



























Portland, ME









General Assumptions	-	-	Marris 6.5	Month 64	Month on	March 66	Mouth by	Month on	Month 60	Month 79	Men
Short Yarm between Rate	0.547		1273			5.00		Marie Co	0.723	1,141	
Logo Torm Seturnal Rate	10.005	200				10.005		5.00	11.000		
France door	0.00	0.00					0.000	5.800	0.000		
Coffeeting dogs	-	- 0	30			- 1	- 0	- 2			
Secretary Variance	189	100	100			100	100		100	10	
The Rode Percent	40.000					40.000		A1 100	ALIED		
Expresses in cost 1	100.005		100.093			95.00		16.00	600,000		
Sulso sa credit	10.005	18,00%	20.075	50,085			38,000	16,675		20,00	_
Note: Making it consequences are used as soft	_		_								_
Pro Forma Income Statemen											
	Month 61	Month 62	Mount 63	Mount 64	MICHAEL SS	98 cars 98	Mount 67	Minark Co.	Mouth 69	Mount 70	Mee
Eules	8 A.789. WZ	\$ 9,479,500	1 0.005302	\$ 10,000,400	\$ 15,726,656	4 M.COLATA	8 N. FFF 494	8 15.250.85s	\$ 9,801/704	6 th Web 524	8 10.5
Office of NF Production	000,941	900,641	193,241	003,041	900.per	159,900	180,895	032,567	052,363	500,000	
Other of VT Developing	252.891	202,004	363,866	223.000	253,890	275,768	279,568	195,790	285,798	499,750	
Dombatas For (1991)	836,616	94124	200,104	1821.568	1003.000	1003.007	5075 feb.	1493.000	1106,019	1295.656	- 14
Company Management	140,000	201,000	107,000	185,006	193,000	120,000	200,000	278,500	226,200	101,500	-
Company Louis Frances	3,754	3.756	1/94	3,764	0.764	3.764	3.164	1.764	1/54	1/84	_
Compres Deprodutos	485,020	450,000	505.59	103.600	540,000	779,860	533.853	Magne.	66.324	509.000	_
Total Cast of Seads Sald	1 2,003,000		1 Aamhar	1 8330.537	I IMAN		1 3704.00		1 8,300,399		-
Grace wards			1. (417,700								
Green Murgis Perrent	78.47	LL LEMENT	2.0	77.47		19.45		3,000,000	2.10	15.15	1
Operating Expenses:	1000		- 1991	1000	0.44				-		
Office of CEO	\$ 298,707	6 256,507	6 216.821	6 294,921	6 258,007	S DEADER	\$ 200,000	9 298.959	1 29.09	1 200.000	
I Drive of CNC	196,000	134,00	276,727	274.25E	ACTOR	600,000	800,000	\$20,000	1 20,000	883,000	-
Office of VF Turbushay	963,800	900,000	MEC003	994,210	505,590	829,244	900,430	100,460	510,412	101,000	
Office of the Village Constructor	900,000	900,000	MILOUS	198,241	90.29	95.618	No.234	195,610	90,710	75,314	
Office of 19 Nothing Assessed	245.7m	045,730	100,511 (Ta.11)	263,017	000,000		275.000	179,769	277.405	100.440	_
Office of VF Return (Account)	(13.00	25,070		19,077		575,070	22,400	179,769	211.40	200,440 (53.8h)	_
			11,05		13,249						
CMSox of Oder Mangett	1,201,303	1,241,730	1281,564	1055,765	1025300	1,054,619	1,585,525	1,491,669	5,475,009	1,526,764	- 4
Formulary Worse (TT related)	10,59	166,510	19.519	119,000	104,000	343,799	344,565	103,000	100,000	305,000	
SANCESONO .	WEAG	100,890	1931,569	304,79	206,696	49,900	415,743	221,610	215,614	242,510	_
Secret Digestation	5,587	5,007	6,801	5,647	5,640	1,800	1,000	1,79	1,017	5.19	
Program Fac	11,801	16,008	10,51	90,619	20,014	25241	21,968	24,568	84,007	38,996	
Metaling	240,765	254,83	295,649	101,066	354,965	15.50	323,724	341,95	196.89	193,206	_
Paramete & Chroningsmoot	-	-	-			-	-	-		-	_
Total Operating Exposure			1 0,95649						I ATMANN		
Fruitt Halans Interest and Taxes			\$ 2,485,94				1 1,818,500		\$ 4,616,773		2 4.1
Saturact Sacoma	74,500	66,507	59,79	98,000	54,576	01200	00,854	50,046	95564	97,020	_
Interest Expense 27											
Seturnot Expense LT											
Teres facured	1274.758	1,300,851	LACKER	5490,062	6432549	1471,900	1230,234	1,845,629	1,823,534	1524,009	U
Mot Profit	1 000,07	\$ - £38E,730	1 3.04,841	1 3,225,034	E AMERIK			\$ 0,695,640	1 6/144/142		1
Mit Prefit Entliffson.	20,513	20175	21,435	43.873	20.003	20.67	43,945	11,000	25,345	22,665	
Pro Forma Cash Flow											
	Mouth 61			Mouth 64	Minath 65	Mouth 66	Mineth 67	Mosts 68	Month 53	Most's 70	. 96 aw
Mon Profit:	8 UNLOF	\$ 1,000,750	\$ A.DA.RM	\$ 0.039,000	8 6,941,504	5 2,013,400	\$ 0,295,440	5 2,435,442	1 0,794,782	\$ 2,759,462	9 44
Description											



NET-ZERO LIFE



LOW ENERGY LIFE



REAL LIFE











2013





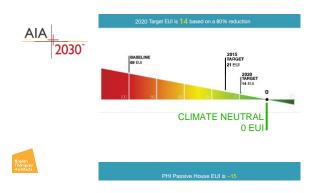




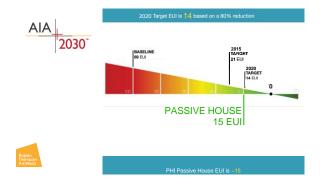


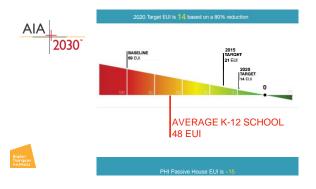


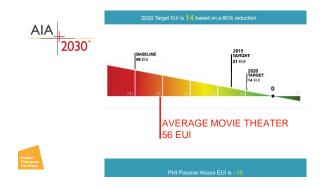


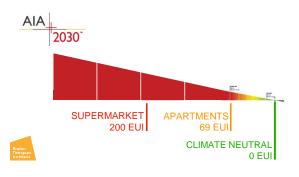


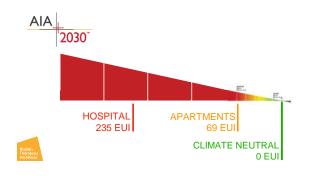


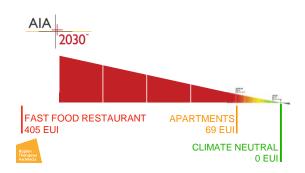












SOLAR PANEL

2010: \$2,680



SOLAR PANEL

2010: \$2,680 2014: \$1,005





SOLAR PANEL

2010: \$2,680 2014: \$1,005 2019: \$670





SOLAR PANEL

335 WATT





SOLAR PANEL

335 WATT









SOLAR PANEL







ELECTRIC CAR

1,500 MILES





SOLAR PANEL
400 KILOWATT HOURS



SOLAR PANEL

400 KILOWATT HOURS \$0.18 / kWH







SOLAR PANEL

400 KILOWATT HOURS \$0.18 / kWH \$72 / YEAR



SOLAR PANEL

400 KILOWATT HOURS







SOLAR PANEL

400 KILOWATT HOURS 18 SQUARE FEET



SOLAR PANEL

400 KILOWATT HOURS 18 SQUARE FEET 22 kWH / SF



SOLAR PANEL

400 KILOWATT HOURS 18 SQUARE FEET 22 kWH / SF 75 KBTU / SF





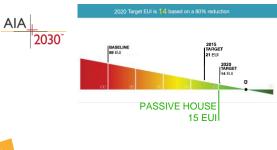
SOLAR PANEL

75 EUI



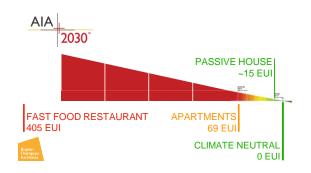




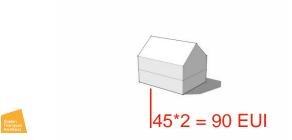




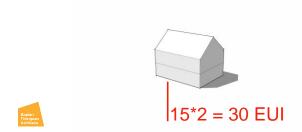
PHI Passive House EUI is ~15



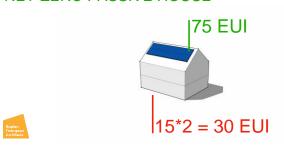
AVERAGE HOUSE



PASSIVE HOUSE



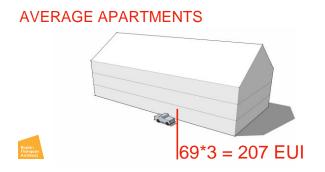
NET-ZERO PASSIVE HOUSE

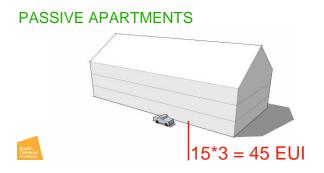


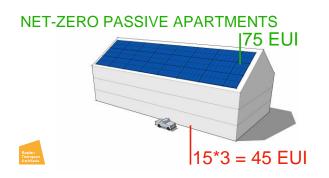
NET-ZERO PASSIVE HOUSE + E-CAR



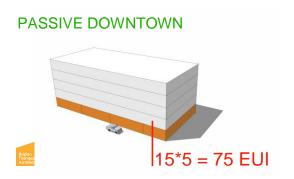


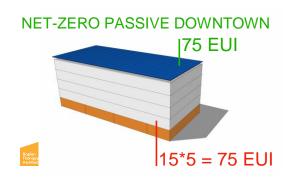






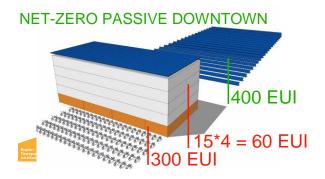














Passive House Basics



100 SQUARE FEET



PEAK HEATING LOAD

1 WATT / SF

(3.41 BTU / HOUR / SF)

Bayside Anchor

2014





Bayside Anchor

LIHTC funding

Passive House as project goal

45 Units

\$142 / SF Construction Cost

\$170,000 per Unit Total Development Cost



Lowering the Cost of Housing Competition

2013

















U Frame 0.25 U COG 0.13 SHGC 45%

GUARDIAN triple Climaguard 8070























COST FOR EVERYTHING

\$644 / APARTMENT / YEAR \$53.70 / APARTMENT / MONTH ~\$0.82 / SF / YEAR



Blackstone Apartments \$165 / SF



Blackstone Apartments

LIHTC funding (Preservation Set-Aside)

19 new homes + 20 renovated townhouses

(17) 1 BR Apartments (2) 2 BR Apartments

\$180 / SF Construction Cost

\$188,000 per Unit Total Development Cost





Blackstone Apartments

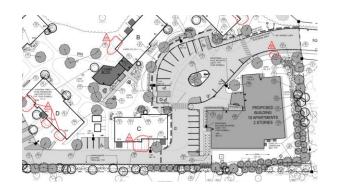
100% Affordable Seniors 62+ Individuals with Disabilities

RENTS

1-BR unit: \$845 - \$1,013 2-BR unit: \$1,054 - \$1,269

Targeting 50% - 60% AMI local area













2" POLYISO OVER 2X6 CELLULOSE

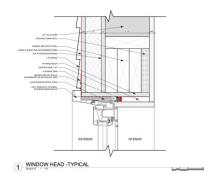
R - 32 EXTERIOR



U Frame 0.25 U COG 0.17 SHGC 37%

Cardinal triple 272 / clear / 180































Commercial Airflow Assessment

0.61 ACH50

0.058 CFM50 per SF of Enclosure



er: Karen James, Great Falls Con Address: Squidere Ln Falmouth, ME (New Building)
Date: November 17, 2017
Auditor: Andrew Greenlaw, MS, BPI (Cert# 5051532)

As a recap, Friday's goal for the bulk air infiltration as measured via blower door was 1500 CPMS0. After spending approximately two hours conducting blower door-directed air sealing, we were able to exceed that goal by approximately 134 CFMS0 with a final result of 1366 CFMS0.

Passive House?

1.1 W / SF

PASSIVEHOUSE REQUIREMENTS Certificate criteria: PHIUS+ 2015 Standard Heating demand specific: target: total: 4.92 kBtu/ft²yr 6.4 kBtu/ft²yr 69,865.82 kBtu/yr Cooling demand 1.11 kBtu/ft²yr 0.12 kBtu/ft²yr 1.23 kBtu/ft²yr 1.4 kBtu/ft²yr H..... 17,411.59 kBtu/yr Heating load 3.75 Btu/hr ft* 4.7 Btu/hr ft² 53,260.57 Btu/hr Cooling load specific: target: total: 2.08 Bluthr ft² 3.8 Bluthr ft²

0.25 CFM50 per SF of Enclosure

Cooling demand sensible: latent: specific: target: total: Heating load

Certificate criteria:

Heating demand

Cooling load specific target: total:

7.6 Btu/hr ft² 4.7 Btu/hr ft² 107,929.44 Btu/hr 2.11 Btu/hr ft² 3.8 Btu/hr ft²

PASSIVEHOUSE REQUIREMENTS

9.14 kBtu/ft²yr 6.4 kBtu/ft²yr

0.91 kBtu/ft²yr 0.05 kBtu/ft²yr 0.97 kBtu/ft²yr 1.4 kBtu/ft²yr

129,728.21 kBtu/yr

13,702.52 kBtu/yr

29,891.41 Btu/hr

PHIUS+ 2015 Standard



HIIIIII

No Heat Recovery



Heating demand

Certificate criteria: 21.12 kBtu/ft²yr 6.4 kBtu/ft²yr 299,867.52 kBtu/yr Cooling demand

PASSIVEHOUSE REQUIREMENTS

PHIUS+ 2015 Standard

29,500.38 Btu/hr

ниши

0.89 kBtu/ft²yr 0.05 kBtu/ft²yr 0.94 kBtu/ft²yr 1.4 kBtu/ft²yr 13,390.98 kBtu/yr sensible: latent: specific: target: total: Heating load 11.61 Btu/hr ft²

Cooling load specific target: total: 3.8 Btu/hr ft² 29,869.68 Btu/hr









All the Insulation:

R-54 Walls R-44 Slab R-145 Attic



PASSIVEHOUSE REQUIREMENTS

Heating load

Cooling load

specific: target:

Certificate criteria: PHIUS+ 2015 Standard Heating demand

16.55 kBtu/ft²yr 6.4 kBtu/ft²yr 235,005.45 kBtu/yr Cooling demand sensible: latent: 1.12 kBtu/ft²yr 0.05 kBtu/ft²yr 1.17 kBtu/ft²yr 1.4 kBtu/ft²yr 16,588.67 kBtu/yr specific target: total:

10.2 Btu/hr ft² 4.7 Btu/hr ft² 144,889.88 Btu/hr

2.15 Btu/hr ft² 3.8 Btu/hr ft² 30,542.39 Btu/hr

HILLIAN





Specification

3.5 BUILDING ENVELOPE AIR TIGHTNESS REQUIREMENT

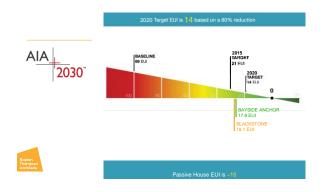
A. The blower door testing should be computer-controlled ung automated testing software (such as "Tection" from The Energy Conservatory or "Justicele" from Restrict). The PHILES Rates will conduct multi-joint testing in both pressurations and depressuration modes. The test method in the automatic testing software should be set as "RESNET" or "ASTIM ETFO". The faul to the Chatter of the Conference of the two developments for certification purposes in the except of the two

AIR BARRIER SYSTEM TESTING













The Distraction of Insulation



PASSIVEHOUSE REQUIREMENTS

Certificate criteria: PHUS-2015 Standard

Heating demand
scontife: 16.55 kBlufflyr
target: 6.4 kBlufflyr
target: 0.55 kBlufflyr
target: 0.55 kBlufflyr
target: 1.12 kBlufflyr
target: 1.14 kBlufflyr
target: 1.15 kBlufflyr
target: 1.15 kBlufflyr
target: 1.15 kBlufflyr
target: 1.4 kBl

Air Tightness is Underpriced

Specification

- 3.5 BUILDING ENVELOPE AIR TIGHTNESS REQUIREMENT
- A. The blower door testing should be computer-controlled using automated testing software (used as "Tectise" from The Energy Conservatory or "Entestice" from Retract, The FIRIUS: Rate will conduct result-point esting in both pressuration and depressuration modes. The test method in the automated testing software should be set as "RESNET" or "ASTM ET?9". The final BOS CTWASS per square food of enclosules for confidentiation purposes is the average of the will.

AIR BARRIER SYSTEM TESTING

070523 -

The Battle for Fresh Air





Fighting for Fresh Air



Fight for Better Code



\$168.00



Passive House as the path to Net-Zero





Presenter Contact Information Jesse Thompson Kaplan Thompson Architects jesse@kaplanthompson.com www.kaplanthompson.com 207-842-2888

