVr7vNyqIJ4od4tJQHfY-ATkN1-xpj-7ECuSsdVQEmN8AqgGztme_tDzdaRyftgsa-U9BfLU3xsfs7rIhl9906P4f_lqUITV_aEGbr.gkGoEv0wYjQo_ckSL8hzzvIpu7WcEBBUCGwe-ju-tXM&dib_tag=se&keywords=tpost%2Bbracket%2Bfor%2Bwood&qid=1740004400&srefix=tpost%2Bb%2Caps%2C160&sr=8-5&th=1)

3. 10 ga wire from panels to charge controllers in building 2 rolls 250 ft. one \$315 ea. Lowes same price. \$ 630.00

[https://www.amazon.com/Southwire-13056755-250-10-Cable/dp/B000BQSF82/ref=sr\\_1\\_6?crd=2B14SUEWY7O2N&dib=eyJ2IjoiMSJ9.517jJY4hRaOm6L1ax-LyKzC2LUI2eEX0qB1fms4LOS2Xc1j4yoWKhmyMbw6SVJ2TIP-](https://www.amazon.com/Southwire-13056755-250-10-Cable/dp/B000BQSF82/ref=sr_1_6?crd=2B14SUEWY7O2N&dib=eyJ2IjoiMSJ9.517jJY4hRaOm6L1ax-LyKzC2LUI2eEX0qB1fms4LOS2Xc1j4yoWKhmyMbw6SVJ2TIP-)

[OpgocxWqCu1bs0gynpRlfNYGDgIEO-B20z4bUYvEWN1abXYHueShKpVNa-Qrm7uqCSwMEEg52fl4oXxP9kge7qwRNjp-xBJ2AZmLwOBAHLR-WTdcGcVgOasjyr2dLhd1EjXdRX6lgk6Q-pPImnAKKAWJpuqllZsq4LJAMZKQ7BqEiaqA7uhnKq7eHQzSD65c8dq0IbPm1G0Rj7g67zigYHIJdEhV-k-  
uqYjSa0ojsDXw2bWxAFgUgk7xTx0dwXqCYr4s3pxWUEC\\_p7HwmsCE2oDRJMjn550ChwleilAkMAe0TAIKITkdU9MHUANqIWI4ZyAEzwNlLaF9JasUe-  
bwMMr0qsJ\\_YnfTsryDRUSkHlml1E8EcFjPLljQqqE.1OTHndLNQxKXVEg4CSboRlr8Y7bGZ7ZTAYnijP94h5U&dib\\_tag=se&keywords=10+gauge+uf+wire&qid=1740100369&srefix=10+guage+uf+%2Caps%2C211&sr=8-6](https://www.amazon.com/dp/B0002N7MM)

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4. 12 volt 100 amp charge controller you need 6 of these \$150 each. \$900 total  
[https://www.amazon.com/OOYCYOO-Controller-Regulator-Blacklight-Lead-Acid/dp/B0BFB17M65/ref=sr\\_1\\_2\\_sspa?  
dib=eyJ2ljojMSJ9.aQBRj7RvQrosIKx5jaHsryEBY8RNmR4lhQHe7EExi0sACchYTY9t855PN7ws7292ANX9jtRk4v\\_2u\\_zl-dXnuVDi9IFv\\_oDLvblofEJKoj8Y-cvHG32xGEHclqllFT9cra98CcFwFCqBZgS94rOUR-iUv6\\_4-diz9JBI\\_GjyXBIQhjkgr97dOWLJY4MTiyVwuSI0xt77WWQlhjBxMY7m3lZsVncu9wbx6NIU3IKNgmY.N5YaA4Ncl1ooEbDFhNQ\\_JhnM3VBXdj9jgf2FqGziZ1o&dib\\_tag=se&keywords=ooocyoo%2Bmppt%2Bcharge%2Bcontroller&qid=1740100487&sr=8-2-spons&sp\\_csd=d2lkZ2V0TmFtZT1zcF9hdGY&th=1](https://www.amazon.com/OOYCYOO-Controller-Regulator-Blacklight-Lead-Acid/dp/B0BFB17M65/ref=sr_1_2_sspa?dib=eyJ2ljojMSJ9.aQBRj7RvQrosIKx5jaHsryEBY8RNmR4lhQHe7EExi0sACchYTY9t855PN7ws7292ANX9jtRk4v_2u_zl-dXnuVDi9IFv_oDLvblofEJKoj8Y-cvHG32xGEHclqllFT9cra98CcFwFCqBZgS94rOUR-iUv6_4-diz9JBI_GjyXBIQhjkgr97dOWLJY4MTiyVwuSI0xt77WWQlhjBxMY7m3lZsVncu9wbx6NIU3IKNgmY.N5YaA4Ncl1ooEbDFhNQ_JhnM3VBXdj9jgf2FqGziZ1o&dib_tag=se&keywords=ooocyoo%2Bmppt%2Bcharge%2Bcontroller&qid=1740100487&sr=8-2-spons&sp_csd=d2lkZ2V0TmFtZT1zcF9hdGY&th=1)  
RETURNED ABOVE ITEM 4

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5. 6 gauge wire for connecting charge controllers (6) to batteries you need 1 of these \$49.99 total  
[https://www.amazon.com/Kimbluth-Battery-Standard-Automotive-Generator/dp/B0CSD3W2V3/  
ref=sr\\_1\\_7?  
crd=2PRA06B4UNFD5&dib=eyJ2ljojMSJ9.X6nJRpivyMMJ\\_b0Uaf9HJ4QDGpIB4u3uqf7oqIYETPBNjWEo9iUSHSxQfM4KQldWfS1y7K7AYj8J5-z5ALqeMGmyWUER1riJ9pHoFEra8cPC8ZT\\_wJRs738bHrogxVOGms1Y6Mf5gfCCGwEbdXJJRoD6OCxv5huj0qBZeLN5e8wHbCEvYkdLhYRjBH0XWAGg4\\_GSek6JArGx4x9Zu756-v09Lz5LOGV4CPvn\\_HdiTTljcKTljhcdjopUDEoo5qIvkdDLHp0FGKwKUXmncH1fa5L8ho3cfsnCG1rjuflvyik.\\_vS-efaJQYn1JF27Fc2-dopbwLuz2g7i2TeHvzTO1A&dib\\_tag=se&keywords=6%2Bga%2Bwire&qid=1731269661&srefix=6%2Bga%2Bwire%2Caps%2C140&sr=8-7&th=1](https://www.amazon.com/Kimbluth-Battery-Standard-Automotive-Generator/dp/B0CSD3W2V3/ref=sr_1_7?crd=2PRA06B4UNFD5&dib=eyJ2ljojMSJ9.X6nJRpivyMMJ_b0Uaf9HJ4QDGpIB4u3uqf7oqIYETPBNjWEo9iUSHSxQfM4KQldWfS1y7K7AYj8J5-z5ALqeMGmyWUER1riJ9pHoFEra8cPC8ZT_wJRs738bHrogxVOGms1Y6Mf5gfCCGwEbdXJJRoD6OCxv5huj0qBZeLN5e8wHbCEvYkdLhYRjBH0XWAGg4_GSek6JArGx4x9Zu756-v09Lz5LOGV4CPvn_HdiTTljcKTljhcdjopUDEoo5qIvkdDLHp0FGKwKUXmncH1fa5L8ho3cfsnCG1rjuflvyik._vS-efaJQYn1JF27Fc2-dopbwLuz2g7i2TeHvzTO1A&dib_tag=se&keywords=6%2Bga%2Bwire&qid=1731269661&srefix=6%2Bga%2Bwire%2Caps%2C140&sr=8-7&th=1)

6. 280 ah (amp hour) 12 volt LIFEP04 mini batteries. 8 pcs. \$459.99 each. \$ 3680.00  
[https://www.amazon.com/WattCycle-300Ah%EF%BC%88280Ah%EF%BC%89-LiFePO4-Temperature-Protection/dp/B0DGGQ53GR/ref=sr\\_1\\_3?crd=3LRAGM5ZK2P6O&dib=eyJ2ljojMSJ9.yKj0m0J-wW9BkwRSrjgg5eNINVVftIHV-mfz2ByiuBRGeLxub5fQQVsqVWEadOekwicYpkt7ioK6VnONJcYRYz2Uj2cevYOZIQyOVaLHSCD4FHURLzk09uUyxb6OV2Kdo7MYpTVNHpP\\_gyxb\\_\\_pZbZlj8FhiG6ezAOyTYv\\_Cz3Vc1t61LtRZYszidHmyo91jiQKGt\\_zfNS9RsadthFRLepyoR1\\_Y812Z6Q\\_7qn2UnCUwl.QOC8kw6P3AeLmgHt7Q9VlxvpeUqZPkrsqT6PVwbNj9I&dib\\_tag=se&keywords=wattcycle+12v+300ah+mini+lifepo4+battery&qid=1740005065&srefix=wattcycl%2Caps%2C160&sr=8-3](https://www.amazon.com/WattCycle-300Ah%EF%BC%88280Ah%EF%BC%89-LiFePO4-Temperature-Protection/dp/B0DGGQ53GR/ref=sr_1_3?crd=3LRAGM5ZK2P6O&dib=eyJ2ljojMSJ9.yKj0m0J-wW9BkwRSrjgg5eNINVVftIHV-mfz2ByiuBRGeLxub5fQQVsqVWEadOekwicYpkt7ioK6VnONJcYRYz2Uj2cevYOZIQyOVaLHSCD4FHURLzk09uUyxb6OV2Kdo7MYpTVNHpP_gyxb__pZbZlj8FhiG6ezAOyTYv_Cz3Vc1t61LtRZYszidHmyo91jiQKGt_zfNS9RsadthFRLepyoR1_Y812Z6Q_7qn2UnCUwl.QOC8kw6P3AeLmgHt7Q9VlxvpeUqZPkrsqT6PVwbNj9I&dib_tag=se&keywords=wattcycle+12v+300ah+mini+lifepo4+battery&qid=1740005065&srefix=wattcycl%2Caps%2C160&sr=8-3)

7. Fuse box between inverter and main fuse panel see 11 below. Buy 1. \$20.48 Wait on this item. May not need.  
[https://www.amazon.com/gp/product/B00002N7MM/ref=ewc\\_pr\\_img\\_2?  
smid=ATVPDKIKX0DER&psc=1](https://www.amazon.com/gp/product/B00002N7MM/ref=ewc_pr_img_2?smid=ATVPDKIKX0DER&psc=1)

8. Wiring from batteries to inverter 2/0 black and red, 1 of each. 15 ft. total length each. \$ 76.77 each x 2 = 153.54 one black 15 ft, and one red 15 ft.

[https://www.amazon.com/gp/product/B08Y7DGRDM/ref=ewc\\_pr\\_img\\_7?smid=A2VHGGOHXF24LJ&th=1](https://www.amazon.com/gp/product/B08Y7DGRDM/ref=ewc_pr_img_7?smid=A2VHGGOHXF24LJ&th=1)

black

[https://www.amazon.com/gp/product/B08Y7JG2XP/ref=ewc\\_pr\\_img\\_7](https://www.amazon.com/gp/product/B08Y7JG2XP/ref=ewc_pr_img_7)

\*\* 8. 25 ft. of 2/0 cable for inverter to battery hookup, One 25 ft black

[https://www.amazon.com/gp/product/B08Y7G1ZLK/ref=ewc\\_pr\\_img\\_7?smid=A2VHGGOHXF24LJ&th=1](https://www.amazon.com/gp/product/B08Y7G1ZLK/ref=ewc_pr_img_7?smid=A2VHGGOHXF24LJ&th=1)

And one 25 ft. Red 2/0 cable:

[https://www.amazon.com/gp/product/B08Y7G1ZLK/ref=ewc\\_pr\\_img\\_7?smid=A2VHGGOHXF24LJ&th=1](https://www.amazon.com/gp/product/B08Y7G1ZLK/ref=ewc_pr_img_7?smid=A2VHGGOHXF24LJ&th=1)

[https://www.amazon.com/gp/product/B08Y7G1ZLK/ref=ewc\\_pr\\_img\\_7?smid=A2VHGGOHXF24LJ&th=1](https://www.amazon.com/gp/product/B08Y7G1ZLK/ref=ewc_pr_img_7?smid=A2VHGGOHXF24LJ&th=1)

[https://www.amazon.com/gp/product/B08Y7G1ZLK/ref=ewc\\_pr\\_img\\_7?smid=A2VHGGOHXF24LJ&th=1](https://www.amazon.com/gp/product/B08Y7G1ZLK/ref=ewc_pr_img_7?smid=A2VHGGOHXF24LJ&th=1)

**NOTE: *You will have to select the 25 foot length for each color yourself. The link simply goes to that page but does not select the correct length.***

\*\* 9. Get 3 Egscatee inverters, 3000 watt 12 volt \$289.99 each. \$ 580.00 \$869.97

RETURNED\*\*

[https://www.amazon.com/EGSCATEE-Inverter-Converter-Vehicles-Outlets/dp/B0BZTPZ7YY/ref=sr\\_1\\_3\\_sspa?](https://www.amazon.com/EGSCATEE-Inverter-Converter-Vehicles-Outlets/dp/B0BZTPZ7YY/ref=sr_1_3_sspa?dib=eyJ2IjoiMSJ9.dE_8yHnpqpgF8nOVLAK1nrv1svPtTnjLivJoxwDQsuG3xeyvxzLcDBYUihNr7Lyw4jSkqsmXkAOfmZ-CFQTt7KRX9InWpNHa9Pr-JL8GKBnfGNdtwjg9WG3EU69f8C8BrHFr90aD4F-lAaCVuyvKRDi1cDGJ8Dso0j1Hle8fttZCrzd7roa3La5E6KDMymnrUDYQAeClT6xibr2iD25mjn3AUTQ75dcJT-sw87sPqMPDz63_cfYasTE1qTGL4YEYnnFA_KDDIHHZtF-PmXvadDOZW7hKEKBRYKJP9uJp7zo.nB34BMs0Tf0gw3TaCJx4oGVZwsv5VahsEO6VSmW-MdE&dib_tag=se&keywords=eggscatee%2B3000%2Bwatt%2Binverter&qid=1740005742&sr=8-3-spons&sp_csd=d2lkZ2V0TmFtZT1zcF9hdGY&th=1)

[ref=sr\\_1\\_3\\_sspa?](https://www.amazon.com/EGSCATEE-Inverter-Converter-Vehicles-Outlets/dp/B0BZTPZ7YY/ref=sr_1_3_sspa?dib=eyJ2IjoiMSJ9.dE_8yHnpqpgF8nOVLAK1nrv1svPtTnjLivJoxwDQsuG3xeyvxzLcDBYUihNr7Lyw4jSkqsmXkAOfmZ-CFQTt7KRX9InWpNHa9Pr-JL8GKBnfGNdtwjg9WG3EU69f8C8BrHFr90aD4F-lAaCVuyvKRDi1cDGJ8Dso0j1Hle8fttZCrzd7roa3La5E6KDMymnrUDYQAeClT6xibr2iD25mjn3AUTQ75dcJT-sw87sPqMPDz63_cfYasTE1qTGL4YEYnnFA_KDDIHHZtF-PmXvadDOZW7hKEKBRYKJP9uJp7zo.nB34BMs0Tf0gw3TaCJx4oGVZwsv5VahsEO6VSmW-MdE&dib_tag=se&keywords=eggscatee%2B3000%2Bwatt%2Binverter&qid=1740005742&sr=8-3-spons&sp_csd=d2lkZ2V0TmFtZT1zcF9hdGY&th=1)

[dib=eyJ2IjoiMSJ9.dE\\_8yHnpqpgF8nOVLAK1nrv1svPtTnjLivJoxwDQsuG3xeyvxzLcDBYUihNr7Lyw4jSkqsmXkAOfmZ-CFQTt7KRX9InWpNHa9Pr-JL8GKBnfGNdtwjg9WG3EU69f8C8BrHFr90aD4F-lAaCVuyvKRDi1cDGJ8Dso0j1Hle8fttZCrzd7roa3La5E6KDMymnrUDYQAeClT6xibr2iD25mjn3AUTQ75dcJT-sw87sPqMPDz63\\_cfYasTE1qTGL4YEYnnFA\\_KDDIHHZtF-PmXvadDOZW7hKEKBRYKJP9uJp7zo.nB34BMs0Tf0gw3TaCJx4oGVZwsv5VahsEO6VSmW-MdE&dib\\_tag=se&keywords=eggscatee%2B3000%2Bwatt%2Binverter&qid=1740005742&sr=8-3-spons&sp\\_csd=d2lkZ2V0TmFtZT1zcF9hdGY&th=1](https://www.amazon.com/EGSCATEE-Inverter-Converter-Vehicles-Outlets/dp/B0BZTPZ7YY/ref=sr_1_3_sspa?dib=eyJ2IjoiMSJ9.dE_8yHnpqpgF8nOVLAK1nrv1svPtTnjLivJoxwDQsuG3xeyvxzLcDBYUihNr7Lyw4jSkqsmXkAOfmZ-CFQTt7KRX9InWpNHa9Pr-JL8GKBnfGNdtwjg9WG3EU69f8C8BrHFr90aD4F-lAaCVuyvKRDi1cDGJ8Dso0j1Hle8fttZCrzd7roa3La5E6KDMymnrUDYQAeClT6xibr2iD25mjn3AUTQ75dcJT-sw87sPqMPDz63_cfYasTE1qTGL4YEYnnFA_KDDIHHZtF-PmXvadDOZW7hKEKBRYKJP9uJp7zo.nB34BMs0Tf0gw3TaCJx4oGVZwsv5VahsEO6VSmW-MdE&dib_tag=se&keywords=eggscatee%2B3000%2Bwatt%2Binverter&qid=1740005742&sr=8-3-spons&sp_csd=d2lkZ2V0TmFtZT1zcF9hdGY&th=1)

**10. Quantity 3, 250 amp DC circuit breakers for batteries to inverter connections:\$19.99 each. X 3=\$ 60.00**

[https://www.amazon.com/EPLZON-Circuit-Resettable-Recovery-Protection/dp/B0BK327G4D/ref=sr\\_1\\_20\\_sspa?crid=EDPRIIW27IPX&dib=eyJ2IjoiMSJ9.nn5-BUMYdkPNY7kceDk4-D-\\_D83GwPx9Mo80qCguOwtFmCWhVle0bNv\\_QhW9InK3lxjBgXZYjbN6lShi19Jkvt86QZOqjT2SZu5m0PiBkUbtswNFaRM9gxIXSeUt7eaYo4gScXkjbYDLgXMBHTmZVy0eLAlisj9CXDbb2hkt20n7N6lH4uX-10z\\_w7A8Yh1ixwELHwSszGckXe373QgscgpwNKBPrQA7GnO0nf-OdK6L\\_ix6tKqbA3vdKjDOG9hFuVfeqWC5rwEYfnueQ\\_Wj5qnM60bXmTdl\\_kvNgAVld6M.rvkeWksfbzSaaTJZB45xhzLE73hKHWsSff4nL3Shzng&dib\\_tag=se&keywords=200%2Bamp%2Bdc%2Bbreaker%2Benclosure&qid=1740151732&sprefix=200%2Bamp%2Bdc%2B%2Caps%2C151&sr=8-20-spons&sp\\_csd=d2lkZ2V0TmFtZT1zcF9tdGY&th=1](https://www.amazon.com/EPLZON-Circuit-Resettable-Recovery-Protection/dp/B0BK327G4D/ref=sr_1_20_sspa?crid=EDPRIIW27IPX&dib=eyJ2IjoiMSJ9.nn5-BUMYdkPNY7kceDk4-D-_D83GwPx9Mo80qCguOwtFmCWhVle0bNv_QhW9InK3lxjBgXZYjbN6lShi19Jkvt86QZOqjT2SZu5m0PiBkUbtswNFaRM9gxIXSeUt7eaYo4gScXkjbYDLgXMBHTmZVy0eLAlisj9CXDbb2hkt20n7N6lH4uX-10z_w7A8Yh1ixwELHwSszGckXe373QgscgpwNKBPrQA7GnO0nf-OdK6L_ix6tKqbA3vdKjDOG9hFuVfeqWC5rwEYfnueQ_Wj5qnM60bXmTdl_kvNgAVld6M.rvkeWksfbzSaaTJZB45xhzLE73hKHWsSff4nL3Shzng&dib_tag=se&keywords=200%2Bamp%2Bdc%2Bbreaker%2Benclosure&qid=1740151732&sprefix=200%2Bamp%2Bdc%2B%2Caps%2C151&sr=8-20-spons&sp_csd=d2lkZ2V0TmFtZT1zcF9tdGY&th=1)

11. Circuit breaker for box item 7 between inverter and main house fuse panel. Get 2 pcs. \$45 for 2

[https://www.amazon.com/Square-Homeline-TwoPole-Circuit-Breaker/dp/B00GON97GO/ref=sr\\_1\\_5?crid=3O85B4F7XUENI&dib=eyJ2IjoiMSJ9.QwoYIJBpj8sVEuDH-5om6ayaa\\_kUKTL8C\\_4l5-lhFs4HFyRz2YQpkekFDESTPs-f\\_PDqePPLofxFasbe6JiVP\\_CtTYQ\\_sNdh7IS8\\_RaCgJ6OsX7fwnnfb6rBMxdCLxWGHVklz1WTjwsmJTe9KUIPECr\\_Q\\_DZPpe2UhxqcAVzXSYmPfpKnhUN3R09MBXEQnUuYiLz2L1SbICCOInus9GOEFmlnORHieZVwAkqgKXZHjwUkkFjSAFiR\\_xeFJLPtevPE90yUii6gvfMAHHjQghzCOOPQ0FTH1PfoL-lowlAhk.20v76ewY5aRVPKQZKzDNij8yYi\\_aGfTCpEGGon9rAPo&dib\\_tag=se&keywords=homeline+circuit+breakers&qid=1731271432&refinements=p\\_123%3A661982&rnid=85457740011&s=hi&sprefix=homeline+cir%2Caps%2C166&sr=1-5](https://www.amazon.com/Square-Homeline-TwoPole-Circuit-Breaker/dp/B00GON97GO/ref=sr_1_5?crid=3O85B4F7XUENI&dib=eyJ2IjoiMSJ9.QwoYIJBpj8sVEuDH-5om6ayaa_kUKTL8C_4l5-lhFs4HFyRz2YQpkekFDESTPs-f_PDqePPLofxFasbe6JiVP_CtTYQ_sNdh7IS8_RaCgJ6OsX7fwnnfb6rBMxdCLxWGHVklz1WTjwsmJTe9KUIPECr_Q_DZPpe2UhxqcAVzXSYmPfpKnhUN3R09MBXEQnUuYiLz2L1SbICCOInus9GOEFmlnORHieZVwAkqgKXZHjwUkkFjSAFiR_xeFJLPtevPE90yUii6gvfMAHHjQghzCOOPQ0FTH1PfoL-lowlAhk.20v76ewY5aRVPKQZKzDNij8yYi_aGfTCpEGGon9rAPo&dib_tag=se&keywords=homeline+circuit+breakers&qid=1731271432&refinements=p_123%3A661982&rnid=85457740011&s=hi&sprefix=homeline+cir%2Caps%2C166&sr=1-5)

[crid=3O85B4F7XUENI&dib=eyJ2IjoiMSJ9.QwoYIJBpj8sVEuDH-5om6ayaa\\_kUKTL8C\\_4l5-lhFs4HFyRz2YQpkekFDESTPs-f\\_PDqePPLofxFasbe6JiVP\\_CtTYQ\\_sNdh7IS8\\_RaCgJ6OsX7fwnnfb6rBMxdCLxWGHVklz1WTjwsmJTe9KUIPECr\\_Q\\_DZPpe2UhxqcAVzXSYmPfpKnhUN3R09MBXEQnUuYiLz2L1SbICCOInus9GOEFmlnORHieZVwAkqgKXZHjwUkkFjSAFiR\\_xeFJLPtevPE90yUii6gvfMAHHjQghzCOOPQ0FTH1PfoL-lowlAhk.20v76ewY5aRVPKQZKzDNij8yYi\\_aGfTCpEGGon9rAPo&dib\\_tag=se&keywords=homeline+circuit+breakers&qid=1731271432&refinements=p\\_123%3A661982&rnid=85457740011&s=hi&sprefix=homeline+cir%2Caps%2C166&sr=1-5](https://www.amazon.com/Square-Homeline-TwoPole-Circuit-Breaker/dp/B00GON97GO/ref=sr_1_5?crid=3O85B4F7XUENI&dib=eyJ2IjoiMSJ9.QwoYIJBpj8sVEuDH-5om6ayaa_kUKTL8C_4l5-lhFs4HFyRz2YQpkekFDESTPs-f_PDqePPLofxFasbe6JiVP_CtTYQ_sNdh7IS8_RaCgJ6OsX7fwnnfb6rBMxdCLxWGHVklz1WTjwsmJTe9KUIPECr_Q_DZPpe2UhxqcAVzXSYmPfpKnhUN3R09MBXEQnUuYiLz2L1SbICCOInus9GOEFmlnORHieZVwAkqgKXZHjwUkkFjSAFiR_xeFJLPtevPE90yUii6gvfMAHHjQghzCOOPQ0FTH1PfoL-lowlAhk.20v76ewY5aRVPKQZKzDNij8yYi_aGfTCpEGGon9rAPo&dib_tag=se&keywords=homeline+circuit+breakers&qid=1731271432&refinements=p_123%3A661982&rnid=85457740011&s=hi&sprefix=homeline+cir%2Caps%2C166&sr=1-5)

[f\\_PDqePPLofxFasbe6JiVP\\_CtTYQ\\_sNdh7IS8\\_RaCgJ6OsX7fwnnfb6rBMxdCLxWGHVklz1WTjwsmJTe9KUIPECr\\_Q\\_DZPpe2UhxqcAVzXSYmPfpKnhUN3R09MBXEQnUuYiLz2L1SbICCOInus9GOEFmlnORHieZVwAkqgKXZHjwUkkFjSAFiR\\_xeFJLPtevPE90yUii6gvfMAHHjQghzCOOPQ0FTH1PfoL-lowlAhk.20v76ewY5aRVPKQZKzDNij8yYi\\_aGfTCpEGGon9rAPo&dib\\_tag=se&keywords=homeline+circuit+breakers&qid=1731271432&refinements=p\\_123%3A661982&rnid=85457740011&s=hi&sprefix=homeline+cir%2Caps%2C166&sr=1-5](https://www.amazon.com/Square-Homeline-TwoPole-Circuit-Breaker/dp/B00GON97GO/ref=sr_1_5?crid=3O85B4F7XUENI&dib=eyJ2IjoiMSJ9.QwoYIJBpj8sVEuDH-5om6ayaa_kUKTL8C_4l5-lhFs4HFyRz2YQpkekFDESTPs-f_PDqePPLofxFasbe6JiVP_CtTYQ_sNdh7IS8_RaCgJ6OsX7fwnnfb6rBMxdCLxWGHVklz1WTjwsmJTe9KUIPECr_Q_DZPpe2UhxqcAVzXSYmPfpKnhUN3R09MBXEQnUuYiLz2L1SbICCOInus9GOEFmlnORHieZVwAkqgKXZHjwUkkFjSAFiR_xeFJLPtevPE90yUii6gvfMAHHjQghzCOOPQ0FTH1PfoL-lowlAhk.20v76ewY5aRVPKQZKzDNij8yYi_aGfTCpEGGon9rAPo&dib_tag=se&keywords=homeline+circuit+breakers&qid=1731271432&refinements=p_123%3A661982&rnid=85457740011&s=hi&sprefix=homeline+cir%2Caps%2C166&sr=1-5)

[f\\_PDqePPLofxFasbe6JiVP\\_CtTYQ\\_sNdh7IS8\\_RaCgJ6OsX7fwnnfb6rBMxdCLxWGHVklz1WTjwsmJTe9KUIPECr\\_Q\\_DZPpe2UhxqcAVzXSYmPfpKnhUN3R09MBXEQnUuYiLz2L1SbICCOInus9GOEFmlnORHieZVwAkqgKXZHjwUkkFjSAFiR\\_xeFJLPtevPE90yUii6gvfMAHHjQghzCOOPQ0FTH1PfoL-lowlAhk.20v76ewY5aRVPKQZKzDNij8yYi\\_aGfTCpEGGon9rAPo&dib\\_tag=se&keywords=homeline+circuit+breakers&qid=1731271432&refinements=p\\_123%3A661982&rnid=85457740011&s=hi&sprefix=homeline+cir%2Caps%2C166&sr=1-5](https://www.amazon.com/Square-Homeline-TwoPole-Circuit-Breaker/dp/B00GON97GO/ref=sr_1_5?crid=3O85B4F7XUENI&dib=eyJ2IjoiMSJ9.QwoYIJBpj8sVEuDH-5om6ayaa_kUKTL8C_4l5-lhFs4HFyRz2YQpkekFDESTPs-f_PDqePPLofxFasbe6JiVP_CtTYQ_sNdh7IS8_RaCgJ6OsX7fwnnfb6rBMxdCLxWGHVklz1WTjwsmJTe9KUIPECr_Q_DZPpe2UhxqcAVzXSYmPfpKnhUN3R09MBXEQnUuYiLz2L1SbICCOInus9GOEFmlnORHieZVwAkqgKXZHjwUkkFjSAFiR_xeFJLPtevPE90yUii6gvfMAHHjQghzCOOPQ0FTH1PfoL-lowlAhk.20v76ewY5aRVPKQZKzDNij8yYi_aGfTCpEGGon9rAPo&dib_tag=se&keywords=homeline+circuit+breakers&qid=1731271432&refinements=p_123%3A661982&rnid=85457740011&s=hi&sprefix=homeline+cir%2Caps%2C166&sr=1-5)

[lowlAhk.20v76ewY5aRVPKQZKzDNij8yYi\\_aGfTCpEGGon9rAPo&dib\\_tag=se&keywords=homeline+circuit+breakers&qid=1731271432&refinements=p\\_123%3A661982&rnid=85457740011&s=hi&sprefix=homeline+cir%2Caps%2C166&sr=1-5](https://www.amazon.com/Square-Homeline-TwoPole-Circuit-Breaker/dp/B00GON97GO/ref=sr_1_5?crid=3O85B4F7XUENI&dib=eyJ2IjoiMSJ9.QwoYIJBpj8sVEuDH-5om6ayaa_kUKTL8C_4l5-lhFs4HFyRz2YQpkekFDESTPs-f_PDqePPLofxFasbe6JiVP_CtTYQ_sNdh7IS8_RaCgJ6OsX7fwnnfb6rBMxdCLxWGHVklz1WTjwsmJTe9KUIPECr_Q_DZPpe2UhxqcAVzXSYmPfpKnhUN3R09MBXEQnUuYiLz2L1SbICCOInus9GOEFmlnORHieZVwAkqgKXZHjwUkkFjSAFiR_xeFJLPtevPE90yUii6gvfMAHHjQghzCOOPQ0FTH1PfoL-lowlAhk.20v76ewY5aRVPKQZKzDNij8yYi_aGfTCpEGGon9rAPo&dib_tag=se&keywords=homeline+circuit+breakers&qid=1731271432&refinements=p_123%3A661982&rnid=85457740011&s=hi&sprefix=homeline+cir%2Caps%2C166&sr=1-5)

[Wait on this item...may already have it.](https://www.amazon.com/Square-Homeline-TwoPole-Circuit-Breaker/dp/B00GON97GO/ref=sr_1_5?crid=3O85B4F7XUENI&dib=eyJ2IjoiMSJ9.QwoYIJBpj8sVEuDH-5om6ayaa_kUKTL8C_4l5-lhFs4HFyRz2YQpkekFDESTPs-f_PDqePPLofxFasbe6JiVP_CtTYQ_sNdh7IS8_RaCgJ6OsX7fwnnfb6rBMxdCLxWGHVklz1WTjwsmJTe9KUIPECr_Q_DZPpe2UhxqcAVzXSYmPfpKnhUN3R09MBXEQnUuYiLz2L1SbICCOInus9GOEFmlnORHieZVwAkqgKXZHjwUkkFjSAFiR_xeFJLPtevPE90yUii6gvfMAHHjQghzCOOPQ0FTH1PfoL-lowlAhk.20v76ewY5aRVPKQZKzDNij8yYi_aGfTCpEGGon9rAPo&dib_tag=se&keywords=homeline+circuit+breakers&qid=1731271432&refinements=p_123%3A661982&rnid=85457740011&s=hi&sprefix=homeline+cir%2Caps%2C166&sr=1-5)

**\*\* 12.** Battery disconnect switch, you need 16, one for each battery and inverter \$ 15 ea. = \$240.00

[https://www.amazon.com/dp/B0B3JMJK43/ref=twister\\_B0CJF9VQPK?\\_encoding=UTF8&th=1](https://www.amazon.com/dp/B0B3JMJK43/ref=twister_B0CJF9VQPK?_encoding=UTF8&th=1)

**\*\* 12b:** Six 40 amp circuit breakers for solar panel pairs. (12/2=6) This is more of a convenience to be able to disconnect solar panels for maintenance/repairs without shutting down other. Once each for pair.

[https://www.amazon.com/gp/product/B0CPP88RBL/ref=ewc\\_pr\\_img\\_1?](https://www.amazon.com/gp/product/B0CPP88RBL/ref=ewc_pr_img_1?smid=A3BK6VYV0WHGJPJ&th=1)

[smid=A3BK6VYV0WHGJPJ&th=1](https://www.amazon.com/gp/product/B0CPP88RBL/ref=ewc_pr_img_1?smid=A3BK6VYV0WHGJPJ&th=1)

**\*\*The box to hold the circuit breakers above:**

[https://www.amazon.com/QILIPSU-Waterproof-Weatherproof-Electrical-Distribution/dp/B0CPV9NQ2M/ref=sxin\\_16\\_pa\\_sp\\_search\\_thematic\\_sspa?content-id=amzn1.sym.95e4d6bd-d93f-4ee1-9766-ff64f54d2f71%3Aamzn1.sym.95e4d6bd-d93f-4ee1-9766-ff64f54d2f71&crd=2TL9W4WJ8SCEU&cv\\_ct\\_cx=6%2Bposition%2Bdin%2BBrail%2Bbox&keywords=6%2Bposition%2Bdin%2BBrail%2Bbox&pd\\_rd\\_i=B08FJ76QG3&pd\\_rd\\_r=6d1251e4-d192-4137-b608-1ae01e3addb7&pd\\_rd\\_w=Wdjbl&pd\\_rd\\_wg=PRb74&pf\\_rd\\_p=95e4d6bd-d93f-4ee1-9766-ff64f54d2f71&pf\\_rd\\_r=2Hnh1H4ZWS2YnpZJGPHJ&qid=1741188676&sbo=RZvfv%2F%2FHxDF%2BO5021pAnSA%3D%3D&srefix=6%2Bposition%2Bdin%2BBrail%2Bbox%2Caps%2C147&sr=1-2-6024b2a3-78e4-4fed-8fed-e1613be3bcce-spons&sp\\_csd=d2lkZ2V0TmFtZT1zcF9zZWYyY2hfdGhlfWF0aWM&th=1](https://www.amazon.com/QILIPSU-Waterproof-Weatherproof-Electrical-Distribution/dp/B0CPV9NQ2M/ref=sxin_16_pa_sp_search_thematic_sspa?content-id=amzn1.sym.95e4d6bd-d93f-4ee1-9766-ff64f54d2f71%3Aamzn1.sym.95e4d6bd-d93f-4ee1-9766-ff64f54d2f71&crd=2TL9W4WJ8SCEU&cv_ct_cx=6%2Bposition%2Bdin%2BBrail%2Bbox&keywords=6%2Bposition%2Bdin%2BBrail%2Bbox&pd_rd_i=B08FJ76QG3&pd_rd_r=6d1251e4-d192-4137-b608-1ae01e3addb7&pd_rd_w=Wdjbl&pd_rd_wg=PRb74&pf_rd_p=95e4d6bd-d93f-4ee1-9766-ff64f54d2f71&pf_rd_r=2Hnh1H4ZWS2YnpZJGPHJ&qid=1741188676&sbo=RZvfv%2F%2FHxDF%2BO5021pAnSA%3D%3D&srefix=6%2Bposition%2Bdin%2BBrail%2Bbox%2Caps%2C147&sr=1-2-6024b2a3-78e4-4fed-8fed-e1613be3bcce-spons&sp_csd=d2lkZ2V0TmFtZT1zcF9zZWYyY2hfdGhlfWF0aWM&th=1)

13. battery monitor w/shunt you need 3, one for each inverter \$ 59.99 ea. \$180.00

[https://www.amazon.com/dp/B0BR52513W/ref=twister\\_B0C9HVXCCS?\\_encoding=UTF8&th=1](https://www.amazon.com/dp/B0BR52513W/ref=twister_B0C9HVXCCS?_encoding=UTF8&th=1)

14. 15 ft. 2/0 welding wire for battery interconnections. \$ 76.77

[https://www.amazon.com/gp/product/B08Y7DGRDM/ref=ox\\_sc\\_act\\_title\\_2?](https://www.amazon.com/gp/product/B08Y7DGRDM/ref=ox_sc_act_title_2?smid=A2VHGGOHXF24LJ&th=1)

[smid=A2VHGGOHXF24LJ&th=1](https://www.amazon.com/gp/product/B08Y7DGRDM/ref=ox_sc_act_title_2?smid=A2VHGGOHXF24LJ&th=1)

14. continued: 20 pieces plus 10 more for a total of 30 pcs. \$22 for 20 pcs \$ 10 for 10 pcs.= \$30

[https://www.amazon.com/gp/product/B0BMVBGHW1/ref=ewc\\_pr\\_img\\_1?](https://www.amazon.com/gp/product/B0BMVBGHW1/ref=ewc_pr_img_1?smid=A3BPTIID3MVOQQ&psc=1)

[smid=A3BPTIID3MVOQQ&psc=1](https://www.amazon.com/gp/product/B0BMVBGHW1/ref=ewc_pr_img_1?smid=A3BPTIID3MVOQQ&psc=1)

15. 48 pressure treated 2x4 by 8 ft long for framing panels to tposts. 4 boards per panel. \$ 4.28 ea. Lowes.com \$205.44

<https://www.lowes.com/pd/Severe-Weather-Common-2-in-x-4-in-x-8-ft-Actual-1-5-in-x-3-5-in-x-8-ft-2-Treated-Lumber/4564778>

Please note that some of these prices are not fixed like the mounting system. Hopefully within the range of this estimate. Total \$ 6778.00 plus tax approximately...

NOTE: There will be a few more expenses for miscellaneous items to interconnect.....

Building size is 4 ft wide, 8 ft long, 7 ft tall to 6 ft tall on low end. Concrete floor as Alvin suggests. Walls 3/8 aluminum faced plywood with 1 inch foam board covered on roof

and all sides and door with tin roofing on all sides and door. Make door out of same material as walls.

Building should be in middle of solar panel array and slightly back or forward enough to not block sun exposure to panels. Array is approximately 100 ft long or 50 ft on each side w/panels laying horizontally. Each panel is 7 ½ ft long w/3 or 4 inch spacing between next panel. Mounted on T-posts and brackets.

12 solar panels used: Heliene 535 \$140 each = \$1680.00 less shipping

~~Total 6778.00 + 1680 = \$8458~~ plus tax and building costs.

Total \$1680 + 7300 plus tax and building costs.

~~Basic design is to have 3 inverters, 3kw each, one on each (side) of fuse panels for house, and 1 inverter for the water pump alone. Each set of 4 batteries will run it's own inverter. Batteries will mount 4 to a row on wall, directly connected to wall mounted charge controllers and inverters in a vertical orientation to facilitate cooling. Each battery will run thru a disconnect switch to a central junction of 4 in parallel, which in turn feeds an inverter. This system will allow for two 3kw inverters to feed house wiring, and one inverter to operate the water pump/system. All 3 systems are wired in the same manner to the batteries and inverter. Output wiring is 10 gauge from each inverter to house fuse panels.~~

Updated to Schnieder commercial equipment will include a single 6kw XW series split phase inverter running on 48 volts DC. Doubling the Output wiring listed above to 2 ten gauge sets in parallel will still provide the power originally from 2 three kilowatt inverters. 10 Gauge wire is commonly used for hot water heater systems operating at 4500 watts so using 2 pairs would offer a safe 9 kw of power transfer from the XW inverter rated at 6 kw.

# Estimated Daily Usage

This is the daily energy usage based on limited information

Dishwasher use, 2 loads per day: 2 kwh w/out economy mode 1 kwh on economy.

Side by side refrigerator: 1.3 kwh

Side by side refrigerator B: 1.3 kwh

Freezer chest: 1.46 kwh

Laptop computer, 8 hrs per day: 0.64 kwh

Washing Machine 1 load per day: 0.4 kwh

Lighting for house: 0.5 kwh

Water Pump: 0.5 kwh

Misc.: 0.6 kwh

Total energy use per day: 8.7 kwh

From your system, this is close to 30% of your total storage in the batteries. This is just an estimate and could change in either direction in real world use. Misc., includes little things like tooth brushes and hair dryer usage and so forth. You lighting can be a big one since you have well over 120 light fixtures in the home. This will have to be monitored to get a better idea of use. As your system is designed for approximately a 30 kwh battery storage, this would allow for 3 days of no sunlight at all before complete rundown of system power. You should be able to go longer than that due to the type of solar panels you are using providing some power (typically 10%) on days with solid cloud cover. Of course this estimate cannot account for individual daily usage needs as people all have different needs but this should be close enough to allow for management of the system as needed.

Your system is basically 30 kilowatt hours of storage in the batteries with close to 6 kilowatts of solar power from the panels which should be enough on a clear day to fully charge your batteries if completely run down..... Lots of redundancy in multiple charge controllers and two inverters. You might want to purchase an extra unit of the charge controller and one inverter.