

Appendix A

Figure 1

SOIL LOG			
CLIENT:	Renuka Hospitality, LLC		
LOT LOCATION:	Block 189, Lots 1 & 2 Absecon, New Jersey		
SAMPLING LOCATION:	SP#10		
DATE:	20 August 2007		
LOG BY:	Jancann Armbruster P-07131		
Depth Inches	Color	Unified Classif.	Description
0 - 10	10YR 6/6, brownish yellow	SP/SM	Loamy sand (III), 20% gravel
10 - 18	10YR 3/2, very dark grayish brown	SP/SM	Loamy sand
18 - 44	10YR 5/8, yellowish brown	SM	Sandy loam
44 - 74	10YR 6/6, brownish yellow	SP	Sand-coarse
74 - 107	10YR 6/4, light yellowish brown w/ 10YR 6/6, brownish yellow & 10YR 7/1, light gray mottles	SP	Sand-coarse
107 - 120	10YR 7/4, very pale brown w/ 10YR 6/6, brownish yellow & 10YR 8/1, white mottles	SP	Sand-coarse
Estimated seasonally high water table at: 74 inches Estimated actual water table at: >120 inches. Permeability test: Depth of test: 18 - 44 inches Permeability rate: 7.5 in/hr			

APPROXIMATE GRADE ELEVATION= 20.5'
APPROXIMATE HIGH WATER TABLE ELEVATION= 10.5'
SEASONAL HIGH WATER TABLE ELEVATION= 14.3'

SOIL LOG			
CLIENT:	Renuka Hospitality, LLC		
LOT LOCATION:	Block 189, Lots 1 & 2 Absecon, New Jersey		
SAMPLING LOCATION:	SP#11		
DATE:	20 August 2007		
LOG BY:	Jancann Armbruster P-07131		
Depth Inches	Color	Unified Classif.	Description
0 - 3	10YR 3/2, very dark grayish brown	SP/SM	Loamy sand
3 - 24	10YR 5/4, yellowish brown	SP/SM	Loamy sand, 20% gravel
24 - 46	10YR 5/8, yellowish brown	SP/SM	Loamy sand, 10% gravel
46 - 77	10YR 6/4, light yellowish brown w/ 10YR 5/8, yellowish brown lamellae	SP	Sand-med
77 - 123	10YR 6/4, light yellowish brown w/ 10YR 5/6, yellowish brown & 10YR 7/2, light gray mottles	SP	Sand-med
Estimated seasonally high water table at: 77 inches Estimated actual water table at: >123 inches. Permeability test: Depth of test: 24 - 46 inches Permeability rate: 17.1 in/hr			

APPROXIMATE GRADE ELEVATION= 18.5'
APPROXIMATE HIGH WATER TABLE ELEVATION= 8.2'
SEASONAL HIGH WATER TABLE ELEVATION= 12.1'

SOIL LOG			
CLIENT:	Renuka Hospitality, LLC		
LOT LOCATION:	Block 189, Lots 1 & 2 Absecon, New Jersey		
SAMPLING LOCATION:	SP#12		
DATE:	20 August 2007		
LOG BY:	Jancann Armbruster P-07131		
Depth Inches	Color	Unified Classif.	Description
0 - 3	10YR 3/2, very dark grayish brown	SP/SM	Loamy sand
3 - 25	10YR 5/8, yellowish brown	SM	Sandy loam, 20% gravel
25 - 36	10YR 6/6, brownish yellow	SP/SM	Loamy sand
36 - 45	10YR 6/4, light yellowish brown	SP	Sand-med
45 - 74	10YR 6/4, light yellowish brown w/ 10YR 5/8, yellowish brown lamellae	SP	Sand-med
74 - 122	10YR 7/4, very pale brown w/ 10YR 6/8, brownish yellow & 10YR 7/1, light gray mottles	SP	Sand-med/coarse
Estimated seasonally high water table at: 74 inches Estimated actual water table at: >122 inches. Permeability test: Depth of test: 25-36 inches Permeability rate: 16.5 in/hr			

APPROXIMATE GRADE ELEVATION= 17.2'
APPROXIMATE HIGH WATER TABLE ELEVATION= 7.0'
SEASONAL HIGH WATER TABLE ELEVATION= 11.0'

SOIL LOG			
CLIENT:	Renuka Hospitality, LLC		
LOT LOCATION:	Block 189, Lots 1 & 2 Absecon, New Jersey		
SAMPLING LOCATION:	SP#13		
DATE:	20 August 2007		
LOG BY:	Jancann Armbruster P-07131		
Depth Inches	Color	Unified Classif.	Description
0 - 4	10YR 7/1, light gray	SP	Sand-fine
4 - 30	10YR 5/6, yellowish brown	SP/SM	Loamy sand, 10% gravel
30 - 44	10YR 6/8, brownish yellow	SP/SM	Loamy sand/Sand
44 - 71	10YR 6/4, light yellowish brown w/ 10YR 6/8, brownish yellow lamellae	SP	Sand-fine
71 - 124	10YR 7/4, very pale brown w/ 7.5YR 6/8, reddish yellow & 10YR 7/1, light gray mottles	SP	Sand-med
Estimated seasonally high water table at: 71 inches Estimated actual water table at: >124 inches. Permeability test: Depth of test: 4 - 30 inches Permeability rate: 15.9 in/hr			
ARMBRUSTER ENVIRONMENTAL - 607 Biscayne Avenue, Collingwood, NJ 08205			

APPROXIMATE GRADE ELEVATION= 19.7'
APPROXIMATE HIGH WATER TABLE ELEVATION= 9.4'
SEASONAL HIGH WATER TABLE ELEVATION= 13.8'

Figure 2

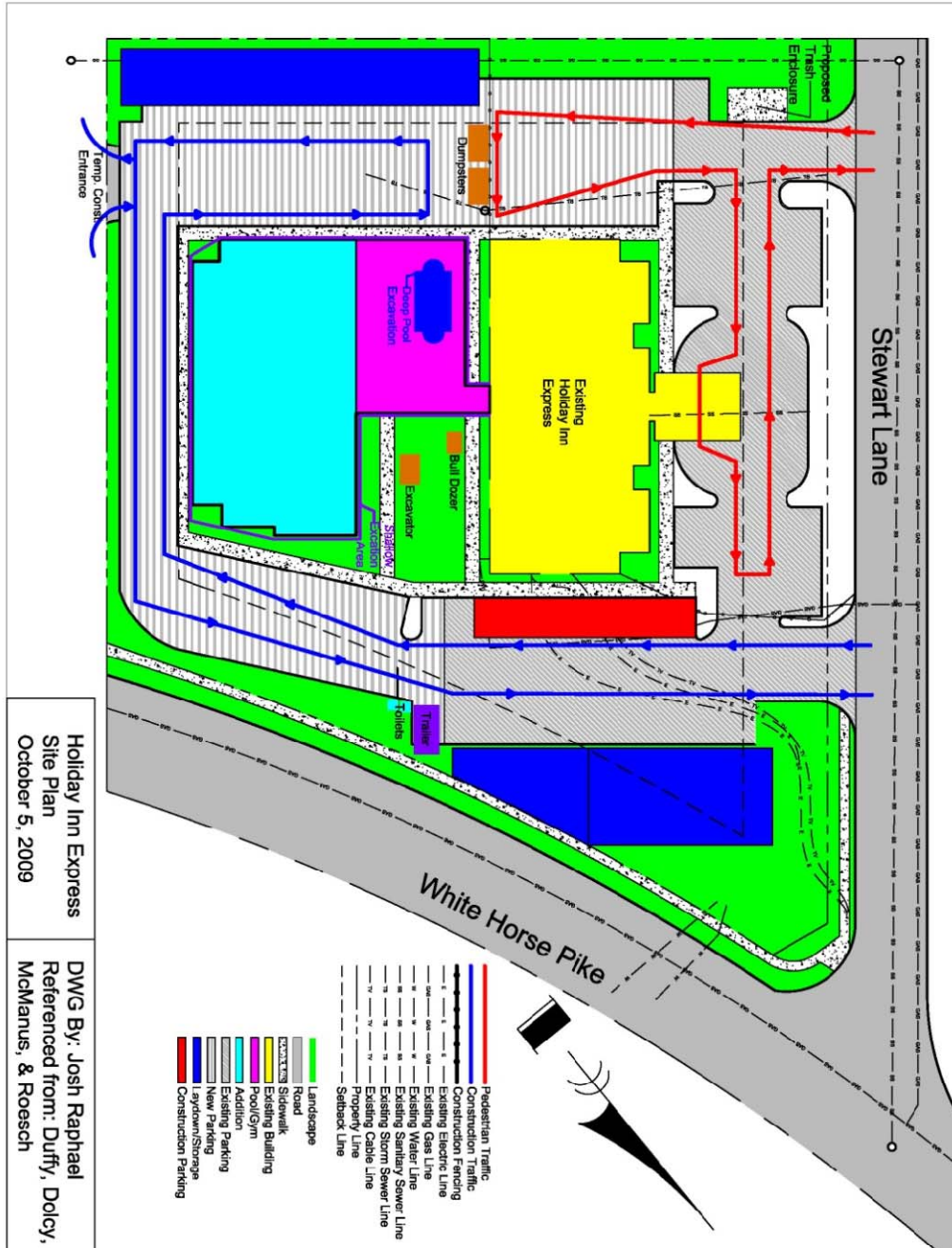


Figure 4

Thursday, October 1, 2009

Statement of Probable Cost

HIE - Apr 2010 - NJ - Atlantic City

Prepared By:

Prepared For:

Building Sq. Size: 27355
 Bid Date: 3/26/2009
 No. of floors: 3
 No. of buildings: 1
 Project Height: 40
 1st Floor Height: 10
 1st Floor Size: 11391

Site Sq. Size: 123048
 Building use:
 Foundation:
 Exterior Walls:
 Interior Walls:
 Roof Type:
 Floor Type:
 Project Type:

Division		Percent	Sq. Cost	Amount
00	Bidding Requirements	3.56	4.60	125,863
	Bidding Requirements	3.56	4.60	125,863
01	General Requirements	5.19	6.70	183,350
	General Requirements	5.19	6.70	183,350
02	Site Work	8.11	10.47	286,309
	Site Work	8.11	10.47	286,309
03	Concrete	12.61	16.28	445,284
	Concrete	12.61	16.28	445,284
04	Masonry	4.39	5.66	154,916
	Masonry	4.39	5.66	154,916
05	Metals	2.19	2.82	77,272
	Metals	2.19	2.82	77,272
06	Wood & Plastics	8.84	11.42	312,278
	Wood & Plastics	8.84	11.42	312,278
07	Thermal & Moisture Protection	4.65	6.00	164,170
	Thermal & Moisture Protection	4.65	6.00	164,170
08	Doors & Windows	5.57	7.19	196,701
	Doors & Windows	5.57	7.19	196,701
09	Finishes	15.81	20.41	558,377
	Finishes	15.81	20.41	558,377
10	Specialties	0.99	1.27	34,802
	Specialties	0.99	1.27	34,802
11	Equipment	1.40	1.81	49,609
	Equipment	1.40	1.81	49,609
12	Furnishings	3.99	5.16	141,088
	Furnishings	3.99	5.16	141,088
13	Special Construction	0.93	1.21	32,972
	Special Construction	0.93	1.21	32,972
14	Conveying Systems	1.02	1.31	35,964
	Conveying Systems	1.02	1.31	35,964
15	Mechanical	13.24	17.09	467,554
	Mechanical	13.24	17.09	467,554
16	Electrical	7.53	9.72	265,855
	Electrical	7.53	9.72	265,855
Total Building Costs		100.00	129.13	3,532,364

Figure 5

Structural Steel							
	Quantity	Unit	Mat. Cost	Labor Cost	Equip. Cost	Total Unit Cost	Total
Columns							
4" x 4" x 3/16" x 12'	5	LF	248	42	30	320	1600
5" x 5" x 1/4" x 12'	15	LF	326.5	43.5	31	401	6015
W10 x 68	20	LF	112	2.48	1.77	116.25	2325
Beams							
W12 x 22	14	LF	36.5	2.77	1.98	41.25	577.5
W12 x 26	44	LF	43	2.77	1.98	47.75	2101
W14 x 30	55	LF	49.5	2.71	1.93	54.14	2977.7
W16 x 26	26	LF	43	2.44	1.74	47.18	1226.68
W16 x 40	84	LF	66	3.05	2.18	71.23	5983.32
W24 x 76	33	LF	125	3.18	1.69	129.87	4285.71
Total =							27091.91

Structural Wood							
	Quantity	Unit	Mat. Cost	Labor Cost	Equip. Cost	Total Unit Cost	Total
Floor Joists							
16" L65 TJI 1st Flr.	6.524	M.B.F.	3250	820		4070	26552.68
16" L65 TJI 2nd Flr.	5.244	M.B.F.	3250	820		4070	21343.08
16" L65 TJI 3rd Flr.	5.244	M.B.F.	3250	820		4070	21343.08
Studs							
2" x 6" 1st Flr.	7.32	M.B.F.	520	640		1160	8491.2
2" x 6" 2nd & 3rd Flr.	14.52	M.B.F.	520	640		1160	16843.2
Total =							94573.24

Concrete							
	Quantity	Unit	Mat. Cost	Labor Cost	Equip. Cost	Total Unit Cost	Total
Floor Slab							
Slab on Grade (4")	11391	SF	1.36	0.75	0.28	2.39	27224.49
6x6 WWF W1.4 x 1.4	114	C.S.F.	18.05	20.5		38.55	4394.7
Foundation							
Cont. Footings	99	C.Y.	144	80.5	0.5	225	22275
Column Footings	22	C.Y.	104	13.2	0.43	117.63	2587.86
Total =							56482.05

Masonry							
	Quantity	Unit	Mat. Cost	Labor Cost	Equip. Cost	Total Unit Cost	Total
CMU's							
Stair Twr. 8" CMU's	3720	SF	3.65	4.13		7.78	28941.6
Fnd. Wall 8" CMU's	2268	SF	2.68	3.5		6.18	14016.24
Total=							42957.84

Josh Raphael / CM / Mr. Faust

Holiday Inn Express/ Absecon, NJ

April 7, 2010

Figure 6

General Conditions Estimate				
Total Project Weeks	52			
Total Project Months	13			

Personnel	% of Time on Project	Total Billable Weeks	Cost/Week	Total Cost
Project Manager	100%	52	\$1,450.00	\$75,400.00
Site Supervisor	100%	52	\$1,200.00	\$62,400.00
Sevice Manager	100%	52	\$1,200.00	\$62,400.00
Safety Inspector	100%	52	\$1,100.00	\$57,200.00
Office Manager	100%	52	\$700.00	\$36,400.00
			Total =	\$293,800.00

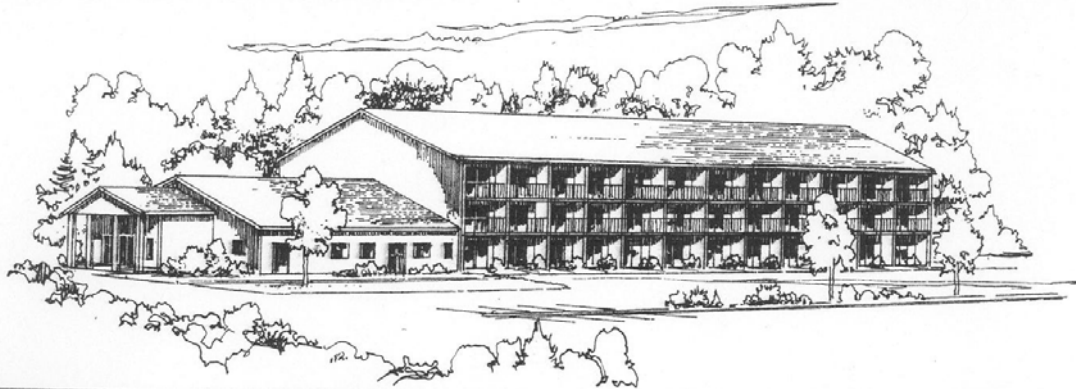
Utilities/Facilities	Frequency	Duration	Cost/Unit Time	Total Cost
Electric/Water	Monthly	13	\$100.00	\$1,300.00
Utility Hook-Up	Lum-Sum			\$300.00
Internet	Monthly	13	\$40.00	\$520.00
Port-O-Potty	Weekly	52	\$60.00	\$3,120.00
Telephone	Monthly	13	\$80.00	\$1,040.00
Trailer	Monthly	13	\$163.00	\$2,119.00
			Total =	\$8,399.00

Site Office Support	Frequency	Duration	Cost/Unit Time	Total Cost
Office Supplies	Monthly	13	\$85.00	\$1,105.00
Cell Phone	Monthly	13	\$40.00	\$520.00
Computer	Lump-Sum			\$1,250.00
Trailer Janitorial Services	Monthly	13	\$30.00	\$390.00
Job Vehicle Fuel	Monthly	13	200	\$2,600.00
Job Auto Allowance	Monthly	13	500	\$6,500.00
			Total =	\$12,365.00

General Requirements	Frequency	Duration	Cost/Unit Time	Total Cost
Temp Fencing	Lump-Sum			\$3,864.00
Signage	Lump-Sum			\$2,000.00
Dumpsters	Weekly	52	\$350.00	\$18,200.00
Survey and Layout	Lump-Sum			\$1,280.00
Final Clean Up	Lump-Sum			\$1,550.00
			Total =	\$26,894.00

Figure 7

COMMERCIAL/INDUSTRIAL/INSTITUTIONAL **M.430** **Motel, 2-3 Story**



Costs per square foot of floor area

Exterior Wall	S.F. Area	25000	37000	49000	61000	73000	81000	88000	96000	104000
	L.F. Perimeter	433	593	606	720	835	911	978	1054	1074
Decorative Concrete Block	Wood Joists	161.35	156.70	151.00	149.40	148.35	147.80	147.40	147.05	146.1
	Precast Conc.	172.70	168.10	162.35	160.75	159.75	159.15	158.80	158.40	157.5
Stucco on Concrete Block	Wood Joists	160.55	156.00	150.20	148.70	147.65	147.05	146.70	146.30	145.4
	Precast Conc.	172.55	168.00	162.25	160.70	159.65	159.05	158.70	158.30	157.4
Wood Siding	Wood Frame	157.70	153.30	148.20	146.75	145.75	145.15	144.85	144.45	143.7
Brick Veneer	Wood Frame	164.85	159.90	153.30	151.55	150.45	149.85	149.45	149.05	148.0
Perimeter Adj., Add or Deduct	Per 100 L.F.	4.60	3.20	2.35	1.90	1.55	1.40	1.35	1.20	1.05
Story Hgt. Adj., Add or Deduct	Per 1 Ft.	1.60	1.50	1.15	1.05	1.05	1.00	1.05	0.95	0.95

For Basement, add \$28.70 per square foot of basement area

The above costs were calculated using the basic specifications shown on the facing page. These costs should be adjusted where necessary for design alternatives and owner's requirements. Reported completed project costs, for this type of structure, range from \$60.40 to \$310.55 per S.F.

Common additives

Description	Unit	\$ Cost	Description	Unit	\$ Cost
Closed Circuit Surveillance, One station			Sauna, Prefabricated, complete		
Camera and monitor	Each	1850	6' x 4'	Each	5850
For additional camera station, add	Each	1000	6' x 6'	Each	6950
Elevators, Hydraulic passenger, 2 stops			6' x 9'	Each	8525
1500# capacity	Each	62,800	8' x 8'	Each	10,100
2500# capacity	Each	66,300	8' x 10'	Each	11,300
3500# capacity	Each	69,800	10' x 12'	Each	14,000
Additional stop, add	Each	7825	Smoke Detectors		
Emergency Lighting, 25 watt, battery operated			Ceiling type	Each	187
Lead battery	Each	282	Duct type	Each	480
Nickel cadmium	Each	805	Swimming Pools, Complete, gunite	S.F.	64-78.50
Laundry Equipment			TV Antenna, Master system, 12 outlet	Outlet	315
Dryer, gas, 16 lb. capacity	Each	885	30 outlet	Outlet	203
30 lb. capacity	Each	3600	100 outlet	Outlet	194
Washer, 4 cycle	Each	1075			
Commercial	Each	1450			

Figure 8

Location Factors				Location Factors			
STATE/ZIP	CITY	Residential	Commercial	STATE/ZIP	CITY	Residential	Commercial
MINNESOTA (CONT'D)				NEW JERSEY			
559	Rochester	1.03	1.01	070-071	Newark	1.12	1.10
560	Mankato	1.01	.99	072	Elizabeth	1.14	1.08
561	Windom	.82	.88	073	Jersey City	1.10	1.08
562	Wilmar	.83	.90	074-075	Paterson	1.11	1.09
563	St. Cloud	1.06	1.05	076	Hackensack	1.10	1.08
564	Brainerd	.96	.97	077	Long Branch	1.11	1.07
565	Detroit Lakes	.95	.96	078	Dover	1.11	1.08
566	Bemidji	.94	.97	079	Summit	1.11	1.08
567	Thief River Falls	.94	.95	080,083	Vineland	1.08	1.05
MISSISSIPPI				081	Camden	1.09	1.06
386	Clarksdale	.78	.81	082,084	Atlantic City	1.11	1.05
387	Greenville	.84	.88	085-086	Trenton	1.10	1.07
388	Tupelo	.79	.83	087	Point Pleasant	1.09	1.07
389	Greenwood	.80	.82	088-089	New Brunswick	1.11	1.08
390,392	Jackson	.85	.87	NEW MEXICO			
393	Meridian	.83	.86	870-872	Albuquerque	.85	.90
394	Laurel	.80	.84	873	Gallup	.85	.90
395	Biloxi	.82	.83	874	Farmington	.85	.90
396	Mccomb	.77	.81	875	Santa Fe	.86	.91
397	Columbus	.78	.82	877	Las Vegas	.85	.89
MISSOURI				878	Socorro	.85	.89
630-631	St. Louis	1.03	1.03	879	Truth/Consequences	.84	.87
633	Bowling Green	.95	.94	880	Las Cruces	.83	.85
634	Hannibal	.86	.89	881	Alouis	.85	.88
635	Kirkville	.80	.88	882	Roswell	.85	.89
636	Flat River	.94	.95	883	Carncozo	.85	.90
637	Cape Girardeau	.88	.94	884	Tucumcari	.86	.89
638	Sikeston	.82	.88	NEW YORK			
639	Poplar Bluff	.83	.88	100-102	New York	1.37	1.31
640-641	Kansas City	1.03	1.02	103	Staten Island	1.31	1.27
644-645	St. Joseph	.93	.95	104	Bronx	1.33	1.26
646	Chillicothe	.87	.84	105	Mount Vernon	1.14	1.14
647	Harrisonville	.96	.96	106	White Plains	1.17	1.14
648	Joplin	.83	.85	107	Yonkers	1.18	1.17
650-651	Jefferson City	.87	.92	108	New Rochelle	1.18	1.14
652	Columbia	.87	.93	109	Suffern	1.13	1.09
653	Sedalia	.85	.90	110	Queens	1.31	1.27
654-655	Rolla	.87	.85	111	Long Island City	1.34	1.26
656-658	Springfield	.87	.89	112	Brooklyn	1.35	1.26
MONTANA				113	Flushing	1.33	1.26
590-591	Billings	.85	.90	114	Jamaica	1.33	1.27
592	Wolf Point	.84	.89	115,117,118	Hicksville	1.20	1.20
593	Miles City	.86	.88	116	Far Rockaway	1.32	1.28
594	Great Falls	.89	.91	119	Riverhead	1.21	1.21
595	Havre	.82	.89	120-122	Albany	.94	.96
596	Helena	.88	.90	123	Schenectady	.95	.97
597	Butte	.87	.90	124	Kingston	1.02	1.06
598	Missoula	.85	.88	125-126	Poughkeepsie	1.19	1.12
599	Kalispell	.83	.87	127	Monticello	1.04	1.06
NEBRASKA				128	Glens Falls	.88	.92
680-681	Omaha	.91	.91	129	Plattsburgh	.92	.92
683-685	Lincoln	.87	.89	130-132	Syracuse	.96	.96
686	Columbus	.87	.88	133-135	Utica	.94	.94
687	Norfolk	.91	.90	136	Watertown	.93	.96
688	Grand Island	.92	.91	137-139	Binghamton	.93	.93
689	Hastings	.93	.92	140-142	Buffalo	1.04	1.02
690	Mccook	.85	.88	143	Niagara Falls	1.00	.99
691	North Platte	.92	.92	144-146	Rochester	.96	.97
692	Valentine	.85	.88	147	Jamestown	.87	.90
693	Alliance	.85	.87	148-149	Elmira	.85	.91
NEVADA				NORTH CAROLINA			
889-891	Las Vegas	1.03	1.06	270,272-274	Greensboro	.83	.79
893	Ely	.85	.88	271	Winston-Salem	.83	.79
894-895	Reno	.93	.97	275-276	Raleigh	.84	.80
897	Carson City	.94	.97	277	Durham	.83	.80
898	Elko	.91	.90	278	Rocky Mount	.73	.74
NEW HAMPSHIRE				279	Elizabeth City	.75	.75
030	Nashua	.94	.94	280	Gastonia	.84	.78
031	Manchester	.94	.94	281-282	Charlotte	.85	.80
032-033	Concord	.92	.92	283	Fayetteville	.82	.81
034	Keene	.75	.78	284	Wilmington	.81	.77
035	Littleton	.81	.81	285	Kinston	.74	.73
036	Charleston	.74	.76	286	Hickory	.78	.75
037	Claremont	.75	.76	287-288	Asheville	.81	.78
038	Portsmouth	.93	.94	289	Murphy	.73	.71
				NORTH DAKOTA			
				580-581	Fargo	.78	.85
				582	Grand Forks	.75	.82
				583	Devils Lake	.78	.82
				584	Jamestown	.73	.79
				585	Bismarck	.78	.85

Appendix B

Figure 1

Product Specifications

Electrical Data

Measured at Standard Test Conditions (STC) irradiance of 1000 W/m², air mass 1.5, and cell temperature 25° C

Model Number		SL-001-150	SL-001-157	SL-001-165	SL-001-173	SL-001-182	SL-001-191	SL-001-200 <small>Release Date: TED</small>
Power Rating (P _{mp})	Wp	150 Wp	157 Wp	165 Wp	173 Wp	182 Wp	191 Wp	200 Wp
Power Tolerance (%)	%/Wp	+4, -5	+/-4	+/-4	+/-4	+/-4	+/-4	+/-4
V _{mp} (Voltage at Maximum Power)	Volts	65.7 V	67.5 V	69.6 V	71.7 V	73.9 V	76.1 V	78.3 V
I _{mp} (Current at Maximum Power)	Amps	2.28 A	2.33 A	2.37 A	2.41 A	2.46 A	2.51 A	2.55 A
V _{oc} (Open Circuit Voltage)	Volts	91.4 V	92.5 V	93.9 V	95.2 V	96.7 V	98.2 V	99.7 V
I _{sc} (Short Circuit Current)	Amps	2.72 A	2.73 A	2.74 A	2.75 A	2.76 A	2.77 A	2.78 A
Temp. Coefficient of V _{oc}	%/°C	-.24						
Temp. Coefficient of I _{sc}	%/°C	-.02						
Temp. Coefficient of Power	%/°C	-.26						

System Information

Cell type	Cylindrical CIGS
Maximum System Voltage	Universal design: 1000V (IEC) & 600V (UL) systems
Dimensions	Panel: 1.82 m x 1.08 m x 0.05 m Height: 0.3 m to top of panel on mounts
Mounts	Non-penetrating, powder-coated Aluminum Up to 2.17 mounts per panel
Connectors	4 Tyco Solarlok; 0.20 m cable
Series Fuse Rating	23 Amps
Roof Load	16 kg/m ² (3.3 lb/ft ²) panel and mounts
Panel Weight	31 kg (68 lb) without mounts
Snow Load Maximum	2800 Pa (58.5 lb/ft ²)
Wind Performance	208 km/h (130 mph) maximum Self-ballasting with no attachments
Operating and Storage Temp	-40°C to +85°C
Normal Operating Cell Temperature (NOCT)	41.7°C at 800 W/m ² , Temp = 20°C, Wind = 1m/s
Certifications/Listings	UL1703, IEC 61646, CEC listing IEC 61730, IEC 61646, CE Mark Application Class A per IEC 61730-2 Fire Class C
Warranty	25 year limited power warranty 5 year limited product warranty



Solyndra's panels come with all of the mounts, grounding connectors, lateral clips, and fasteners required to build a standard array.



Specifications subject to change without notice.

Solyndra, Inc. • 47700 Kato Road • Fremont, CA • www.solyndra.com

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Revision 3 / Released 3/11/09

Figure 2

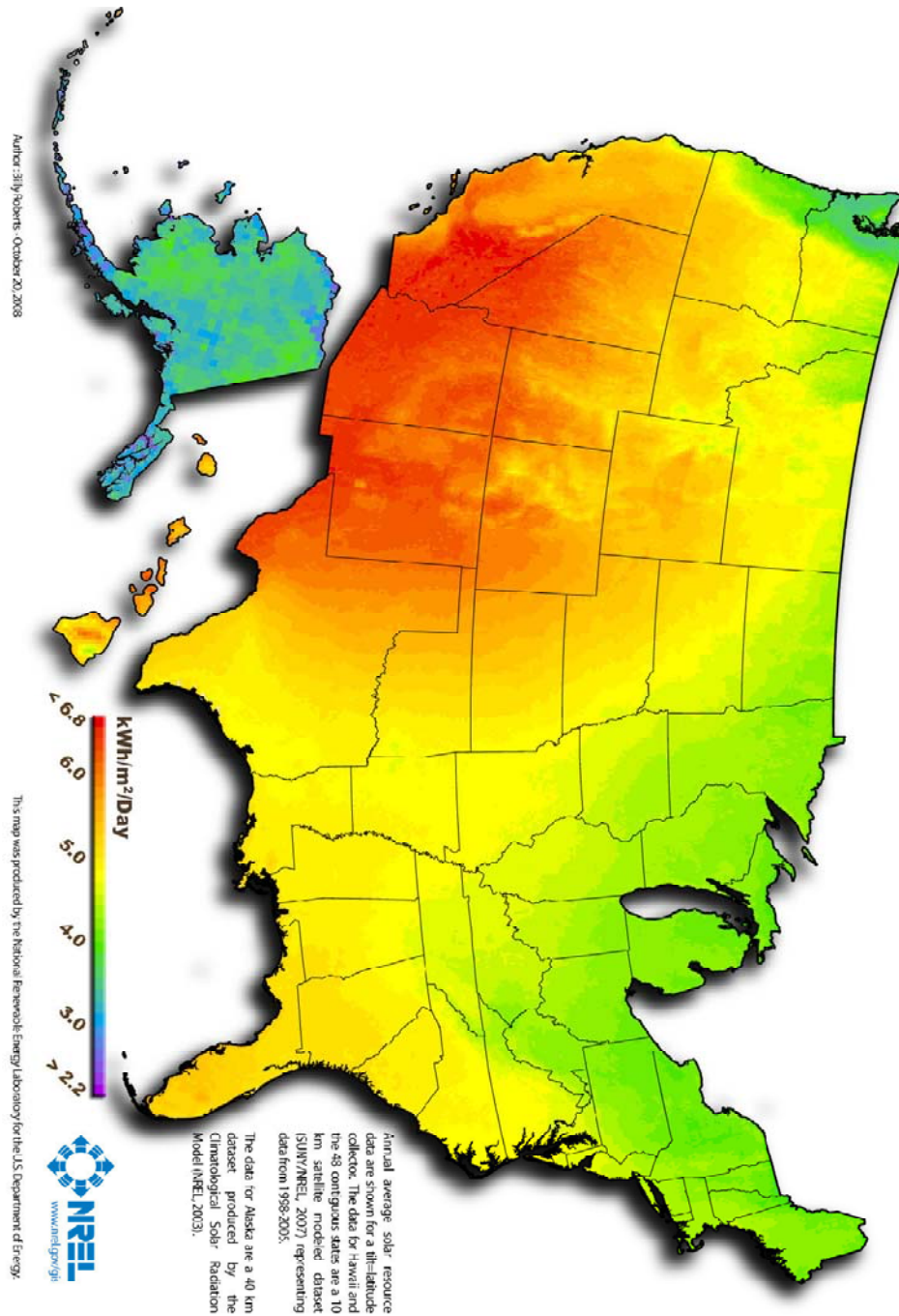


Figure 3



AC Energy
&
Cost Savings



Station Identification	
City:	Atlantic_City
State:	New_Jersey
Latitude:	39.45° N
Longitude:	74.57° W
Elevation:	20 m
PV System Specifications	
DC Rating:	95.5 kW
DC to AC Derate Factor:	0.770
AC Rating:	73.5 kW
Array Type:	Fixed Tilt
Array Tilt:	26.6°
Array Azimuth:	180.0°
Energy Specifications	
Cost of Electricity:	13.0 ¢/kWh

Results			
Month	Solar Radiation (kWh/m ² /day)	AC Energy (kWh)	Energy Value (\$)
1	3.24	7611	989.43
2	3.92	8281	1076.53
3	4.69	10557	1372.41
4	5.35	11324	1472.12
5	5.76	12363	1607.19
6	5.90	11800	1534.00
7	5.91	12064	1568.32
8	5.61	11480	1492.40
9	5.20	10505	1365.65
10	4.35	9320	1211.60
11	3.26	7106	923.78
12	2.84	6477	842.01
Year	4.67	118886	15455.18

Appendix C

Figure 1

Estimated Energy Savings Results:



Building with R-Control SIPs save you 64% per year in energy usage.

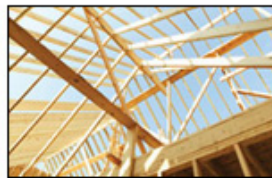
That is a savings of \$6,734.92 for the first year over conventional building methods by using R-Control SIPs.

Over 30 years this equals a savings of \$447,198.69 by using R-Control SIPs assuming a 5% annual energy cost increase.

Estimated Energy Usage (MBTU) Comparison Results:

(the smaller the heat loss MBTU number, the better the energy savings)

COMPARISON
CHART



CONVENTIONAL



R-CONTROL SIP

Heating Season		
Walls (MBTU)	98	59
Windows (MBTU)	79	79
Roof (MBTU)	35	47
Air Leakage (MBTU)	563	84
Total Heating Cost	\$9,524.75	\$3,306.01
Cooling Season		
Walls (MBTU)	16	10
Windows (MBTU)	13	13
Roof (MBTU)	6	8
Air Leakage (MBTU)	47	9
Total Cooling Cost	\$1,007.78	\$491.60
Total Cost	\$10,532.53	\$3,797.61

Note: MBTU = millions of BTUs

Figure 2

Estimated Energy Savings Results:



Building with R-Control SIPs save you 54% per year in energy usage.

That is a savings of \$4,535.01 for the first year over conventional building methods by using R-Control SIPs.

Over 30 years this equals a savings of \$301,124.66 by using R-Control SIPs assuming a 5% annual energy cost increase.

Estimated Energy Usage (MBTU) Comparison Results:

(the smaller the heat loss MBTU number, the better the energy savings)

COMPARISON CHART



CONVENTIONAL



R-CONTROL SIP

Heating Season		
Walls (MBTU)	98	59
Windows (MBTU)	79	79
Roof (MBTU)	35	47
Air Leakage (MBTU)	394	84
Total Heating Cost	\$7,447.74	\$3,306.01
Cooling Season		
Walls (MBTU)	16	10
Windows (MBTU)	13	13
Roof (MBTU)	6	8
Air Leakage (MBTU)	37	9
Total Cooling Cost	\$884.88	\$491.60
Total Cost	\$8,332.62	\$3,797.61

Note: MBTU = millions of BTUs

Appendix D

Figure 1

AMANA® DIGISMART™ PTAC
Amana's® Quietest and Best Selling Unit Ever!



Product Features Include:

- Heat pump and cooling only models with nominal capacities of: 7,000 BTU/h - 9,000 BTU/h - 12,000 BTU/h - 15,000 BTU/h
- EER as high as 12.8
- COP as high as 3.3
- 5-year warranty
- Available with electric heat
- Available with hydronic heat
- On-board energy management software:

OCCUPANCY SENSOR

The occupancy sensor is a combination door-switch and room motion sensor powered by 2 AAA batteries that are included in the kit.

Once wirelessly linked to Amana® DigiSmart™ PTAC, the occupancy sensor monitors the room.

When the room is unoccupied, the sensor automatically activates the temperature set-back function on the in-room PTAC.

The setback function is a part of the DigiSmart™ standard Energy Management System (EMS) in the DigiSmart™ PTAC control board.

The DigiSmart™ EMS software can be set in up to 100,000 set-back combinations to maximize energy savings and is programmed through either the remote thermostat or the platform controller.

The sensor communicates to the Amana® DigiSmart™ suite of devices via an encrypted 2.4 Ghz signal using the 802.15.4 standard.

For the door sensor to operate, the in-room PTAC must be equipped with a DigiSmart™ Gateway Antenna.



Appendix E

Figure 1

