

Photovoltaic Solar Panels at the Forsyth Nature Center

I: Summary

The installation of a photovoltaic solar array at the Forsyth Nature Center (FNC) was a smooth operation that ran into very few issues. Everything went according to plan with few exceptions. Such obstacles were solved in the best way possible and are fully described in this write up. As of the construction completion on August 19th, 2012, the park has been using energy produced by this project during all daylight hours. A total of \$5323.93 was spent towards the park in donated supplies, supplies purchased with fundraised money, and excess funds which were presented to FNC as a check at the end of the project.

II: Fundraising

A)

Seeing that this project's expected cost was \$3205.96, fundraising was a huge part of the process. One of the ways I raised money was by sending out a generic solicitation letter to local businesses. The letter was sent to veterinarians and pet supply stores because the park is a home to so many animals. Twenty three letters were sent out, even though only 5 businesses replied; those who did were very generous, some donating over 200 dollars.

B)

The other fundraiser was my Spaghetti Dinner. The dinner was originally intended to be in January, but was moved to March 3rd to avoid

bad weather. The dinner included salad, iced tea or lemonade, Italian bread, spaghetti and meat balls, and an ice cream dessert. Tickets were 10 dollars each, 9 for seniors and kids, everyone under 5 was free.

I sold tickets to my Scout Troop, church, teachers, and other clubs I am involved with. My mother, being an active member of the Ulster Kiwanis suggested I went to them for help. I attended one of their weekly meetings and explained my cause, recruiting many and selling tickets to a few. Many people were unable to attend the dinner but were still interested in making a donation. 130 tickets were sold in advance, some sold as late as the night before the dinner.

I wrote another letter requesting food donations. I received support from Hannaford's, ShopRite, Sam's Club, Adam's Fairacre Farms, Pesce's Bakery, and Gillette Creamery. The Kiwanis had run a previous dinner and had left over uncooked spaghetti which they donated. Nine hours were spent shopping and meeting with managers explaining my cause. Only \$209.72 was spent out of previously fundraised money to buy food. Everything else was donated. The estimated cost of all food and cutlery was around 400 dollars.

On the night before the dinner, members of Kiwanis and I met in St. John's Episcopal Church's kitchen to prepare the sauce and meat balls. The

next day, Scouts met me at my church and helped me set up tables plates and silverware.

At 4:30 PM guests slowly started arriving and were seated to fill in tables. I stood at the door and greeted everyone and thanked them for coming. Matt Clark worked the door and ensured



everyone was paid for. There was always about 5 waiters, but volunteers came and left in the 2:30 time period. All Scouts and Scouters were in full uniform while working the dinner. The dinner quickly became busy, there was a line out the door. At the end of the night the total count between pre-orders, walk ins, and take-outs was 165 people. Everyone who helped received free dinner. Minimal leftovers were split between volunteers and kitchen supplies and dishes were cleaned by those who cooked, the other servers and I put away tables and chairs then swept. This process took about an hour.

The following chart shows specifically where all funding came from.

<u>Donator/Event</u>	<u>Date</u>	<u>Amount</u>
Ulster Animal Hospital	12/30/11	200
Kingston Kiwanis	1/4/12	200

Lucas Avenue Pet Supply	2/3/12	100
Hurley Veterinarian	2/25/12	200
St. John's Outreach Committee	3/1/12	250
Misc Donations from People	Various dates	689.75
William Marchetti	2/5/12	40
Mrs. Zale	2/15/12	25
St. John's ECW	2/16/13	25
Gellhaus	2/19/12	35
Dilnavaz Mirza	2/16/12	30
Tom Polk	2/25/12	40
Vagle	2/25/12	20
Allred	3/1/12	25
Fraude	3/3/12	30
Stoico	3/3/12	30
Mayor Gallo	3/3/12	30
Ticket Sales and donations at Dinner	3/3/12	1621- 209.72 = \$1411.28

Total amount raised: **\$ 3381.03**

III: The Final Plan

Due to successful fundraising, I decided to upgrade the photovoltaic solar array to consist of five panels instead of four. Upon making this decision, Dave Panico from Sunwize, who I have been working with since the writing of my proposal, informed me that they would donate all five solar panels.

With the panels being donated, I could afford to upgrade to a micro inverter by Apparent, with a higher compatibility range. While they are more expensive, a higher range allows operation earlier in the day and later at night to get the most use out of solar panels. By adding on an extra panel I had to order longer wood, and get a larger mounting unit.

Picking out the exact parts which were used was a tedious process which required correspondence with many companies. Me and Mr. Panico, met every Wednesday for an hour for 6 weeks in a row to refine the plan. This was done in Mr. Panico's office with numerous Sunwize employees around. My mom drove me to these meetings and waited outside in the car.

IV: Construction Day 1

4/1/12 1 Youth 1 Adult 2 Hours

Participants: Chris Hutton and John Hutton.

This day's goal was to dig a hole and pour concrete. The work would



only take about two hours so I did not seek a work crew and just worked with my dad. Using a long piece of scrap wood and a tape measure, we pinpointed the exact spot where the hole had to

be dug. Then we dug down to 24" and hit solid rock. We leveled the Sono-Tube poured in cement and leveled it again. Excess cement was poured around the base of the hole to help keep things in place. Dirt was filled in around the Sono-Tube and excess dirt was added to one of the park's various dirt piles. We covered the hole with a garbage bag and some rocks and allowed it to cure.

V: Construction Day 2

4/5/12 3 Youth 2 Adults 6 Hours

Participants: Chris Hutton, John Hutton, Mark Dedeo, Nick Akins, and Byron Krempf.

Two 2"x10"x20' pressure treated planks and a 6"x6"x10' pressure treated beam were delivered to the nature center on April 4th. The goal of this day was to complete all the wooden construction for the project. First we marked out on the wall where the beams would have to go. A hole was drilled through the wall to mark on the opposite side where the interior support beam would be placed. The wall turned out to be a lot thicker than we thought so we had to make a Herzog's run to get longer bolts. The interior beam was mounted at one point, leveled off then fully secured in place using lag screws. The exterior beam was cut to length and was surprisingly heavy. Scrap 2"x4" lumber, found in the barn, were used at an angle to hold the beam in place. With much effort the first hole was drilled

countersunk and a bolt was put through. The beam was then leveled and I drilled the remaining holes and put bolts in. Two bolts were placed vertical to each other every 16" until the end of the wall was met. Due to complications with too short bolts and difficulty drilling through the wall, only the top piece was put up on this date.

VI: Construction Day 3

4/7/12 3 Youth 2 Adults 4 Hours

Participants: Chris Hutton, John Hutton, Mark Dedeo, Nick Akins, and Byron Krempf.

The goal of this work day was to finish the wooden frame so the site would be ready for the Solar Mount. The position for the bottom parallel beam was marked and a hole was drilled. The interior support beam was then positioned and leveled. The exterior beam was then cut to length. Simply being able to have our feet on the ground made installing this beam much easier. Once the beam was leveled, the location of all holes were marked. We drilled all the holes first, then put in all the bolts to save time switching between tools.

After a quick pizza break, the 6"x6" was held in place on top of its bracket and it was marked to cut off the few extra inches of excess. The bracket was carefully placed, then secured using cement nails with

expanding anchors. Small wood screws were drilled in either side of the 6"x6". Using a ladder, holes were drilled through the top parallel beam and the 6"x6", the two were then bolted together. The same process was followed for the bottom parallel beam.



VII: Construction Day 4

4/28/12 2 Youth 2 Adults 2 Hours

Participants: Chris Hutton, Mark Dedeo, Paul Krempl, and Byron Krempl .

The goal of this work day was to fully install the Solar Mount™ mounting unit so the site of the project site would be ready to receive the solar panels and micro inverters. I also decided to put in a 45 degree support beam going from the building to the end of the top vertical plank. This was necessary because of the extra length with the 5th panel. The lumber used was left over from the other work days.





Installing the Solar Mount was as simple as following the instructions included with the unit. First the 6 wall brackets were strategically placed precisely where they were supposed to go. Next the

appropriate pair of rail and angled aluminum were attached to a high wall bracket, and the corresponding low wall bracket to create a triangle. This process was repeated three times until all pairs of corresponding vertical wall brackets and rail/angled aluminum combos were adequately positioned. Six brackets were bolted to the angled cross rail to support the horizontal main rails. The horizontal main rails were then lifted and bolted into place. Finally the underside stabilization rails were put in place. The Solar Mount was complete.



VIII: Construction Day 5

7/1/12 1 Youth 2 Adults 2 hours

Participants: Chris Hutton, Chris Jaffer, and John Hutton.

The goal of this work day was to run wires from the breaker box to the interior wall of the solar array so that the site is ready to receive power on the next work day. The electrician taught me about running electric cable through aluminum piping. An electrical breaker which was mounted to a venting fan which was no longer in use was swapped out for a new 20 amp 240v breaker, then pipe was run from the top of the breaker box over the ceiling, then down to a standing level on the inside wall. Finally, five wires were pulled through the pipe; one ground, two power in, and two power out. The site is now ready to be tied into the grid.



IX: Construction Day 6

7/8/12 2 Youth 4 Adults 5 Hours

Participants: Chris Hutton, George Muller, John Hutton, Chris Jaffer, and Luke Muller.

The goal of this work day was to mount and wire both the Photovoltaic solar panels and the Apparent micro inverters. The electrician began setting up grounding equipment. A grounding rod was placed next to the cement where the 6"x6" meets the ground, then a grounding wire runs up a pipe and stretches through the length of the Solar Mount.

Meanwhile the rest of us were carrying boxes of solar panels outside and removing the packaging. Bolts can only be attached to the rail from



either end so before anything was screwed in, 20 bolts were slipped into the top rail, and 10 on the bottom rail. The top rail requires more bolts because it supports each solar panel in two places, and it also houses the micro inverters.

Once all bolts were carefully placed, one person would get on a ladder under the solar mount, and two people would lift a solar panel to him so he could align the bolts. The 1st panel was to be flush with the end so it was tightened thoroughly. The 2nd and 4th panels were only made hand tight so they could be centered. The 3rd (center) panel was aligned with the exact middle of the rail, and the 5th panel was made flush with the far end of the rail. After the two outer and one middle panel were set, the 2nd and 4th panels were slightly adjusted so the space between all panels was even. Then the panels were bolted down tightly.



Once the panels were fixed, we began installing the micro inverters. The inverters were tricky to get into place. The ground screw would rest in the channel of the rail, so the entire inverter had to be lifted up and placed into the rail, it then had to be held there while bolted into place. This process was repeated for the five micro inverters.

Now the communications unit was screwed into place near the junction box. A hole was drilled through the wall underneath the upper

horizontal wooden beam to allow wires through. all the panels and inverters were wired together by fitting the plugs in the only way they could go, a monkey could do it! Inside, some wiring was done and finally it was time to flip the breaker and activate the panels. When the breaker was flipped nothing happened but a noise was heard resulting in the failure of all 5 micro inverters.

Under diagnostics it was determined that the inverters which only put out 120v included the wrong colored wire which implied a 240v connection. The mistake resulted in all the inverters getting destroyed; as unfortunate as this may seem, because of the success of my fundraising efforts, there was enough money to purchase 5 more micro inverters; a \$965.00 expense. After talking to the company, and learning that the damage was not covered by warrantee, I ordered 5 new micro inverters.

X: Construction Day 7

8/19/12 1 Youth 3 Adults 2 Hours

Participants: Chris Hutton, Chris Jaffer, John Hutton, and Anita Hutton.

The goal of this day was to swap in the replacement micro inverters and make the system functional. The old micro inverters were removed, and the new ones were put in, in the same fashion as previously described. The power lines were hooked up to a 20 amp breaker with a potential difference of 120v this time. The sun was just peeking through the clouds when it was

time to connect the array to the grid. Once doing so, an ammeter confirmed that the array was functional. A few minutes later, the sun was bright enough to have the solar panels produce more electric power than FNC was using. This caused the wheel on the electric meter to spin backwards and send electricity back into the grid.



XI: Work Hours

<u>Event</u>	<u>Date</u>	<u>My Hours</u>	<u>Number of youth</u>	<u>Total youth hours</u>	<u>Number of adults</u>	<u>Total adult hours</u>	<u>Total hours</u>
Soliciting	11/27/11	4	0	0	1	2	6
Dinner preparation	Various dates	12	0	0	3	10	22
Dinner	3/3/12	10	10	42.5	12	68.5	121
Meetings at Sunwize	Various Dates	6	0	0	1	6	12
Meeting electrician	3/17/12	1	0	0	2	2	3
WD 1	4/1/12	2	0	0	1	2	4
WD 2	4/5/12	6	2	12	2	12	30
WD 3	4/7/12	4	2	8	2	8	20
WD 4	4/28/12	2	1	2	2	4	8
WD 5	7/1/12	2	0	0	2	4	6
WD 6	7/8/12	5	1	5	4	20	30
WD 7	8/19/12	2	0	0	3	6	8
Writing proposal	MANY dates	55	0	0	3	5	60
Writing write up	8/21/12	7	0	0	2	7	14

Total: 344

XII: Expenditures**Money Paid to Sunwize: \$1,315.44**

Includes Solar Mount, communications unit 5 micro inverters and adapter cables.

Money Paid to Apparent Energy Inc: \$965.00

Includes 5 replacement micro inverters.

Where	Amount
Herzogs Home Center	\$238.18
Home Depot	\$64.03
Hannaford's	\$4.80
Savona's Pizza	\$32.39
Dunkin Donuts	\$23.18
Sunwize	\$1,315.44
Apparent	\$965.00

Total: \$2643.02

The remaining \$738.01 was given back to the park to go toward signs about this project and anything else the park may need.

Supplies used are as follows: (*italics* represents a donated product)

<i>Cement</i>	\$23.38	Solar Mount	
12" Sono-Tube		5 Sharp PV solar panels	\$1735.00
2 2"x10"x20' PT boards		10 Micro inverters	
6"x6"x10' PT beam		<i>Communications Unit</i>	\$90
16 1/2"x12" Carriage Bolts		10 conduit adapters	\$20
4 1/2"x5" lag screws		240v 20a breaker	\$11.75
4 1/2"x10" lag bolts		120v 20a breaker	\$5.94
20 1/2" washers		junction box	\$15.51
20 1/2" nuts		15' 1" aluminum piping	\$24.30
20 2" wood screws		75' wiring	\$16.05
2 cement nails		grommet	\$0.97
2 45 degree 2"x10" mounting brackets			

Total cost of donated supplies: \$1942.90**Actual cost of project: \$4585.92**

(If micro inverters weren't bought twice actual project cost would be \$3620.92)

Actual cost of project and money given back to FNC: \$5323.93

XIII: Conclusion

This Project was a huge success. The photovoltaic solar array is the first operational array at any Kingston owned property. Mark Dedeo, who runs the Forsyth Nature Center, is delighted and impressed with the project. He is sure it will be a major attraction of the park for years to come, while it provides green energy to the park and saves taxpayer dollars.

Carrying out this project has taken me a long way in my skills as a planner and a leader. Learning to overcome unexpected obstacles is a skill which I have acquired through completing this project. It has also helped me assert my authority when I am in charge of adults even if they try to take over. Having the help of my peers and family was a truly valuable asset. I also learned techniques in communications when contacting large companies with my needs and requesting funds from local businesses.

Dinner Receipts:

Dinner supplies Eagle Scout Hutton

Hannaford

CR. #1590 \$209.72

Hannaford Food & Drug
2 Schwenk Drive Kingston NY 12401
(845) 339-7460 - www.hannaford.com

GROCERY	
RONZONI HH SPAG	1.49 *
RONZONI HH SPAG	1.49 *
CHNT VAL DNNR PL	5.45
Tax Paid	
Sales Tax 8%	5.49 0.44
3 BALANCE DUE	8.91
VISA	8.91
[S] *****0005	
Auth# 446739 Ref# 975006490	
CHANGE	0.00

CASHIER NAME: Bonnie B
STORE:06040 REGISTER:004 CASHIER:0118
TICKET# 3392 1MAR2012 15:43:49
Thank you for shopping at
Kingston Plaza
Steve Needham Store Manager

Eagle

Walgreens

There's a way™
#06650 201 Plaza Rd
Kingston, NY 12401
845-331-2070

420 3688 0071 PM

PHOTOFINISHING 471867 1.68

SUBTOTAL 4.68
SALES TAX A=3.0% 0.37

TOTAL 5.05
VISA ACCT 00J5 5.05
CHANGE .00

PH# 0665-0713-6882-1203-0103

24 HOURS
THANK YOU
SAVE ON PRESCRIPTIONS BY JOINING
WALGREENS PRESCRIPTION SAVINGS CLUB
SEE PHARMACY FOR DETAILS

How are we doing?
Enter our monthly sweepstakes for
\$3,000 cash

WWW.TELLWAG.COM
or call toll free
1-800-763-0547
within 72 hours to take a short
survey about this Walgreens visit

SURVEY#
0665-0713-688

PASSWORD
2120-3010-316

For contest rules, see store or
WWW.TELLWAG.COM

Purchase: \$ 7.68

Master Card #XXXXXXXXXXXX9965
 Auth # 08063Z Exp Date **/**
 Lane # 05 Cashier # 101
 03/03/12 11:07 Ref/Seq # 058940
 Mrch=178805 Term=001 IC=CC
 EPS Sequence # 058940

ADAMS FAIRACRE FARM
 Fresh For Less
 1560 Ulster Avenue
 Lake Katrine, NY 12449
 845-336-6300

EQUAL O CLR SWEETNER \$2.69 F
 DOMINO SUGAR 5LB BAG \$4.99 F

BALANCE DUE \$7.68
 Master Card \$7.68
 [S] *****
 EXP. DATE: 00/2000
 Auth Code = 08063Z

SUB TOTAL \$7.68
 TOTAL TAX \$0.00
 TOTAL \$7.68

CHANGE \$0.00

CASHIER NAME: ZILDA, AM
 C0101 #0048 11:18:48 3MAR2012
 S00002 R005

Thank you for shopping with us.
 Mike Paesano - Manager

Visit us at www.AdamsFarms.com

ADAMS FAIRACRE FARM
 Fresh For Less
 1560 Ulster Avenue
 Lake Katrine, NY 12449
 845-336-6300

MEAT BULK RETAIL \$57.32 F
 ONIONS RED \$2.04 F
 2.06 lb @ \$0.99/ lb
 ANISE ~~\$2.99~~
 CUCUMBER REGULAR
 14 @ 2 FOR \$0.99 \$6.93 F
 BASIL FRESH \$3.99 F
 PARSLEY - ITALIAN
 4 @ \$0.79 EA \$3.16 F
 TOMATOES-RIPE CLUSTR
 1.12 lb @ \$0.99/ lb \$1.11 F

BALANCE DUE \$77.54
 Gift Cards \$35.00
 [S] *****0008073
 Auth Code = 000000
 Ending GC Bal. 0.00
 Master Card \$42.54
 [S] *****9965
 EXP. DATE: 00/2000
 Auth Code = 07222Z

SUB TOTAL \$77.54
 TOTAL TAX \$0.00
 TOTAL \$77.54

CHANGE \$0.00

ITEMS SOLD 7

0.00 CHANGE DUE
 41.25
 41.25
 02/29/12 15:26:00
 ACCOUNT # 9965
 APPROVAL # 067687

TERMINAL # 2506271
 SUBTOTAL 41.25
 E 424003 SLIDERS 7.88 N
 E 278194 5QT VAN PAI 5.48 N
 E 749608 ONIONS 10LB 4.48 N
 E 749734 CAR WHOLE 2.98 N
 E 963907 CROUTONS 4.98 N
 E 230251 OLIVE OIL 11.48 N
 E 385293 GARLIC 2 LB 3.97 N

HONDA OF KINGSTON
 THANK YOU,
 CLUB MANAGER LINWOOD SHANNON
 (845) 382-1320
 Fax and Pull # (845) 382-2050
 KINGSTON, NY
 02/29/12 15:25 7855 6201 011 2076
 MEMBER 101 *****7291

Savings Made Simple



Dinner



Savings Made Simple

CLUB MANAGER LINWOOD SHANNON
 (845) 382-1320
 Fax and Pull # (845) 382-2050
 KINGSTON, NY

03/02/12 14:39 1547 6201 013 2040
 MEMBER 101-*****7291

THANK YOU,
 HONDA OF KINGSTON

E 254420 SHRD ROMAINE	2.98	N
E 254420 SHRD ROMAINE	2.98	N
E 901973 SALAD	1.97	N
E 901973 SALAD	1.97	N
E 901973 SALAD	1.97	N
E 901973 SALAD	1.97	N
E 901973 SALAD	1.97	N
E 901973 SALAD	1.97	N
E 901973 SALAD	1.97	N
E 11256 WHIP TOPPING	7.58	N
SUBTOTAL		25.36

TERMINAL # 07000353
 02/27/12 14:40:07

TOTAL 25.36
 MCARD TEND 25.36
 ACCOUNT # 9965
 APPROVAL # 001327
 CHANGE DUE 0.00

ITEMS SOLD 9



Savings Made Simple

CLUB MANAGER LINWOOD SHANNON
(845) 382 - 1320
Fax and Pull # (845)382-2050
KINGSTON, NY

03/02/12 19:30 3687 6201 008 2092

W MEMBER 101-*****7291

THANK YOU,
HONDA OF KINGSTON

E 290642 BEEF 17.05 N
SUBTOTAL 17.05

TERMINAL # 168-122-

03/02/12 19:30:26

TOTAL 17.05
MCARD TEND 17.05

ACCOUNT # 9965

APPROVAL # 007332

CHANGE DUE 0.00

ITEMS SOLD 1



Savings Made Simple

CLUB MANAGER LINWOOD SHANNON
(845) 382 - 1320
Fax and Pull # (845)382-2050
KINGSTON, NY

02/25/12 15:23 1275 6201 013 2110

W MEMBER 101-*****7291

THANK YOU,
HONDA OF KINGSTON

E 734690 CHERRIES 6.88 N
615043 CHINET PLATE 16.98 I
I 141256 WHIP TOPPING 7.50 N
309203 BOWL 300 CI 8.32 I
SUBTOTAL 39.76

TERMINAL # 07000353

02/25/12 15:24:33

TAX 1 8.000 % 2.02
TOTAL 41.78

SHOPPING CARD TEND 25.00
MCARD TEND 16.78

ACCOUNT # 9962

APPROVAL # 027942

CHANGE DUE 0.00

SHOP CARD REDEMPTION 25.00

ACCOUNT 60/193501906

APPR. CODE = 432867

REF #0653802

beg Bal Iran Amt End Bal
25.00 25.00 0.00

02/25/12 15:24:11

ITEMS SOLD 4

Workday Receipts:



Hannaford Food & Drug
2 Schwenk Drive Kingston NY 12401
(845) 339-7480 - www.hannaford.com

GROCERY		
NPLC 24PK .5 LTR WAT	3.33	A *
MISC		
BOTTLE DEPOSIT	1.20	*
Tax Paid		
Sales Tax 8%	3.33	0.27
1 BALANCE DUE	4.80	
MasterCard	4.80	
[S] *****3416		
Auth# 02402Z Ref# 985794273		

CHANGE 0.00

Take part in the
Tell Hannaford Survey
and be entered in a
\$2000 Sweepstakes
NO PURCHASE NECESSARY
Call 1-877-714-0597
or go online:
www.TalkToHannaford.com
Must take survey within 5 days.
For details see sweepstakes rules
in store or on website.
PIN: 0405834030041475

CASHIER NAME: Michelle E.
STORE:08340 REGISTER:004 CASHIER:0128
TICKET#:1475 5APR2012 11:20:33
Thank you for shopping at
Kingston Plaza
Steve Needham Store Manager

Savona's Plaza Pizza
312 Plaza Drive
Kingston, NY 12401
(845)331-4451

MASTERCARD	:	AUTH
CARD #	:	XXXXXXXXXXXX3416
EXP	:	XX/XX
DATE	:	04/05/12
TIME	:	12:42:53 PM
APPROVED	:	07566Z
SERVER ID	:	597
TICKET ID	:	1516030
TILL #	:	991

AMOUNT	:	\$ 32.39
TIP AMOUNT	:	_____
TOTAL	:	_____

SIGN X _____
HUTTON/ANITA
I AGREE TO PAY ABOVE TOTAL AMOUNT
ACCORDING TO CARD ISSUER AGREEMENT
THANK YOU
PLEASE COME AGAIN



More saving. More doing.™

1122 ULSTER AVENUE, KINGSTON, NY 12401
STORE MGR KATHY BOLLIN 845-336-4575

1227 00014 38258 04/28/12 03:26 PM
CASHIER MONICA - MJF30X
* ORIG REC: 1227 057 95182 04/28/12 TA *

764666528321 PTN114S1 -8.47
764666528642 PTN4S1 -8.47

SUBTOTAL -16.94
SALES TAX -1.36
TOTAL \$-18.30

XXXXXXXXXXXX3416 MASTERCARD -18.30
INVOICE 1140605 TA

REFUND-CUSTOMER COPY

BUY ONLINE PICK-UP IN STORE
AVAILABLE NOW ON HOMEDEPOT.COM.
CONVENIENT, EASY AND MOST ORDERS
READY IN LESS THAN 2 HOURS!

ENTER FOR A CHANCE
TO WIN A \$5,000
HOME DEPOT GIFT
CARD!

Share Your Opinion With Us! Complete
the brief survey about your store visit
and enter for a chance to win at:

www.homedepot.com/opinion

COMPARTA SU OPINION EN
UNA BREVE
ENCUESTA PARA LA OPORT
UNIDAD DE GANAR.

User ID:
78032 76819

Password:
12228 76805

Entries must be entered by 05/28/2012.
Entrants must be 18 or older to enter.
See complete rules on website. No
purchase necessary.



More saving. More doing.™

1122 ULSTER AVENUE, KINGSTON, NY 12401
STORE MGR KATHY BOLLIN 845-336-4575

1227 00057 95182 04/28/12 11:02 AM
CASHIER SELF CHECK OUT - SCOT57

764666528642 PTN4S1 <A> 8.47
4" PG + 10 EXTERIOR SCREW 1 LB
764666528321 PTN114S1 <A> 8.47
1-1/4" PG + 10 EXTERIOR SCREW 1 LB
707392523406 JOIST HGR <A> 13.98
SUL210Z JOIST HANGER SKEWED LEFT
707392375906 JOIST HGR <A> 13.98
SUR210Z 2X10 SKEWED JOIST HANGER

SUBTOTAL 44.90

SALES TAX 3.59

TOTAL \$48.49

XXXXXXXXXXXX3416 MASTERCARD 48.49
AUTH CODE 09308Z/1570395 TA



1227 57 95182 04/28/2012 4302

RETURN POLICY DEFINITIONS

POLICY ID DAYS POLICY EXPIRES ON
A 1 90 07/27/2012

THE HOME DEPOT RESERVES THE RIGHT TO
LIMIT / DENY RETURNS. PLEASE SEE THE
RETURN POLICY SIGN IN STORES FOR
DETAILS.

BUY ONLINE PICK-UP IN STORE
AVAILABLE NOW ON HOMEDEPOT.COM.
CONVENIENT, EASY AND MOST ORDERS
READY IN LESS THAN 2 HOURS!

ENTER FOR A CHANCE
TO WIN A \$5,000
HOME DEPOT GIFT
CARD!

Share Your Opinion With Us! Complete
the brief survey about your store visit
and enter for a chance to win at:

www.homedepot.com/opinion

COMPARTA SU OPINION EN
UNA BREVE
ENCUESTA PARA LA OPORT
UNIDAD DE GANAR.

User ID:
191880 190710

Password:
12228 190653

Entries must be entered by 05/28/2012.
Entrants must be 18 or older to enter.
See complete rules on website. No
purchase necessary.



More saving.
More doing.™

1122 ULSTER AVENUE, KINGSTON, NY 12401
STORE MGR KATHY BOLLIN 845-336-4575

1227 00007 72020 04/05/12 11:13 AM
CASHIER SANDRA - SJ099B

092097501010 WEDGE ANCHOR <A> 4.65
WEDGE ANCHOR 3/4X5-1/2, SGL CT
044315671906 ZMAX 6X6 <A> 19.98
ABA66Z 6 6 STANDOFF POST BASE Z-MAX

SUBTOTAL 24.63
SALES TAX 1.97
TOTAL \$26.60
XXXXXXXXXXXX3416 MASTERCARD 26.60
AUTH CODE 02506Z/4077809 TA



1227 07 72020 04/05/2012 9710

RETURN POLICY DEFINITIONS
POLICY ID DAYS POLICY EXPIRES ON
A 1 90 07/04/2012

THE HOME DEPOT RESERVES THE RIGHT TO
LIMIT / DENY RETURNS. PLEASE SEE THE
RETURN POLICY SIGN IN STORES FOR
DETAILS.

BUY ONLINE PICK-UP IN STORE
AVAILABLE NOW ON HOMEDEPOT.COM.
CONVENIENT, EASY AND MOST ORDERS
READY IN LESS THAN 2 HOURS!

ENTER FOR A CHANCE
TO WIN A \$5,000
HOME DEPOT GIFT
CARD!

Share Your Opinion With Us! Complete
the brief survey about your store visit
and enter for a chance to win at:

www.homedepot.com/opinion

COMPARTA SU OPINION EN
UNA BREVE
ENCUESTA PARA LA OPORT
UNIDAD DE GANAR.

User ID:
145556 144336

Password:
12205 144329

Entries must be entered by 05/05/2012.
Entrants must be 18 or older to enter.
See complete rules on website. No
purchase necessary.

PAGE NO: 1

HERZOG SUPPLY COMPANY
P.O. BOX 3328
KINGSTON, NY 12402
FAX(845)338-6286
PHONE: (845) 338-6300

VISIT THE HERZOG'S CLEARANCE CENTER
 AND SEE THE GREAT ROCK BOTTOM DEALS !!

CUSTOMER NO: *5 JOB NO: 000 PURCHASE ORDER: REFERENCE: TERMS: CASH/CHECK/BANKCARD CLERK: TRB DATE / TIME: 4/9/12 10:32

TERMINAL: 562

SHIP TO: HUTTON/ANITA

SOLD TO: ***** CASH *****

SALESPERSON: TAX: 001 NEW YORK STATE SALES

INVOICE: J66036/1

SHIPPED	ORDERED	UM	SKU	DESCRIPTION	SUGG	UNITS	PRICE /EA	EXTENSION
4	4	EA	HILMISC	HILLMAN MISC	3.59	4	3.23 /EA	12.92 P
4	4	EA	HILMISC	HILLMAN MISC	0.40	4	0.36 /EA	1.44 P
4	4	EA	HILMISC	HILLMAN MISC	0.30	4	0.27 /EA	1.08 P

TAXABLE 15.44
 NON-TAXABLE 0.00
 ** PAID IN FULL **

SUB-TOTAL	16.68	15.44
SUB-TOTAL	16.68	15.44
TAX AMOUNT	1.24	
TOTAL AMOUNT	16.68	15.44

BANKCARD PAYMENT
 BKCRD# XXXXXXXXXXXXXXX3416
 MID: 300000121355


 Received By

APP: 07747Z XR: 966036

PAGE NO: 1

HERZOG SUPPLY COMPANY
P.O. BOX 3328
KINGSTON, NY 12402
FAX(845)338-6286
PHONE: (845) 338-6300

VISIT THE HERZOG'S CLEARANCE CENTER
 AND SEE THE GREAT ROCK BOTTOM DEALS !!

CUSTOMER NO: *93 JOB NO: 000 PURCHASE ORDER: REFERENCE: CLERK: GT DATE / TIME: 4/5/12 10:25
 SOLD TO: QUOTE CUSTOMERS SHIP TO: QUOTE CUSTOMERS TERMS: CASH SALESPERSON: TAX: 001 NEW YORK STATE SALES TERMINAL: 562

INVOICE: J63443/1

SHIPPED	ORDERED	UM	SKU	DESCRIPTION	SUGG	UNITS	PRICE	/PER	EXTENSION
8	8	EA	HILMISC	8" BOLTS	2.49	8	2.49	/EA	19.92
22	22	EA	HILMISC	WASHERS	0.23	22	0.23	/EA	5.06
8	8	EA	HILMISC	1/2 BOLT	0.30	8	0.30	/EA	2.40
6	6	EA	HILMISC	BOLTS	1.69	6	1.69	/EA	10.14

TAXABLE 37.52
 NON-TAXABLE 0.00
**** PAID IN FULL ****

SUB-TOTAL	40.52	37.52
SUB-TOTAL	40.52	37.52
TAX AMOUNT		3.00
TOTAL AMOUNT		40.52

BANKCARD PAYMENT
 BKCRD# XXXXXXXXXXXXXXX3416
 MID: 300000121355

X [Signature]
 Received By

APP: 06367Z XR: 963443

PAGE NO: 1

HERZOG SUPPLY COMPANY
P.O. BOX 3328
KINGSTON, NY 12402
FAX(845)338-6286
PHONE: (845) 338-6300

VISIT THE HERZOG'S CLEARANCE CENTER
 AND SEE THE GREAT ROCK BOTTOM DEALS !!

CUSTOMER NO: *93 JOB NO: 000 PURCHASE ORDER: REFERENCE: SHIP TO: QUOTE CUSTOMERS SOLD TO: QUOTE CUSTOMERS

CLERK: DM DATE/TIME: 4/5/12 2:38 TERMS: CASH SALESPERSON: TAX: 001 NEW YORK STATE SALES TERMINAL: 554

INVOICE: J64019/1

SHIPPED	ORDERED	UM	SKU	DESCRIPTION	SUGG	UNITS	PRICE /PER	EXTENSION
14	14	EA	HILMISC	CARR BOLTS	3.59	14	3.05 /EA	42.73 P
14	14	EA	HILMISC	WASHERS	0.40	14	0.34 /EA	4.76 P

TAXABLE 47.49
 NON-TAXABLE 0.00
**** PAID IN FULL ****

SUB-TOTAL	51.29	47.49
SUB-TOTAL	51.29	47.49
TAX AMOUNT		3.80
TOTAL AMOUNT		51.29

BANKCARD PAYMENT
 BKCRD# XXXXXXXXXXXXX3416
 MID: 300000121355

X [Signature]
 Received By

APP: 05095Z XR: 964019

PAGE NO: 1

HERZOG SUPPLY COMPANY
P.O. BOX 3328
KINGSTON, NY 12402
FAX(845)338-6286
PHONE: (845) 338-6300

VISIT THE HERZOG'S CLEARANCE CENTER
 AND SEE THE GREAT ROCK BOTTOM DEALS !!

DATE / TIME: 4/5/12 1:09

CLERK: GT

TERMINAL: 562

TERMS: CASH

SHIP TO: QUOTE CUSTOMERS

SOLD TO: QUOTE CUSTOMERS

CUSTOMER NO: *93
 JOB NO: 000
 PURCHASE ORDER: 000

SALESPERSON: TAX: 001 NEW YORK STATE SALES

INVOICE: J63905/1

SHIPPED	ORDERED	UMI	SKU	DESCRIPTION	SUGG	UNITS	PRICE	/PER	EXTENSION
6	6	EA	HILMISC	BOLTS	2.49	6	2.49	/EA	14.94
6	6	EA	HILMISC	NUTS	0.30	6	0.30	/EA	1.80
12	12	EA	HILMISC	WASHERS	0.23	12	0.23	/EA	2.76

TAXABLE 19.50
 NON-TAXABLE 0.00
 ** PAID IN FULL **

SUB-TOTAL	21.06	19.50
SUB-TOTAL	21.06	19.50
TAX AMOUNT		1.56
TOTAL AMOUNT		21.06

BANKCARD PAYMENT
 BKCRD# XXXXXXXXXXXXX3416
 MID: 300000121355

XPR JH
 Received By

APP: 00128Z XR: 963905

PAGE NO: 1

HERZOG SUPPLY COMPANY
P.O. BOX 3328
KINGSTON, NY 12402
FAX(845)338-6286
PHONE: (845) 338-6300

VISIT THE HERZOG'S CLEARANCE CENTER
 AND SEE THE GREAT ROCK BOTTOM DEALS !!

CUSTOMER NO: 138280 JOB NO: 000 PURCHASE ORDER: REFERENCE: TERMS: 30 DAYS CLERK: SJM DATE/TIME: 3/30/12 5:57
 SOLD TO: KINGSTON NY 12401 SHIP TO: FORSYTHE NATURE CENTER GO THRU STADIUM TO BARN RESALE-NO: NEW P SALESPERSON: TAX: 001 NEW YORK STATE SALES TERMINAL: 595

INVOICE: J60201/1

SHIPPED	ORDERED	UM	SKU	DESCRIPTION	SUGG	UNITS	PRICE /PER	EXTENSION
3	3	EA	OSM2X10X20	2X10X20 PT SYP #2 OR BTR.	25.39	3	22.43 /EA	67.29 *
1	1	EA	OSM6X6X10	6 X 6 X 10 OSMOSE TREATED K33 NO DELIVERY FEE PER MAC FOR EAGLE SCOUT PROJECT	21.99	1	19.81 /EA	19.81 *

TAXABLE 87.10
 NON-TAXABLE 0.00
 ** PAID IN FULL **

SUB-TOTAL	94.07	87.10
SUB-TOTAL	94.07	87.10
TAX AMOUNT		6.97
TOTAL AMOUNT		94.07

BANKCARD PAYMENT
 BKCRD# XXXXXXXXXXXX1009
 MID: 300000121355
 APP: 4129
 (CHRIS HUTTON)

xPhone Transaction
 Received By

PAGE NO: 1

HERZOG SUPPLY COMPANY
P.O. BOX 3328
KINGSTON, NY 12402
FAX(845)338-6286
PHONE: (845) 338-6300

VISIT THE HERZOG'S CLEARANCE CENTER
 AND SEE THE GREAT ROCK BOTTOM DEALS !!

CHRIS
EAGLE

CUSTOMER NO: *93 JOB NO: 000 PURCHASE ORDER: REFERENCE: BOY SCOUT PROJECT CLERK: MJK DATE / TIME: 4/1/12 1:01
 SOLD TO: QUOTE CUSTOMERS SHIP TO: QUOTE CUSTOMERS TERMS: CASH SALESPERSON: TAX: 001 NEW YORK STATE SALES TERMINAL: 562

INVOICE: J60838/1

SHIPPED	ORDERED	UM	SKU	DESCRIPTION	SUGG	UNITS	PRICE /PER	EXTENSION
1	1	EA	SON124	12"X 4'SONOCO CONSTRUCTION TUBE	9.19	1	7.45 /EA	7.45 *

TAXABLE 7.45
 NON-TAXABLE 0.00
 ** PAID IN FULL **

SUB-TOTAL	8.05	7.45
SUB-TOTAL	8.05	7.45
TAX AMOUNT		0.60
TOTAL AMOUNT		8.05

BANKCARD PAYMENT
 BKCRD# XXXXXXXXXXXXX3416
 MID: 300000121355

X M J
 Received By

APP: 01669Z XR: 960838



Sales Invoice

Invoice # SunWize 7192012-01
Date 7/19/2012

Apparent Energy Inc.

7428 Redwood Blvd
Suite 102
Novato, CA 94945
(415) 892-3182

TO SunWize Technologies Inc.
Attn: Dave Panico
Tel. 845-336-0146

SHIP TO SunWize Technologies Inc.
1155 Flatbush Road
Kingston, NY 12401-7011

salesperson	job	shipping	ship date	payment terms
BW	SunWize	Ground	upon payment	100% on ship date

qty	item #	description	unit price	line total
5	MGI220-MC4	Micro Inverter w/ locking DC <i>Pd. 7/27/12 chk. # 1659</i>	\$180.00	\$900.00

Subtotal	\$900.00
Sales Tax	
Shipping and Duties	\$65.00
Total	\$965.00

Address Purchase Orders to Apparent Energy Inc.
Thank you for your business!

Welcome to Dunkin' Donuts
Store #308493
295 Wall St., Kingston
7/8/12 8:04:38 AM

Eat In
Order Number: 556

Register:1 Tran Seq No: 925556
Cashier:Qwanisha G.

1 Bx Joe Orig Blnd	14.99
1 12 Donuts	6.99
Sub. Total:	\$21.98
Tax:	\$1.20
Total:	\$23.18
Discount Total:	\$0.00
Change	\$0.00
Master Card:	\$23.18

HEY AMERICA!

WANT A FREE DONUT WHEN YOU PURCHASE A MEDIUM OR LARGER BEVERAGE?
Go to www.telldunkin.com on your computer or mobile device in the next 3 days and tell us about your visit.

Te invitamos a participar en nuestra encuesta.

Survey Code: 55601-08493-0807-0829

Enter Validation Code: _____
Bring receipt with code to redeem offer.
Visit DunkinDonuts.com for redemption restrictions.
Franchisee: Please use PLU #201

Thank You, Come Back Again
Store Phone# 845-339-0794 Customer Care#
dunkindonutsgroup@yahoo.com



**More saving.
More doing.™**

1122 ULSTER AVENUE, KINGSTON, NY 12401
STORE MGR KATHY BOLLIN 845-336-4575

1227 00007 34285 07/07/12 02:07 PM
CASHIER MACKENZIE - MJM2490

AFB	CARR BOLT <A>	
	5/16-18"x1" CARRIAGE BOLT ZP<AFB>	5.10
3090.17		
436985	5/16HEXNUTSS <A>	
	HEX NUT S.S.5/16	1.60
590.32		

	SUBTOTAL	6.70
	SALES TAX	0.54
	TOTAL	\$7.24
XXXXXXXXXXXX3416	MASTERCARD	7.24
AUTH CODE 073072/1074468		TA



1227 07 34285 07/07/2012 0016

RETURN POLICY DEFINITIONS		
POLICY ID	DAYS	POLICY EXPIRES ON
A	1	90 10/05/2012

THE HOME DEPOT RESERVES THE RIGHT TO LIMIT / DENY RETURNS. PLEASE SEE THE RETURN POLICY SIGN IN STORES FOR DETAILS.

BUY ONLINE PICK-UP IN STORE AVAILABLE NOW ON HOMEDEPOT.COM. CONVENIENT, EASY AND MOST ORDERS READY, IN LESS THAN 2 HOURS!

ENTER FOR A CHANCE TO WIN A \$5,000 HOME DEPOT GIFT CARD!

Share Your Opinion With Us! Complete the brief survey about your store visit and enter for a chance to win at:

www.homedepot.com/opinion

COMPARTA SU OPINION EN UNA BREVE ENCUESTA PARA LA OPORTUNIDAD DE GANAR.

User ID:
70086 68866

Password:
12357 68859

Entries must be entered by 08/06/2012.
Entrants must be 18 or older to enter.
See complete rules on website. No purchase necessary.

PAGE NO: 1

HERZOG SUPPLY COMPANY
 P.O. BOX 3328
 KINGSTON, NY 12402
 FAX(845)338-6286
 PHONE: (845) 338-6300

VISIT THE HERZOG'S CLEARANCE CENTER
 AND SEE THE GREAT ROCK BOTTOM DEALS !!

CUSTOMER NO: *93 JOB NO: 000 PURCHASE ORDER: REFERENCE: SOLD TO: QUOTE CUSTOMERS SHIP TO: QUOTE CUSTOMERS TERMS: CASH CLERK: JMR DATE / TIME: 7/8/12 10:24 TERMINAL: 590

SALESPERSON: TAX: 001 NEW YORK STATE SALES

INVOICE: A34594/1

SHIPPED	ORDERED	UM	SKU	DESCRIPTION	SUGG	UNITS	PRICE	/PER	EXTENSION
1	1	EA	810176	46-315UJB 100PK 14"BLK Cable Tie	16.99	1	15.29	/EA	15.29

TAXABLE 15.29
 NON-TAXABLE 0.00
 ** PAID IN FULL **

SUB-TOTAL	15.29
SUB-TOTAL	15.29
TAX AMOUNT	1.22
TOTAL AMOUNT	16.51

CHECK PAYMENT
 CK# 6129

paid - 7/27/12
ck. # 1657

X _____
 Received By