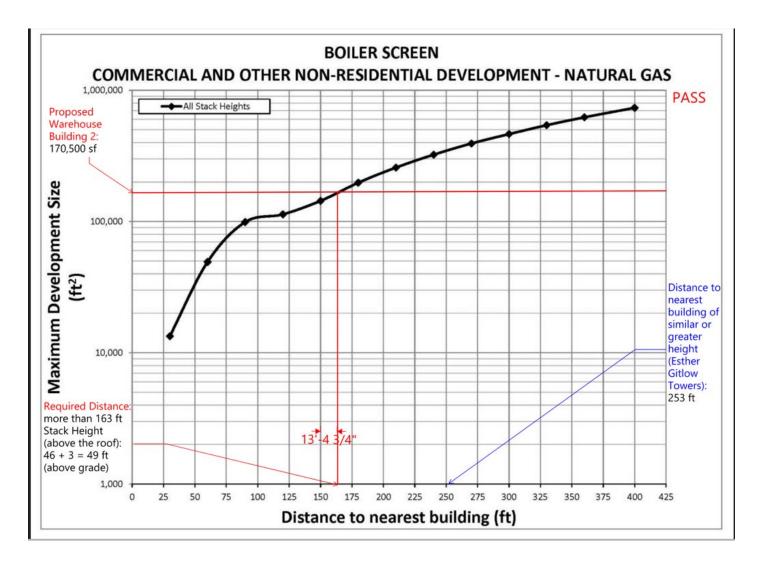
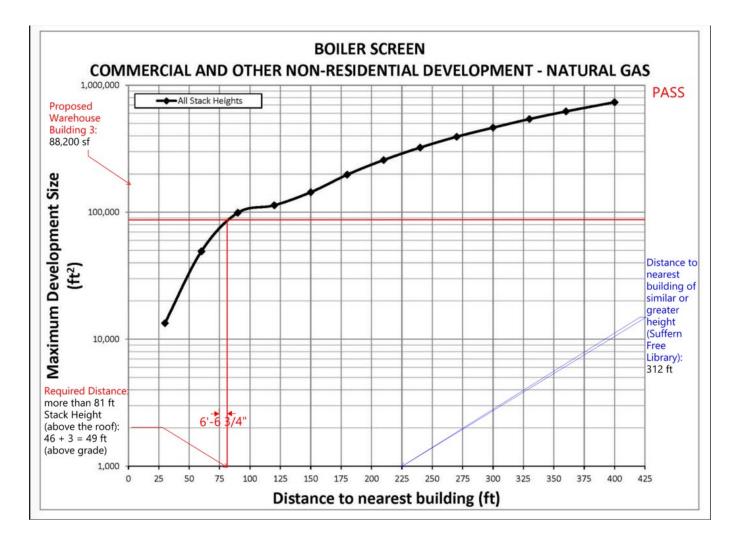
### Suffern Industrial Site: Warehouse HVAC Screening

### 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:

Natur	al Gas Scenario						
				G			
	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				

Natura	l Gas Scenario								
		Heating Value	Total		GI	HG Emissio		GHG Emissions	
	Fuel	(Btu/scf)	Consumption	Unit	CO2	CH4	N2O	Unit	(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?

<u>Solar</u>	Panels Scenario						
		Generation	Unit	G	rs	Unit	
	Solar panels	17,470,310	kWh				
	Electricity	17,470,310	kWh	233.5	0.016	0.002	lb/MWh

Solar	Panels Scenario	GH	G Emissions			GHG Emissions					
		CO2	CH4	N2O	Unit	(MT)					
	Solar panels										
	Electricity	4079317	280	35	lb	2218	Avoided GHG emissions				
				_	Net avo		ided	32	мт		

## Mobile Source GHG

Metric tons of CO2 equivalent per year	r (MOVES out	put 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
Notes			
CO2e EF is directly outputted from MOVES			

## Mobile Source Screening: Heavy Vehicle Percent Calculation

#### No Action and With Action Condition

			Heavy Vehicle %															Passenger Vehicle				
	Intersection	Time	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	Total #	Total %	Heavy EF	Total #	Total %	Passenger B	EF Total EF	% Change
	Lafayette/Camp bell/Hemion	AM	7.56	17.24	5.85	4.65	23.94	9.8	0.97	8.16	2.64	15.47	11.83	8.56	116.67	5.90	5.90	1860.33	94.10	4.13	4.23445	-
No Build	Lafayette/Camp bell/Hemion	PM	0	15.96	3.18	4.62	17.1	1.29	7.4	6.88	9.24	2.78	3.38	1.85	73.68	2.94	5.90	2428.32	97.06	4.13	4.18212	-
	.afayette/Airmon	AM	12.78	22.89	1.32	7.14	17.04	60.42	2.46	8.16	3.21	42.3	19.92	21.72	219.36	6.75	5.90	3030.64	93.25	4.13	4.24947	-
	.afayette/Airmon	PM	10.1	11.7	1.04	0	16.35	21.15	2.46	15.36	3.42	16.04	9.12	6.01	112.75	2.91	5.90	3762.25	97.09	4.13	4.1815	-
	Lafayette/Camp bell/Hemion	AM	11.1	17.24	5.85	4.65	23.94	27.25	0.97	9.9	2.64	20.96	12.46	10.44	147.4	6.99	5.90	1960.6	93.01	4.13	4.25377	0.46
	Lafayette/Camp bell/Hemion	PM	2.11	15.96	3.18	4.62	17.1	8.7	7.4	7.28	9.24	21.48	3.94	6.54	107.55	4.07	5.90	2534.45	95.93	4.13	4.20205	0.48
	afayette/Airmon	AM	17.44	23.03	1.32	7.14	17.46	60.42	2.46	8.16	3.21	42.3	19.92	40.25	243.11	7.36	5.90	3057.89	92.64	4.13	4.26036	0.26
	.afayette/Airmon	PM	26.9	11.91	1.04	0	16.5	21.15	2.46	15.36	3.42	16.04	9.12	12.28	136.18	3.46	5.90	3794.82	96.54	4.13	4.19132	0.23
								Values	are calcul	ated from	n Synchro f	iles start	ing on PD	F pg 12								
								File:								1.09	)					
								2022-08-	12 Constr	uction Tra	affic Impa	<u>t Letter R</u>	eport.pdf			1.13	1					
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#### Construction versus other Conditions

								Hea	avy Vehi	cle %								Passenger Vehicle					
	Intersection	Time	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	Total #	Total %	Heavy E	Total #	Total %	Passenge	Total Ef	% Chang	
	Lafayette/Camp bell/Hemion	АМ	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	РM	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	-	
Existina	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	-	
Existing	Airmont/187 SB/I- 287 EB	АМ	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/187 SB/I- 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/187 SB/I- 287 WB	АМ	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	-	
	Lafayette/Camp bell/Hemion	АМ	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		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	
Construction	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	
00115114011011	Airmont/187 SB/I- 287 EB	АМ	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/187 SB/I- 287 EB	РM	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/187 SB/I- 287 WB	АМ	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	
	Lafayette/Camp bell/Hemion	АМ	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		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	
No Build	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/187 SB/I- 287 EB	АМ	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/187 SB/I- 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/187 SB/I- 287 WB	АМ	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	