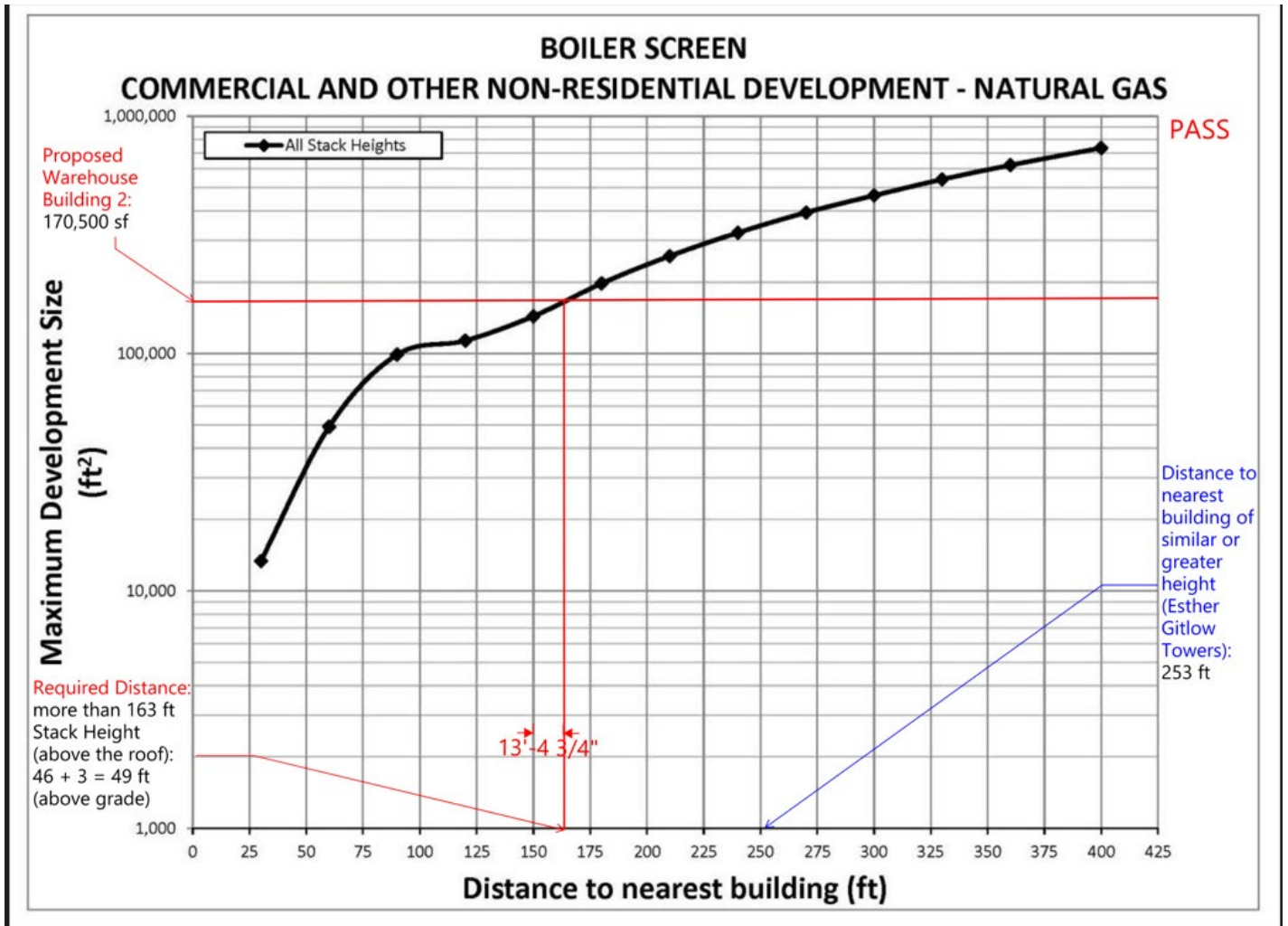
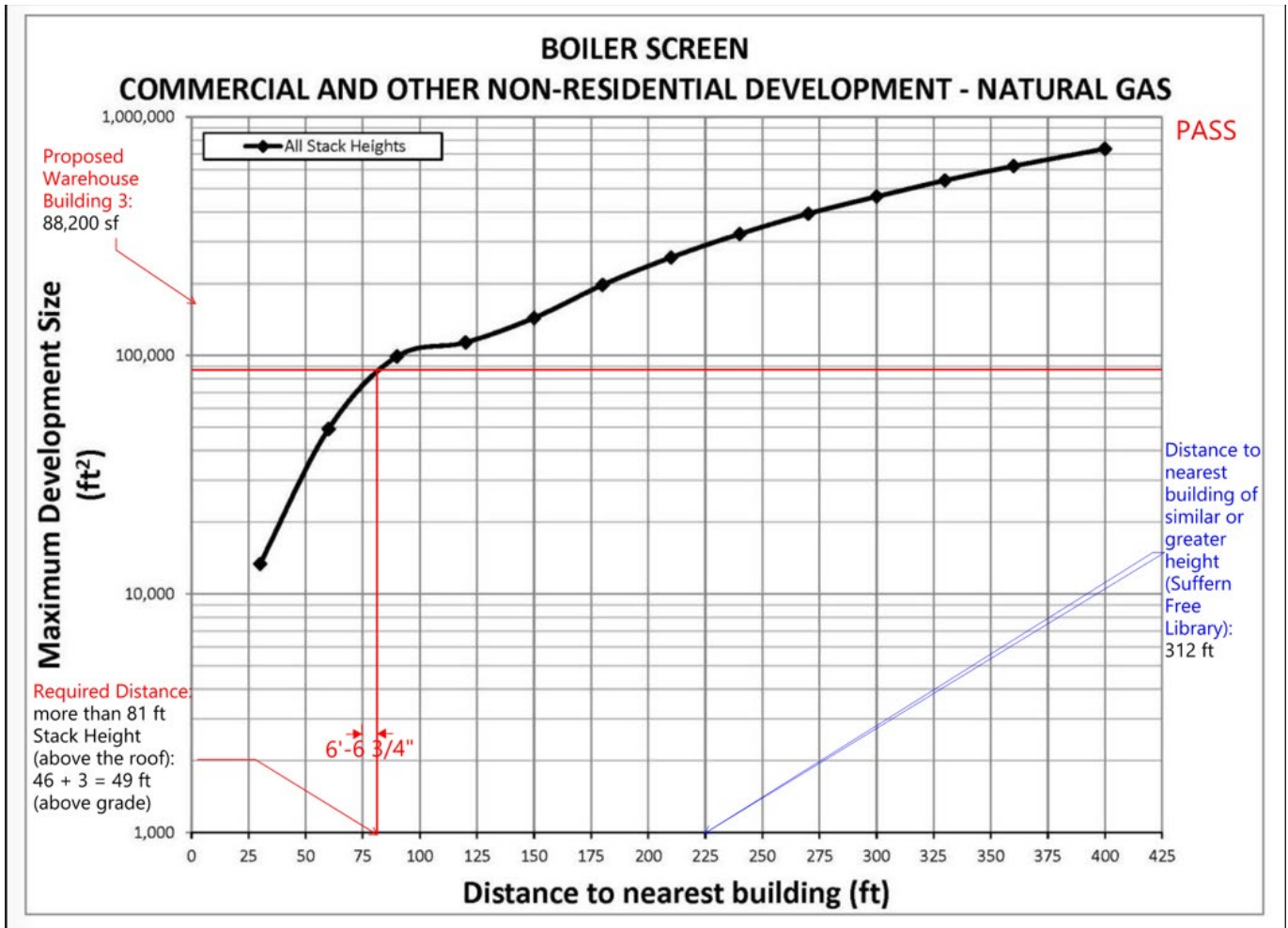


Suffern Industrial Site: Warehouse HVAC Screening

Building 2 to Closest Sensitive Land Use



Building 3 to Closest Sensitive Land Use



Suffern Industrial Site: GHG Analysis

Natural Gas Scenario

How much GHG emissions would be generated if HVAC and hot water systems of the three warehouses would be fueled by natural gas and electricity needs covered by the NY State grid:

Natural Gas Scenario				GHG Em. Factors			
Fuel	Consumption	Unit	CO2	CH4	N2O	Unit	
Nat gas	18.6	scf/sqf	53.06	1.0	0.1	kg/MMBtu	
Electricity	6	kWh/sqf	233.5	0.016	0.002	lb/MWh	
Warehouse total area	1221700	sft					

Natural Gas Scenario								
Fuel	Heating Value (Btu/scf)	Total Consumption	Unit	CO2	CH4	N2O	Unit	GHG Emissions (MT)
Nat gas	1020	23178	MMBtu	1229830	23178	2318	kg	1255
Electricity	n/a	7330	Mhr	1711602	117	15	lb	930
								2186

Solar Panels Scenario

How much electricity would roof solar panels generate? Would it be enough to cover the needs of HVAC and hot water should they be electric and other electricity needs? How much GHG would be saved if instead of solar panels, electricity consumption is covered by the NY State grid?

Solar Panels Scenario						
	Generation	Unit	GHG Em. Factors			Unit
Solar panels	17,470,310	kWh				
Electricity	17,470,310	kWh	233.5	0.016	0.002	lb/MWh

Solar Panels Scenario						GHG Emissions (MT)
	CO2	CH4	N2O	Unit		
Solar panels						
Electricity	4079317	280	35	lb	2218	<i>Avoided GHG emissions</i>
					Net avoided	32 MT

Mobile Source GHG

Metric tons of CO2 equivalent per year (MOVES output EFs)			
Source Type	Car	Truck	
MOVES Emission Factors (g/veh-mi)	350.45	1195.16	
MOVES Emission Factors (metric ton/veh-mi)	0.00035	0.00120	
Project-generated VMT/year	6,150,000	16,540,501	Total:
CO2e Emission Rates (metric ton/yr)	2,155	19,769	21,924
<u>Notes</u>			
● CO2e EF is directly outputted from MOVES			

Construction versus other Conditions

	Intersection	Time	Heavy Vehicle %													Total #	Total % Heavy E	Total #	Passenger Vehicle			
			EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	Total %				Passenge	Total Ef	% Chan	
Existing	Lafayette/Camp bell/Hemion	AM	6.72	15.96	4.8	4.47	21.42	8.26	0.84	7.56	2.52	14.04	11.2	8.08	105.87	4.60	5.9	2198.13	95.40	4.13	4.2113	-
	Lafayette/Camp bell/Hemion	PM	0	13.77	2.58	4.44	14.94	1.19	6.4	6.48	8.88	2.36	3.02	1.7	65.76	2.38	5.9	2693.24	97.62	4.13	4.1722	-
	Lafayette/Airmon	AM	11.85	21.49	1.26	6.86	15.54	57	2.34	7.76	3.09	40.1	18.88	20.04	206.21	5.99	5.9	3238.79	94.01	4.13	4.2359	-
	Lafayette/Airmon	PM	8.82	10.56	1	0	14.85	19.25	2.34	14.32	3.3	14.6	8.56	5.4	103	2.54	5.9	3955	97.46	4.13	4.1749	-
	Airmont/87 SB/287 EB	AM	9.45	1.32	21.95	0	0	0	0	24.66	12.98	9.48	15.26	0	95.1	2.83	5.9	3266.9	97.17	4.13	4.1801	-
	Airmont/87 SB/287 EB	PM	7.32	0	8.91	0	0	0	0	11.36	6.9	4.64	10.29	0	49.42	1.33	5.9	3676.58	98.67	4.13	4.1535	-
	Airmont/87 SB/287 WB	AM	0	0	0	5.29	0	3.29	22.77	10.38	0	0	22	5.6	69.33	2.45	5.9	2759.67	97.55	4.13	4.1734	-
Construction	Lafayette/Camp bell/Hemion	AM	7.4	24.55	4.23	3.87	51.3	26.97	7.5	9.8	6.49	33.6	11.64	4.56	191.91	8.19	5.9	2152.09	91.81	4.13	4.2749	1.51
	Lafayette/Camp bell/Hemion	PM	12.72	23.32	3.18	2.55	33.6	23.18	8.55	8.55	4.2	25.61	11.28	9.35	166.09	5.93	5.9	2632.91	94.07	4.13	4.235	1.51
	Lafayette/Airmon	AM	28.98	26.64	5.89	3.32	22.68	40.56	6.9	23.04	6.78	41.49	27.09	50.6	283.97	8.15	5.9	3201.03	91.85	4.13	4.2742	0.90
	Lafayette/Airmon	PM	39.68	12.42	3.5	3.99	18.1	21.6	5.8	17.92	7.7	25.02	10.14	36.42	202.29	4.94	5.9	3895.71	95.06	4.13	4.2174	1.02
	Airmont/87 SB/287 EB	AM	45.63	0.78	70.4	0	0	0	0	76.18	50.54	8.04	71.6	0	323.17	9.50	5.9	3078.83	90.50	4.13	4.2981	2.82
	Airmont/87 SB/287 EB	PM	38.92	0	22.19	0	0	0	0	57.84	52.01	14.07	73.98	0	259.01	6.88	5.9	3506.99	93.12	4.13	4.2517	2.37
	Airmont/87 SB/287 WB	AM	0	0	0	65.1	0	12.84	66.01	52	0	0	19.38	26.37	241.7	8.48	5.9	2607.3	91.52	4.13	4.2802	2.56
No Build	Lafayette/Camp bell/Hemion	AM	7.4	24.55	4.23	3.87	51.3	6.57	7.5	9.8	6.49	12.6	11.64	4.56	150.51	6.53	5.9	2153.49	93.47	4.13	4.2456	-0.69
	Lafayette/Camp bell/Hemion	PM	12.72	23.32	3.18	2.55	33.6	3.06	8.55	8.55	4.2	5.31	11.28	9.35	125.67	4.55	5.9	2633.33	95.45	4.13	4.2106	-0.58
	Lafayette/Airmon	AM	9.26	26.64	5.89	3.32	22.68	40.56	6.9	23.04	6.78	41.49	27.09	29.16	242.81	7.05	5.9	3202.19	92.95	4.13	4.2548	-0.46
	Lafayette/Airmon	PM	19.04	12.42	3.5	3.99	18.1	21.6	5.8	17.92	7.7	25.02	10.14	17.61	162.84	4.01	5.9	3895.16	95.99	4.13	4.201	-0.39
	Airmont/87 SB/287 EB	AM	45.63	0.78	70.4	0	0	0	0	76.18	28.08	8.04	52.5	0	281.61	8.38	5.9	3080.39	91.62	4.13	4.2783	-0.46
	Airmont/87 SB/287 EB	PM	38.92	0	22.19	0	0	0	0	57.84	28.92	14.07	48.52	0	210.46	5.65	5.9	3515.54	94.35	4.13	4.23	-0.51
	Airmont/87 SB/287 WB	AM	0	0	0	44.17	0	12.84	66.01	52	0	0	19.38	26.37	220.77	7.80	5.9	2608.23	92.20	4.13	4.2681	-0.28