

APPENDIX C
CONSTRUCTION

INTRODUCTION

The following appendices outline the detailed construction information which served as the basis for technical analyses of potential construction impacts. Three appendices are included:

1. Appendix C.1: Construction Traffic
2. Appendix C.2: Construction Air Quality
3. Appendix C.3: Construction Noise

APPENDIX C.1: CONSTRUCTION TRAFFIC

The construction traffic appendix first presents graphic depictions of the access to the construction site for each building. Then, in tabular form, the trip generation for each hour in each month is presented for the complete construction period of 2009 to 2032.

APPENDIX C.2: CONSTRUCTION AIR QUALITY

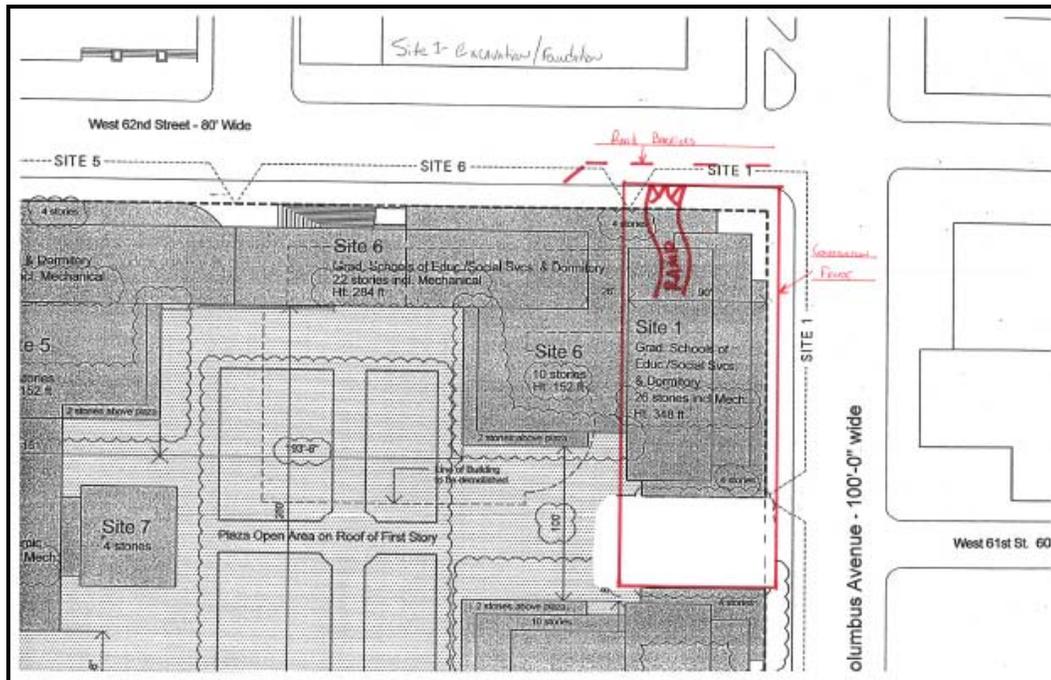
This appendix provides more information on the emissions factors used for various pieces of construction in the air quality modeling. In addition, further detail is provided on the emissions calculations.

APPENDIX C.3: CONSTRUCTION NOISE

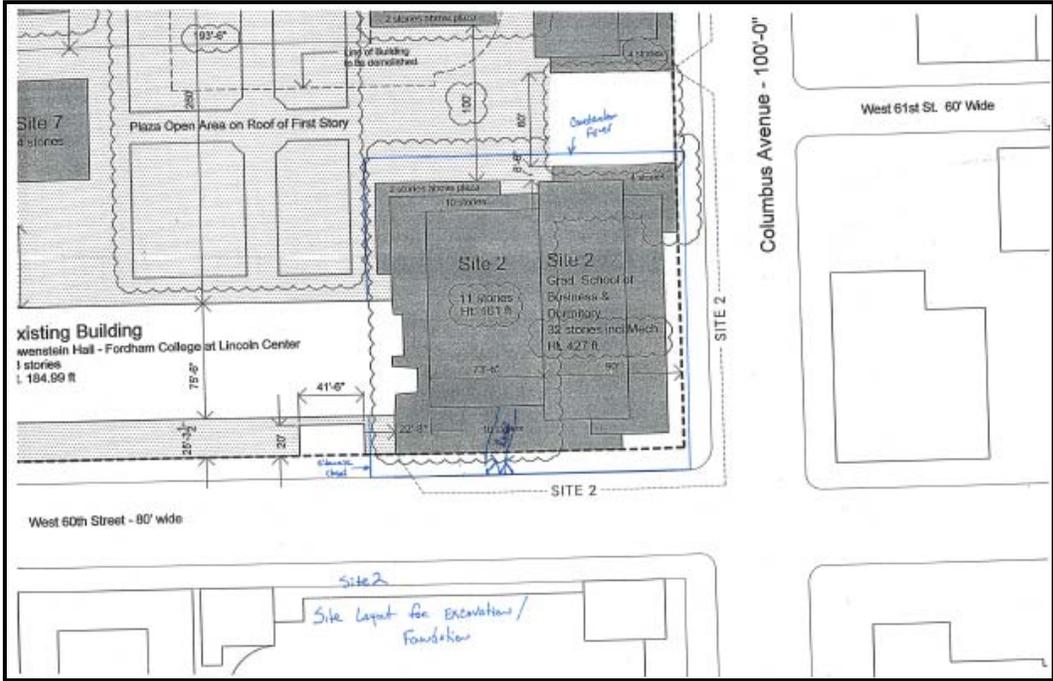
Appendix C.3 presents detailed noise impact results for each year of construction in both graphic and tabular form. The vibrations results are also included in this appendix.

APPENDIX C.1
CONSTRUCTION TRAFFIC

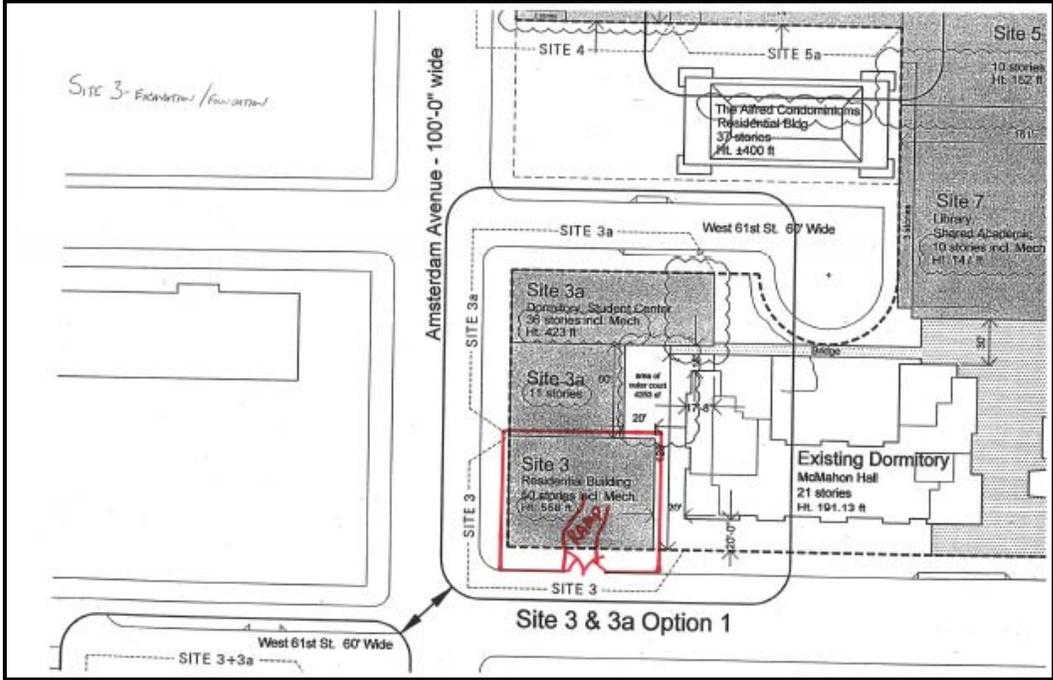
SITE 1 CONSTRUCTION LOGISTICS



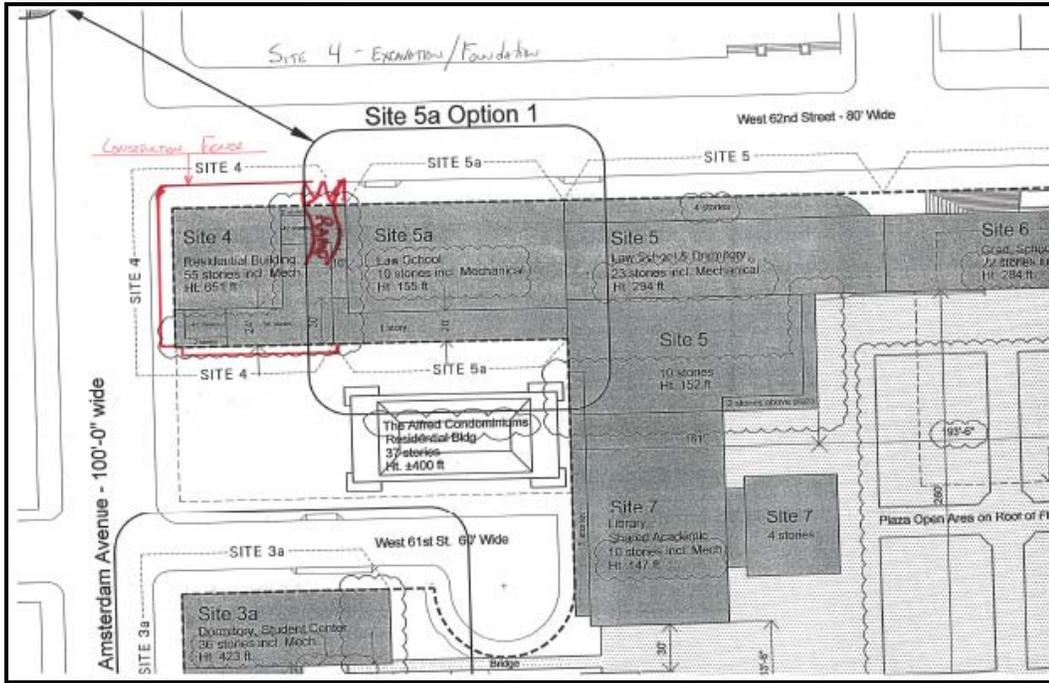
SITE 2 CONSTRUCTION LOGISTICS



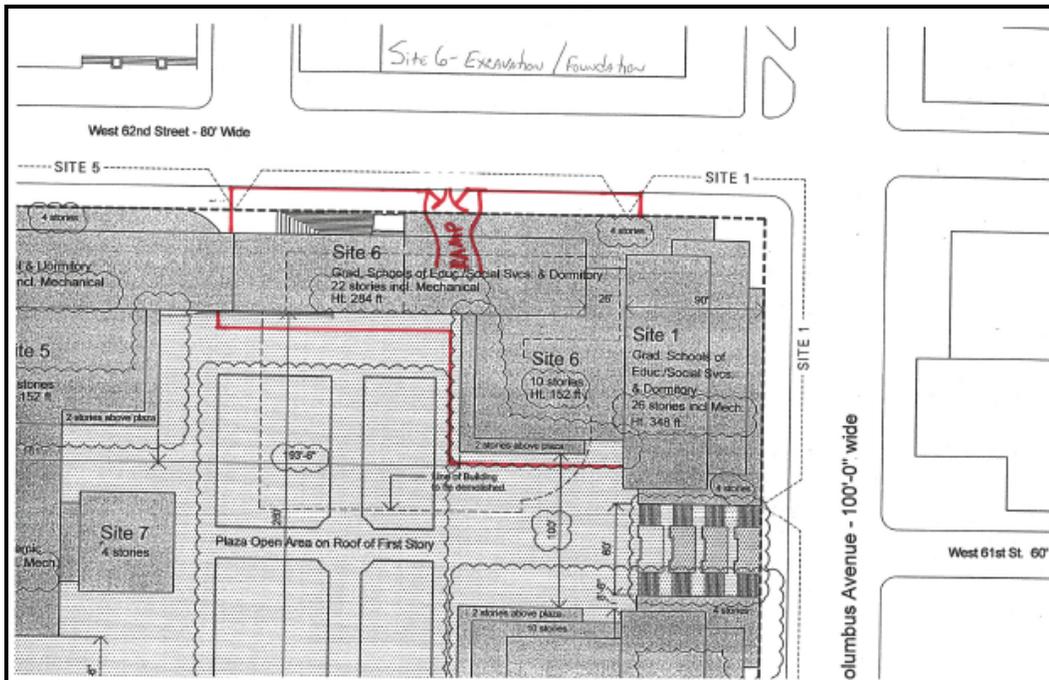
SITE 3 CONSTRUCTION LOGISTICS



SITE 4 AND 5 CONSTRUCTION LOGISTICS



SITE 6 CONSTRUCTION LOGISTICS



SITE 7 CONSTRUCTION LOGISTICS

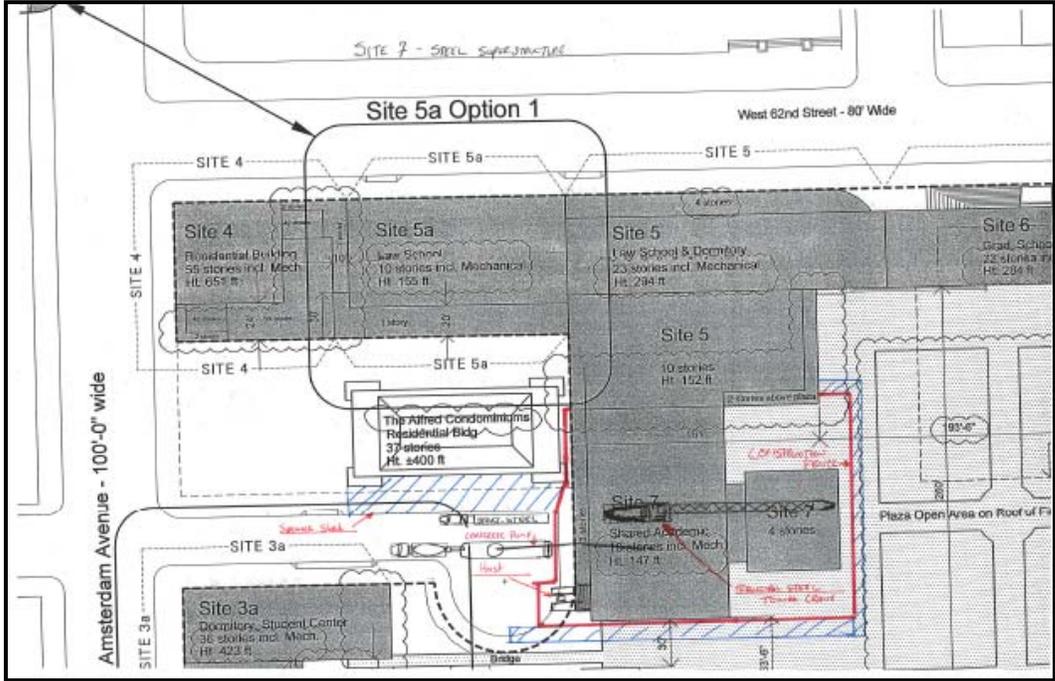


Table 1 (Continued)

Fordham University Lincoln Center Campus
Construction Worker Vehicles and Construction Truck PCEs by Month

Year /Month	6 AM - 7 AM			7 AM - 8 AM			8 AM - 9 AM			9 AM - 10 AM			10 AM - 11 AM			11 AM - 12 PM			12 PM - 1 PM			1 PM - 2 PM			2 PM - 3 PM			3 PM - 4 PM			4 PM - 5 PM			5 PM - 6 PM			6 PM - 7 PM		
	IN	OUT	SUM	IN	OUT	SUM	IN	OUT	SUM	IN	OUT	SUM	IN	OUT	SUM	IN	OUT	SUM	IN	OUT	SUM	IN	OUT	SUM	IN	OUT	SUM	IN	OUT	SUM	IN	OUT	SUM	IN	OUT	SUM			
2013	Jan	101	4	105	26	2	28	2	2	4	2	2	4	2	2	4	2	2	4	2	2	4	0	11	11	0	45	45	0	6	6	0	52	52	0	6	6		
	Feb	134	4	138	36	4	40	4	4	8	4	4	8	4	4	8	4	4	8	4	4	8	0	14	14	0	57	57	0	9	9	0	73	73	0	9	9		
	Mar	141	4	145	39	4	43	4	4	8	4	4	8	4	4	8	4	4	8	4	4	8	0	15	15	0	58	58	0	10	10	0	79	79	0	10	10		
	Apr	141	4	145	39	4	43	4	4	8	4	4	8	4	4	8	4	4	8	4	4	8	0	15	15	0	58	58	0	10	10	0	79	79	0	10	10		
	May	151	6	157	40	4	44	4	4	8	4	4	8	4	4	8	4	4	8	4	4	8	0	16	16	0	63	63	0	10	10	0	82	82	0	10	10		
	Jun	149	4	153	40	4	44	4	4	8	4	4	8	4	4	8	4	4	8	4	4	8	0	16	16	0	63	63	0	10	10	0	82	82	0	10	10		
	Jul	157	4	161	42	4	46	4	4	8	4	4	8	4	4	8	4	4	8	4	4	8	0	16	16	0	65	65	0	11	11	0	88	88	0	11	11		
	Aug	134	0	134	34	0	34	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	14	14	0	54	54	0	10	10	0	80	80	0	10	10		
	Sep	125	0	125	32	0	32	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	13	13	0	50	50	0	9	9	0	75	75	0	9	9			
	Oct	117	0	117	29	0	29	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	12	12	0	49	49	0	9	9	0	68	68	0	9	9			
	Nov	81	0	81	20	0	20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	8	8	0	32	32	0	6	6	0	49	49	0	6	6			
	Dec	65	0	65	16	0	16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6	6	0	26	26	0	5	5	0	39	39	0	5	5			
2014	Jan	81	0	81	20	0	20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	8	8	0	32	32	0	6	6	0	49	49	0	6	6			
	Feb	65	0	65	16	0	16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6	6	0	26	26	0	5	5	0	39	39	0	5	5			
	Mar	48	0	48	12	0	12	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5	5	0	19	19	0	4	4	0	29	29	0	4	4			
	Apr	48	0	48	12	0	12	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5	5	0	19	19	0	4	4	0	29	29	0	4	4			
	May	34	2	36	8	0	8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5	5	0	19	19	0	2	2	0	13	13	0	2	2			
	Jun	34	2	36	8	0	8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5	5	0	19	19	0	2	2	0	13	13	0	2	2			
	Jul	27	2	29	6	0	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	4	0	15	15	0	1	1	0	10	10	0	1	1			
	Aug	16	0	16	4	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2	0	10	10	0	1	1	0	6	6	0	1	1			
	Sep	18	2	20	4	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	4	0	16	16	0	0	0	0	0	0	0	0	0			
	Oct	10	2	12	2	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2	0	8	8	0	0	0	0	0	0	0	0	0			
	Nov	10	2	12	2	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2	0	8	8	0	0	0	0	0	0	0	0	0			
	Dec	6	0	6	2	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	3	3	0	0	0	0	3	3	0	0	0			
2015	Jan	4	0	4	2	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	2	2	0	0	0	0	2	2	0	0	0			
	Feb	3	0	3	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	3	3	0	0	0	0	0	0	0	0	0			
	Mar	3	0	3	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	3	3	0	0	0	0	0	0	0	0	0			
	Apr	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
	May	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
	Jun	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
	Jul	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
	Aug	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
	Sep	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
	Oct	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
	Nov	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
	Dec	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
2016	Jan	5	0	5	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	5	5	0	0	0	0	0	0	0	0	0			
	Feb	5	0	5	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0			
	Mar	17	4	21	6	2	8	2	2	4	2	2	4	2	2	4	2	2	4	2	2	4	2	4	2	1	1	0	3	3	0	1	1	0	10	10			
	Apr	14	6	20	4	2	6	2	2	4	2	2	4	2	2	4	2	2	4	2	2	4	2	4	2	4	2	4	6	2	3	5	0	6	6	0	1	1	
	May	16	6	22	4	2	6	2	2	4	2	2	4	2	2	4	2	2	4	2	2	4	2	4	2	4	2	4	6	2	3	5	0	8	8	0	1	1	
	Jun	24	8	32	8	4	12	4	4	8	4	4	8	4	4	8	4	4	8	4	4	8	4	8	4	6	2	8	10	2	3	5	0	10	10	0	1	1	
	Jul	24	8	32	8	4	12	4	4	8	4	4	8	4	4	8	4	4	8	4	4	8	4	8	4	6	2	8	10	2	3	5	0	10	10	0	1	1	
	Aug	24	8	32	8	4	12	4	4	8	4	4	8	4	4	8	4	4	8	4	4	8	4	8	4	6	2	8	10	2	3	5	0	10	10	0	1	1	
	Sep	33	8	41	10	4	14	4	4	8	4	4	8	4	4	8	4	4	8	4	4	8	4	8	4	6	2	12	14	2	4	6	0	15	15	0	2	2	
	Oct	73	8	81	20	4	24	4	4	8	4	4	8	4	4	8	4	4	8	4	4	8	4	8	4	10	2	28	30	2	7	9	0	39	39	0	5	5	
	Nov	109	4	113	29	2	31	2	2	4	2	2	4	2	2	4	2	2	4	2	2	4	2	4	2	11	11	0	42	42	0	8	8	0	63	63	0	8	8
	Dec	126	4	130	34	4	38	4	4	8	4	4	8	4	4	8	4	4	8	4	4	8	0	12	12	0	49	49	0	9	9	0	73	73	0	9	9		

Table 1 (Continued)
Fordham University Lincoln Center Campus
Construction Worker Vehicles and Construction Truck PCEs by Month

Year /Month	6 AM - 7 AM			7 AM - 8 AM			8 AM - 9 AM			9 AM - 10 AM			10 AM - 11 AM			11 AM - 12 PM			12 PM - 1 PM			1 PM - 2 PM			2 PM - 3 PM			3 PM - 4 PM			4 PM - 5 PM			5 PM - 6 PM			6 PM - 7 PM		
	IN	OUT	SUM	IN	OUT	SUM	IN	OUT	SUM	IN	OUT	SUM	IN	OUT	SUM	IN	OUT	SUM	IN	OUT	SUM	IN	OUT	SUM	IN	OUT	SUM	IN	OUT	SUM	IN	OUT	SUM	IN	OUT	SUM	IN	OUT	SUM
2017	Jan	126	4	130	34	4	38	4	4	8	4	4	8	4	4	8	4	4	8	4	4	8	0	12	12	0	49	49	0	9	9	0	73	73	0	9	9		
	Feb	143	6	149	38	4	42	4	4	8	4	4	8	4	4	8	4	4	8	4	4	8	0	14	14	0	55	55	0	10	10	0	82	82	0	10	10		
	Mar	152	6	158	41	4	45	4	4	8	4	4	8	4	4	8	4	4	8	4	4	8	0	15	15	0	58	58	0	11	11	0	88	88	0	11	11		
	Apr	136	6	142	36	4	40	4	4	8	4	4	8	4	4	8	4	4	8	4	4	8	0	13	13	0	52	52	0	10	10	0	78	78	0	10	10		
	May	126	4	130	32	2	34	2	2	4	2	2	4	2	2	4	2	2	4	2	2	4	0	12	12	0	49	49	0	9	9	0	73	73	0	9	9		
	Jun	117	4	121	30	2	32	2	2	4	2	2	4	2	2	4	2	2	4	2	2	4	0	11	11	0	45	45	0	9	9	0	68	68	0	9	9		
	Jul	85	4	89	22	2	24	2	2	4	2	2	4	2	2	4	2	2	4	2	2	4	0	8	8	0	32	32	0	6	6	0	49	49	0	6	6		
	Aug	69	4	73	18	2	20	2	2	4	2	2	4	2	2	4	2	2	4	2	2	4	0	6	6	0	26	26	0	5	5	0	39	39	0	5	5		
	Sep	69	4	73	18	2	20	2	2	4	2	2	4	2	2	4	2	2	4	2	2	4	0	6	6	0	26	26	0	5	5	0	39	39	0	5	5		
	Oct	52	4	56	12	0	12	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5	5	0	19	19	0	4	4	0	29	29	0	4	4		
	Nov	48	0	48	12	0	12	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5	5	0	19	19	0	4	4	0	29	29	0	4	4		
	Dec	34	2	36	8	0	8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5	5	0	19	19	0	2	2	0	13	13	0	2	2		
2018	Jan	34	2	36	8	0	8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5	5	0	19	19	0	2	2	0	13	13	0	2	2			
	Feb	27	2	29	6	0	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	4	0	15	15	0	1	1	0	10	10	0	1	1			
	Mar	18	2	20	4	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2	0	10	10	0	1	1	0	6	6	0	1	1			
	Apr	18	2	20	4	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	4	0	16	16	0	0	0	0	0	0	0	0	0			
	May	10	2	12	2	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2	0	8	8	0	0	0	0	0	0	0	0	0			
	Jun	10	2	12	2	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2	0	8	8	0	0	0	0	0	0	0	0	0			
	Jul	6	0	6	2	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	3	3	0	0	0	0	0	0	0	0	0			
	Aug	4	0	4	2	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	2	2	0	0	0	0	0	0	0	0	0			
	Sep	3	0	3	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	3	3	0	0	0	0	0	0	0	0	0			
	Oct	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
	Nov	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
	Dec	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
2019	Jan	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
	Feb	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	Mar	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	Apr	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	May	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	Jun	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	Jul	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	Aug	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	Sep	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	Oct	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	Nov	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	Dec	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
2020	Jan	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
	Feb	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	Mar	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	Apr	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	May	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	Jun	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	Jul	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	Aug	5	0	5	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	5	5	0	0	0	0	0	0	0	0	0		
	Sep	7	2	9	3	2	5	2	2	4	2	2	4	2	2	4	2	2	4	2	2	4	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0		
	Oct	20	4	24	6	2	8	2	2	4	2	2	4	2	2	4	2	2	4	2	2	4	0	1	1	0	3	3	0	2	2	0	13	13	0	2	2		
	Nov	22	6	28	6	2	8	2	2	4	2	2	4	2	2	4	2	2	4	2	2	4	2	3	5	2	5	7	2	4	6	0	13	13	0	2	2		
	Dec	22	6	28	6	2	8	2	2	4	2	2	4	2	2	4	2	2	4	2	2	4	2	3	5	2	5	7	2	4	6	0	13	13	0	2	2		

Table 1 (Continued)
Fordham University Lincoln Center Campus
Construction Worker Vehicles and Construction Truck PCEs by Month

Year /Month	6 AM - 7 AM			7 AM - 8 AM			8 AM - 9 AM			9 AM - 10 AM			10 AM - 11 AM			11 AM - 12 PM			12 PM - 1 PM			1 PM - 2 PM			2 PM - 3 PM			3 PM - 4 PM			4 PM - 5 PM			5 PM - 6 PM			6 PM - 7 PM		
	IN	OUT	SUM	IN	OUT	SUM	IN	OUT	SUM	IN	OUT	SUM	IN	OUT	SUM	IN	OUT	SUM	IN	OUT	SUM	IN	OUT	SUM	IN	OUT	SUM	IN	OUT	SUM	IN	OUT	SUM	IN	OUT	SUM			
2029	Jan	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
	Feb	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
	Mar	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
	Apr	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
	May	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
	Jun	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
	Jul	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
	Aug	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
	Sep	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
	Oct	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
	Nov	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
	Dec	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
2030	Jan	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
	Feb	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
	Mar	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
	Apr	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
	May	6	0	6	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	1	1	0	5	5	0	1	1				
	Jun	6	0	6	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	1	1	0	5	5	0	1	1					
	Jul	6	0	6	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	1	1	0	5	5	0	1	1					
	Aug	6	0	6	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	1	1	0	5	5	0	1	1					
	Sep	6	0	6	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	1	1	0	5	5	0	1	1					
	Oct	16	6	22	4	2	6	2	2	4	2	2	4	2	2	4	2	2	4	2	2	4	2	2	4	2	4	6	2	3	5	0	8	8	0	1	1		
	Nov	22	6	28	6	2	8	2	2	4	2	2	4	2	2	4	2	2	4	2	2	4	2	3	5	2	6	8	2	4	6	0	12	12	0	2	2		
	Dec	22	6	28	6	2	8	2	2	4	2	2	4	2	2	4	2	2	4	2	2	4	2	3	5	2	6	8	2	4	6	0	12	12	0	2	2		
2031	Jan	20	4	24	6	2	8	2	2	4	2	2	4	2	2	4	2	2	4	2	2	4	0	1	1	0	4	4	0	2	2	0	12	12	0	2	2		
	Feb	22	6	28	6	2	8	2	2	4	2	2	4	2	2	4	2	2	4	2	2	4	2	3	5	2	6	8	2	4	6	0	12	12	0	2	2		
	Mar	52	4	56	14	2	16	2	2	4	2	2	4	2	2	4	2	2	4	2	2	4	0	3	3	0	12	12	0	5	5	0	36	36	0	5	5		
	Apr	71	6	77	18	2	20	2	2	4	2	2	4	2	2	4	2	2	4	2	2	4	2	6	8	2	18	20	2	8	10	0	49	49	0	6	6		
	May	111	6	117	29	2	31	2	2	4	2	2	4	2	2	4	2	2	4	2	2	4	2	9	11	2	28	30	2	12	14	0	79	79	0	10	10		
	Jun	125	4	129	33	2	35	2	2	4	2	2	4	2	2	4	2	2	4	2	2	4	0	8	8	0	30	30	0	11	11	0	91	91	0	11	11		
	Jul	141	4	145	36	2	38	2	2	4	2	2	4	2	2	4	2	2	4	2	2	4	0	12	12	0	48	48	0	11	11	0	89	89	0	11	11		
	Aug	150	4	154	39	2	41	2	2	4	2	2	4	2	2	4	2	2	4	2	2	4	0	13	13	0	51	51	0	12	12	0	95	95	0	12	12		
	Sep	133	4	137	34	2	36	2	2	4	2	2	4	2	2	4	2	2	4	2	2	4	0	11	11	0	45	45	0	11	11	0	84	84	0	11	11		
	Oct	127	6	133	33	2	35	2	2	4	2	2	4	2	2	4	2	2	4	2	2	4	2	10	12	2	32	34	2	13	15	0	91	91	0	11	11		
	Nov	115	2	117	28	0	28	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7	7	0	28	28	0	11	11	0	85	85	0	11	11		
	Dec	83	2	85	20	0	20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5	5	0	20	20	0	8	8	0	61	61	0	8	8		
2032	Jan	67	2	69	16	0	16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	4	0	16	16	0	6	6	0	49	49	0	6	6			
	Feb	48	0	48	12	0	12	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5	5	0	19	19	0	4	4	0	29	29	0	4	4			
	Mar	34	2	36	8	0	8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5	5	0	19	19	0	2	2	0	13	13	0	2	2			
	Apr	27	2	29	6	0	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	4	0	15	15	0	1	1	0	10	10	0	1	1			
	May	18	2	20	4	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	4	0	16	16	0	0	0	0	0	0	0	0	0			
	Jun	10	2	12	2	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2	0	8	8	0	0	0	0	0	0	0	0	0			
	Jul	6	0	6	2	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	3	3	0	0	0	0	3	3	0	0	0			
	Aug	4	0	4	2	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	2	2	0	0	0	2	2	0	0	0				
	Sep	3	0	3	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	3	3	0	0	0	0	0	0	0	0	0			
	Oct	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
	Nov	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
	Dec	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		

*

APPENDIX C.2
CONSTRUCTION AIR QUALITY

Provided in this appendix is the methodology for an analysis of air quality impacts from on-site construction activities associated with work to be performed at the Fordham Campus in Manhattan, New York bounded by Amsterdam and Columbus Avenues and 61st and 62nd Streets.

An analysis of the potential for air quality impacts from on-site construction equipment was performed. The analysis includes a peak annual period beginning in 2009, which overall, is expected to be the most conservative time period (using peak PM_{2.5} construction emissions as an indicator for potential adverse impacts) for the construction program. For the peak short-term period (i.e., daily), maximum impacts are also expected to occur in 2009. These time periods coincide with the development of Sites 4 and Site 5/5a.

In addition to construction activities in 2009, a secondary period was also examined for an annual period beginning in 2016 for PM_{2.5} in consideration of how site-wide emissions were concentrated on a per unit area basis. This time period coincides with the development of Site 2. A second short-term period was analyzed in 2025 and corresponds to the development of Site 7.

A. CONSTRUCTION EQUIPMENT

During construction at the campus various types of fuel burning construction equipment will be used at different locations throughout the site. The release of airborne pollutants from the combustion of fuel and fugitive dust created by heavy vehicles traveling and operating in work areas are the two main sources of air emissions. The equipment was assumed to operate intermittently from 7 AM to 6PM (which includes an extended shift of 3 PM to 6 PM). Some of the equipment is mobile and will operate in specified areas while some will remain stationary on-site at distinct locations. Presented in Table C.2-1 is a list of the construction equipment expected to be on-site during the peak construction period in 2009 (and Table C.2-2 for 2016; Table C.2-3 for 2025). The peak short-term and annual periods were determined based on construction equipment resource schedules and activities occurring on-site.

Table C.2-1
Nonroad Construction Equipment for 2009 Analysis Period

Equipment Type	Fuel Type	Mobile or Stationary
Air Compressors	Diesel	Stationary
Backhoe	Diesel	Mobile
Chain Saws	Gasoline	Mobile
Concrete Trowels	Gasoline	Mobile
Tower Cranes	Diesel	Stationary
Cut-Off Saws	Gasoline	Mobile
Drill Rigs	Diesel	Stationary
Excavators	Diesel	Mobile
Mortar Mixers	Gasoline	Stationary
Rebar Benders	Diesel	Stationary
Compactors	Gasoline	Mobile

Table C.2-2
Nonroad Construction Equipment for 2016 Analysis Period

Equipment Type	Fuel Type	Mobile or Stationary
Air Compressors	Diesel	Stationary
Backhoe	Diesel	Mobile
Chain Saws	Gasoline	Mobile
Concrete Trowels	Gasoline	Mobile
Tower Cranes	Diesel	Stationary
Cut-Off Saws	Gasoline	Mobile
Drill Rigs	Diesel	Stationary
Excavators	Diesel	Mobile
Concrete Pump	Diesel	Stationary
Rebar Benders	Diesel	Stationary

Table C.2-3
Nonroad Construction Equipment for 2025 Analysis Period

Equipment Type	Fuel Type	Mobile or Stationary
Air Compressors	Diesel	Stationary
Chain Saws	Gasoline	Mobile
Tower Cranes	Diesel	Stationary
Cut-Off Saws	Gasoline	Mobile
Drill Rigs	Diesel	Stationary
Excavators	Diesel	Mobile
Rebar Benders	Diesel	Stationary

Stationary emission sources were considered to be point sources and were placed at fixed locations. The placement of each individual source is an estimate of where they may be located during the construction period. Mobile source equipment was considered to be area sources. Area source emissions were distributed evenly across the construction site.

B. SOURCE EMISSION CALCULATIONS

FUEL COMBUSTION

The emission factors for combustion of fuel for on-site construction equipment (excluding heavy duty diesel trucks) were developed using the USEPA NONROAD Emissions Model. The model is based on source inventory data accumulated for specific categories of off road equipment. Data provided in the output files from the NONROAD model were used to derive (i.e., back-calculated from regional emission estimates) these emission factors for each type of equipment that is expected to be present on-site during construction activities. For PM emissions, an inventory year of 2006 was used for all diesel equipment over 50 horsepower assuming that diesel particulate filters (DPF's) with an emission reduction efficiency of 90 percent would be applied to all such equipment. An example of model derived emission factors used for fuel combustion emission rate calculations for the 2009 analysis period are provided in Table C.2-4.

Emission rates of NO_x, PM, and CO from combustion of fuel for on-site heavy duty diesel trucks were developed using the USEPA MOBILE6.2 emissions model. This model provides emission factors in grams per vehicle-mile for NO_x and CO and grams per hour for PM. For this analysis, truck emissions were conservatively estimated using only idle engine emission factors.

TABLE 4
NONROAD Emission Factors¹
Fordham Construction Equipment

Pollutant	Combustion Source Emission Factor by Equipment Type in g/hp-hr				
	Air Compressor	Backhoe	Chain Saw	Concrete Trowel	Tower Crane
CO	0.435	1.631	244.210	374.390	0.390
NOx	1.999	1.371	0.637	1.359	1.882
PM ₁₀	0.008	0.017	6.824	0.058	0.008
PM _{2.5}	0.004	0.009	6.278	0.053	0.004

Pollutant	Combustion Source Emission Factor by Equipment Type in g/hp-hr				
	Cut-Off Saw	Drill Rig	Tie-Back Drill Rig	Excavator	Street Cleaner
CO	634.500	1.408	1.408	0.722	1.105
NOx	2.164	2.722	2.722	2.155	2.084
PM ₁₀	0.098	0.015	0.015	0.015	0.018
PM _{2.5}	0.090	0.008	0.008	0.009	0.011

Pollutant	Combustion Source Emission Factor by Equipment Type in g/hp-hr				
	Compactor	Mortar Mixer	Rebar Bender	Street Cleaner	
CO	372.312	388.013	3.670	1.105	
NOx	1.209	1.581	2.874	2.084	
PM ₁₀	0.103	0.133	0.394	0.018	
PM _{2.5}	0.095	0.122	0.382	0.011	

Notes:

1. Emission factors, derived from the NONROAD model output (Version 2005a), were back calculated from the NONROAD regional emission estimates. For PM, a base year of 2006 was used in conjunction with a 90% control efficiency for use of diesel particulate filters on all equipment greater than 50 horsepower. For diesel equipment that was 50 horsepower or less, a base year of 2009 was used assuming no emissions control. For all gasoline equipment and for all other modeled pollutants, a base year of 2009 was also applied in the analysis.

ESTIMATED EMISSION RATES FROM COMBUSTION SOURCES

Based on the fuel combustion emission factors described above, emission rates have been calculated for each type of equipment expected to be on-site. An example of these emission rates with sample calculations for the 2009 analysis period is provided in Table C.2-5.

FUGITIVE DUST EMISSIONS

On-site construction equipment have the potential to generate fugitive dust (PM₁₀ for this analysis) due to heavy vehicles (i.e., dump trucks) traveling on unpaved sections of the construction site. Emission rates for these activities were developed using equations presented in USEPA's AP-42 "A Compilation of Air Pollution Emission Factors." Emission factors for particulate matter generated by these sources are provided in grams per vehicle-mile. Travel distances used to calculate emissions are an approximation of the maximum distance that most trucks would travel during soil transfer operations round trip between the site entrance/exit and the excavation area. For this analysis it is presumed that vehicle speeds will be restricted to 5 miles per hour or less.

Particulate matter emissions would be generated by heavy equipment performing operational activities such as loading and drop (soil transfer) operations. Estimates of air emissions from these activities were developed using USEPA's AP-42.

ESTIMATED EMISSION RATES FROM FUGITIVE SOURCES

An example of PM₁₀ emission rate calculations from on-site mobile source fugitive road dust is provided in Table C.2-6 for heavy trucks operating on unpaved roads during the 2009 analysis period. Key parameters in the AP-42 calculations included silt loading/silt content and vehicle weights. The values selected for silt loading and silt content for the unpaved roads were conservative estimates taken from AP-42 tables.

An example of the PM emission rate calculations for soil transfer activities is provided in Table C.2-7 for excavation operations during the 2009 analysis period. *

TABLE 5
Estimated Peak-Hour Short-Term Emission Rates
Fuel Combustion Sources

Construction Equipment ¹	Site Eqp Rated HP	Emission Rates in g/sec (per unit) ³				Emission Rates in lb/hr (per unit)			
		NO _x	CO	PM ₁₀	PM _{2.5}	NO _x	CO	PM ₁₀	PM _{2.5}
Air Compressor	275	1.5E-01	3.3E-02	5.9E-04	3.0E-04	1.2E+00	2.6E-01	4.7E-03	2.4E-03
Backhoe	90	3.4E-02	4.1E-02	4.2E-04	2.2E-04	2.7E-01	3.2E-01	3.3E-03	1.7E-03
Chain Saw	5	8.8E-04	3.4E-01	9.5E-03	8.7E-03	7.0E-03	2.7E+00	7.5E-02	6.9E-02
Concrete Trowel	11	4.2E-03	1.1E+00	1.8E-04	1.6E-04	3.3E-02	9.1E+00	1.4E-03	1.3E-03
Tower Crane	190	9.9E-02	2.1E-02	4.3E-04	2.1E-04	7.9E-01	1.6E-01	3.4E-03	1.7E-03
Cut-Off Saw	4.5	2.7E-03	7.9E-01	1.2E-04	1.1E-04	2.1E-02	6.3E+00	9.7E-04	9.0E-04
Drill Rig	90	6.8E-02	3.5E-02	3.9E-04	2.0E-04	5.4E-01	2.8E-01	3.1E-03	1.6E-03
Tie-Back Drill Rig	90	6.8E-02	3.5E-02	3.9E-04	2.0E-04	5.4E-01	2.8E-01	3.1E-03	1.6E-03
Excavator	240	1.4E-01	4.8E-02	1.0E-03	5.7E-04	1.1E+00	3.8E-01	7.9E-03	4.6E-03
Mortar Mixer	6	2.6E-03	6.5E-01	2.2E-04	2.0E-04	2.1E-02	5.1E+00	1.8E-03	1.6E-03
Rebar Bender	11	8.8E-03	1.1E-02	1.2E-03	1.2E-03	7.0E-02	8.9E-02	9.5E-03	9.3E-03
Street Cleaner	99	5.7E-02	3.0E-02	4.9E-04	3.0E-04	4.5E-01	2.4E-01	3.9E-03	2.4E-03
Compactor	6	2.0E-03	6.2E-01	1.7E-04	1.6E-04	1.6E-02	4.9E+00	1.4E-03	1.3E-03
Trucks									
Heavy Trucks ²	400	8.3E-03	6.1E-03	3.1E-04	2.9E-04	6.6E-02	4.9E-02	2.5E-03	2.3E-03

Notes:

- Construction equipment emission factors were derived from the USEPA NONROAD model.
- Heavy Duty Diesel Vehicle emissions were derived from the USEPA MOBILE6.2 model. Since travel time is a very small percentage of time spent on-site, it was conservatively assumed that emission rates for all time spent on-site were the result of idling vehicles. Idle vehicle emission factors were generated using a vehicle speed of 2.5 mph. MOBILE6.2 Emission Factors for trucks in the year 2009 are provided below:

NO_x: 11.97 grams per vehicle mile traveled (g/VMT) at 2.5 miles per hour
CO: 8.83 g/VMT
PM₁₀: 1.12 g/hr
PM_{2.5}: 1.03 g/hr

Emission rates for heavy trucks (in g/sec) were calculated by multiplying the emission factor in g/VMT by 2.5 miles per hour and then dividing by 3,600 seconds per hour.

- Due to the use of ultra-low sulfur diesel in 2009, SO₂ emissions are negligible.

Sample Emission Calculation for NO_x (backhoe):

$$E_R = (E_f \text{ NONROAD} * \text{Eqpmt HP}) / 60 \text{ (min/hr)} / 60 \text{ (s/min)}$$

where:

E_R = Pollutant specific emission rate in grams per second (g/sec)

E_f NONROAD = the NONROAD model derived emission factor in g/hp-hr

Actual HP = the rated horsepower for the actual equipment expected on-site

$$E_R \text{ NO}_x = (1.371 * 90) / 60 / 60$$

$$E_R \text{ NO}_x = 0.034 \text{ g/sec}$$

TABLE 6
Estimated Peak-Hour Emission Rates for Site 4
Fugitive Dust Sources - PM₁₀
Mobile Equipment Operating on Unpaved Roads in Excavation Area^a

Analysis Period ^d	Surface Type	Avg. Length of Road/Path (feet)	Type of Vehicles ^c	Average Weight (tons)	Round Trip Length of Road/Path		Total Distance Traveled Miles	PM ₁₀ Emission Factor lb/VMT	Controlled PM ₁₀ Emission Rate g/s
					feet	miles			
Daily	Unpaved	150	dump truck	30.0	300	0.0568	0.077	3.10	1.51E-02
Annual	Unpaved	75	dump truck	30.0	150	0.0284	0.004	3.10	7.60E-04

- Notes: a. Road dust emissions were not calculated on a per vehicle basis but rather on a fleet-wide basis. Excavation equipment move about in small incremental steps as the excavation progresses (i.e., minimal distances) and would therefore generate a negligible amount of fugitive road dust.
- b. Daily number of trucks = 300 trucks per month divided by 20 days per month, 11 hours per day. Annual average number of trucks = 550 trucks in the year 2009 divided by 365 days, 11 hours per day (although excavation is only several months long, the modeling analysis uses a full year of meteorology).
- c. Listed below are the vehicle types, their average weight and travel frequency in truck trips per hour (round trips) for the excavation area (daily peak and annual average).

	Truck trips per hour onsite		Avg. Weight
	Short-Term	Annual	
Trucks =	1.4	0.1	30 tons

Unpaved Road Emission Factor - Sample Calculation:

$$E_f = k * (s/12)^a * (W/3)^b \quad \text{Equation 1a from Section 13.2.2 of USEPA's AP-42}$$

where:

E_f = size specific emission factor in pounds per vehicle mile traveled (lb/VMT)

k = an empirical constant selected from AP-42 Table 13.2.2-2 for PM₁₀

s = surface material silt content in percent silt selected from AP-42 Table 13.2.2-1 (for a construction site)

a = an empirical constant selected from AP-42 Table 13.2.2-2 for PM₁₀

W = mean vehicle weight in tons

b = an empirical constant selected from AP-42 Table 13.2.2-2 for PM₁₀

$$E_f = 1.5 * (8.5/12)^{0.9} * (30/3)^{0.45}$$

$$E_f = 3.10 \text{ lb/VMT}$$

Sample Emission Rate Calculation:

$$E_R = (E_f \text{ unpaved} * \text{VMT}) * 453.59 \text{ (g/lb)} / 60 \text{ (min/hr)} / 60 \text{ (s/min)}$$

where:

E_R = PM₁₀ emission rate in grams per second

$E_f \text{ unpaved}$ = unpaved road emission factor in lb/VMT

VMT = vehicle miles traveled

$$E_R = (3.10 * 0.077) * 453.59 \text{ (g/lb)} / 60 \text{ (min/hr)} / 60 \text{ (s/min)} * 0.5$$

$$E_R = 1.51 \text{ E-02 g/sec}$$

Table 7
Estimated Peak-Daily Short-Term Emission Rates
Fugitive Dust Sources - PM₁₀ and PM_{2.5}
Transfer Operations - Excavation

Equipment	Activity	Volume Removed Daily cubic yards ¹	Default Soil Density lbs/cubic yard	Tons Removed Hourly ²	Emission Factor ³ lb/ton	PM ₁₀ Emission Rate lb/hr	PM ₁₀ Emission Rate g/s	PM _{2.5} Emission Rate ⁴ lb/hr	PM _{2.5} Emission Rate ⁴ g/s
Site 4	Excavators Transfer Soil to 18 cy Truck	270	2,600	32	1.81E-04	0.003	3.6E-04	4.4E-04	5.5E-05
Site 5/5a	Excavators Transfer Soil to 18 cy Truck	225	2,600	27	1.81E-04	0.002	3.0E-04	3.6E-04	4.6E-05

Notes:

1. A peak daily rate of 15 dump trucks per day (i.e., 300 per month divided by 20 days per month) with a capacity of 18 cubic yards each will be filled on Site 4 and a peak daily rate of 12.5 dump trucks per day (i.e., 250 per month divided by 20 days per month) also with a capacity of 18 cubic yards each will be filled on Site 5/5a. To be conservative, the short-term analysis was based on soil excavation only (i.e., fugitive dust emissions are higher with soil removal than with rock removal).
2. Based on an eleven hour day.
3. Emission factors for soil transfer operations are based on Equation 1 from Section 13.2.4 of AP-42. Emission factor calculations are provided below.
4. A control factor of 50% was applied to account for an onsite watering program.

Transfer/Drop Operation Emission Factor - Sample Calculation for PM₁₀:

$$E_f = k * (0.0032) * (U/5)^{1.3} / (M/2)^{1.4}$$

where:

E_f = size specific emission factor in pounds per ton (lb/ton)

k = an empirical constant selected from AP-42 (0.35 for PM₁₀ and 0.053 for PM_{2.5})

U = mean wind speed in miles per hour (mph)

M = material moisture content in percent moisture (%) from Table 13.2.4-1 of AP-42 (for overburden)

$$E_f = 0.35 * (0.0032) * (10/5)^{1.3} / (14/2)^{1.4}$$

$$E_f = 1.81 \text{ E-04 lb/ton}$$

Sample Emission Rate Calculation for PM₁₀ (Site 4):

$$E_R = E_f \text{ PM}_{10} * ((\text{daily soil volume}/11) * (\text{soil density} / 2,000 \text{ lbs/ton})) * 453.59 / 60 / 60$$

where:

E_R = PM₁₀ emission rate in grams per second

$E_f \text{ PM}_{10}$ = PM₁₀ emission factor in lb/ton

soil volume = volume of soil handled in cubic yards per hour

soil density = 2,600 lbs/YD³

$$E_R = 1.81 \text{ E-04} * ((270/11) * (2,600 / 2,000)) * 453.59 / 60 / 60 * 0.5$$

$$E_R = 3.6 \text{ E-04 g/s}$$

APPENDIX C.3
CONSTRUCTION NOISE

INTRODUCTION

The Fordham University Lincoln Center Master Plan EIS Construction Noise Appendix C.3 contains the following files:

- Construction noise analysis results from the DEIS (Table A);
- Refined construction noise analysis results prepared for the FEIS (Table B);
- Construction noise sound level contour maps for worst case month of each analysis year; and
- Construction vibration analysis results.

The construction noise analysis in the DEIS determined the worst case years for construction noise and examined the potential for noise impacts during those years. The worst case years were determined based on the construction sequencing and equipment schedule. For each of the worst case years analyzed as part of the DEIS, a worst case month was selected based on the construction equipment schedule. The results of the construction noise analysis (see Table A in this Appendix) for each worst case month were conservatively assumed to be representative of noise levels that would occur due to construction activities for the entire year.

The analysis in the FEIS, which followed the same methodology outlined in Chapter 19, “Construction” of the EIS, made further refinements to the analysis presented in the DEIS. At locations where significant impacts were predicted to occur in the DEIS, analyses were performed for the months before and after the time when the significant noise level increases were predicted to occur to determine whether the impacts identified in the DEIS would occur continually for at least two or more consecutive years (see Table B in this Appendix). Additional noise mitigation options were also investigated. If the additional analysis time periods identified that construction noise impacts would not be expected to occur continuously for at least two consecutive years, then a significant impact would not be expected to occur. If the additional analysis scenarios identified that construction noise impacts identified in the DEIS would occur continually for at least two or more consecutive years, then the potential impacts identified in the EIS would be considered a significant noise impact. Specifically, the additional analyses examined the maximum predicted incremental noise levels during other time periods within the two or more years when exceedances of the 3 dBA impact criteria were predicted to occur at sites A, A1, A2, A3, A4, E, and R to determine whether these exceedances would occur for two or more consecutive years. For the following receptors, the additional analyses examined the following time periods:

¹ This Introduction is new to the FEIS.

PHASE 1

- Receptor A—2009 (January through April), 2009 (May through September), 2009 (October) to 2010 (April), 2010 (May through July), 2010 (August through December), 2011 (April), and 2013 (June to December).
- Receptor A1—2009 (January through April), 2009 (May through September), 2009 (October) to 2010 (April), 2010 (May through July), 2010 (August through December), and 2011 (April).
- Receptor A2—2009 (January through April), 2009 (May through September), 2009 (October) to 2010 (April), 2010 (May through July), 2010 (August through December), and 2011 (April).
- Receptor A3—2009 (January through April), 2009 (May through September), 2009 (October) to 2010 (April), 2010 (May through July), 2010 (August through December), and 2011 (April).
- Receptor A4—2009 (January through April), 2009 (May through September), 2009 (October) to 2010 (April), 2010 (May through July), 2010 (August through December), and 2011 (April).

PHASE 2

- Receptor E—2021 (October through December)
- Receptor R—2016 (January through March), and 2017 (November) to 2018 (June).

These additional analyses showed that the exceedances of the 3 dBA impact criteria for two or more years would not occur continuously at sites A, E, and R, and that the extent of impacts at sites A1, A2, A3, and A4 would be slightly less than previously disclosed in the DEIS. (The results for these additional time periods are shown in Table B in this Appendix) In addition, analyses were performed to determine whether it would be feasible to implement additional mitigation measures to reduce or eliminate the impacts predicted to occur at sites A1, A2, A3, and/or A4. Those analyses indicated that there were not feasible mitigation measures that would significantly reduce or eliminate the predicted impacts at these locations. *

Table A

Construction Noise Results
 Exceed the CEQR noise criterion

Receptor	Elevation	Existing Leq(1)	Phase 1																																																																																			
			2009-05			2010-10			2011-04			2012-05			2013-02			2016-07			2017-03																																																																	
			NoBuild	Cons.	Total	NoBuild	Cons.	Total	NoBuild	Cons.	Total	NoBuild	Cons.	Total	NoBuild	Cons.	Total	NoBuild	Cons.	Total	NoBuild	Cons.	Total	NoBuild	Cons.	Total	NoBuild	Cons.	Total	NoBuild	Cons.	Total	NoBuild	Cons.	Total	NoBuild	Cons.	Total	NoBuild	Cons.	Total	NoBuild	Cons.	Total	NoBuild	Cons.	Total	NoBuild	Cons.	Total	NoBuild	Cons.	Total	NoBuild	Cons.	Total	NoBuild	Cons.	Total	NoBuild	Cons.	Total	NoBuild	Cons.	Total	NoBuild	Cons.	Total	NoBuild	Cons.	Total	NoBuild	Cons.	Total	NoBuild	Cons.	Total	NoBuild	Cons.	Total	NoBuild	Cons.	Total	NoBuild	Cons.	Total
A (1f)	1	67.2	67.3	64.6	69.2	2.0	67.4	60	68.1	0.9	67.4	58.4	67.9	0.8	67.5	70.5	72.3	5.1	67.6	65.3	69.6	2.4	67.7	54.8	67.9	0.7	67.7	48.5	67.7	0.6																																																								
A (3f)	3	66.6	66.7	70	71.7	5.1	66.8	63.3	68.4	1.8	66.8	59.2	67.5	0.9	66.9	73.9	74.7	8.1	67.0	69.2	71.2	4.7	67.1	57	67.5	0.9	67.1	52.2	67.2	0.6																																																								
A (5f)	5	66.4	66.6	72.9	73.8	7.4	66.6	67	69.8	3.4	66.7	60.6	67.6	1.2	66.7	75	75.6	9.2	66.8	73.6	74.4	8.0	66.9	57.6	67.4	1.0	66.9	52.4	67.1	0.6																																																								
A (10f)	10	66.4	66.6	71.6	72.8	6.4	66.6	69.6	71.4	4.9	66.7	63.8	68.5	2.1	66.7	73.5	74.3	7.9	66.8	76	76.5	10.1	66.9	59.6	67.6	1.2	66.9	53.2	67.1	0.7																																																								
A (15f)	15	66.4	66.6	70.1	71.7	5.3	66.6	68.6	70.7	4.3	66.7	64.5	68.7	2.3	66.7	71.9	73.1	6.6	66.8	75.3	75.9	9.4	66.9	59.6	67.6	1.2	66.9	53.9	67.1	0.7																																																								
A (20f)	20	66.2	66.4	69	70.9	4.7	66.4	67.7	70.1	3.9	66.5	64.7	68.7	2.5	66.6	70.4	71.9	5.7	66.6	73.3	74.1	7.9	66.7	59.5	67.5	1.3	66.8	54.5	67.0	0.8																																																								
A (25f)	25	66.2	66.3	67.9	70.2	4.0	66.4	66.7	69.6	3.3	66.5	65.7	69.1	2.9	66.5	69.2	71.1	4.9	66.6	71.4	72.6	6.4	66.7	59.3	67.4	1.2	66.7	55.4	67.0	0.8																																																								
A (30f)	30	66.4	66.5	66.8	69.7	3.3	66.5	65.8	69.2	2.8	66.6	66.4	69.5	3.2	66.7	68	70.4	4.0	66.7	69.8	71.5	5.2	66.8	59.1	67.5	1.1	66.8	57	67.3	0.9																																																								
A (35f)	35	66.4	66.6	65.9	69.2	2.8	66.6	65.1	68.9	2.5	66.7	65.9	69.3	2.9	66.7	67	69.9	3.5	66.8	68.4	70.7	4.3	66.9	58.9	67.5	1.1	66.9	57.2	67.3	0.9																																																								
A1 (1f)	1	66.6	66.8	66.8	69.8	3.1	66.8	61.8	68.0	1.4	66.9	61	67.9	1.2	66.9	59.4	67.6	1.0	67.0	53	67.1	0.5	67.1	45.2	67.1	0.4	67.1	43.3	67.1	0.4																																																								
A1 (3f)	3	66.1	66.2	78.3	78.6	12.5	66.2	64.5	68.5	2.4	66.3	64.2	68.4	2.3	66.3	54.6	66.6	0.5	66.4	53.9	66.6	0.5	66.5	48.8	66.5	0.5	66.5	45.6	66.5	0.4																																																								
A1 (5f)	5	65.9	66.0	78.4	78.6	12.7	66.1	65.4	68.7	2.8	66.1	64.9	68.5	2.6	66.1	57.2	66.7	0.7	66.2	54.3	66.4	0.5	66.2	49	66.3	0.4	66.3	47.4	66.3	0.4																																																								
A1 (10f)	10	65.9	65.9	76.3	76.7	10.8	66.0	67.2	69.6	3.8	66.0	64.1	68.2	2.3	66.1	58.3	66.7	0.9	66.1	55.1	66.4	0.6	66.2	49	66.3	0.4	66.2	47	66.2	0.4																																																								
A1 (15f)	15	65.8	65.9	74.6	75.1	9.4	65.9	67.8	70.0	4.2	66.0	62.1	67.5	1.7	66.0	57.8	66.6	0.9	66.1	54.7	66.4	0.6	66.2	49.4	66.3	0.5	66.2	44.9	66.2	0.4																																																								
A1 (20f)	20	65.9	66.0	73.1	73.9	7.9	66.1	72.2	73.2	7.2	66.1	61	67.3	1.4	66.2	55.2	66.5	0.6	66.2	54.5	66.5	0.6	66.3	43.5	66.3	0.4	66.3	44.1	66.3	0.4																																																								
A1 (25f)	25	65.8	65.9	71.7	72.7	6.9	65.9	70.8	72.0	6.2	66.0	60.2	67.0	1.2	66.0	54.5	66.3	0.5	66.1	55	66.4	0.6	66.2	44.2	66.2	0.4	66.2	44	66.2	0.4																																																								
A1 (30f)	30	65.9	66.0	70.3	71.7	5.7	66.1	69.3	71.0	5.0	66.1	60.6	67.2	1.2	66.1	53.9	66.4	0.5	66.2	54.1	66.4	0.5	66.2	43.9	66.3	0.3	66.3	43.8	66.3	0.4																																																								
A1 (35f)	35	66.0	66.1	69.1	70.9	4.9	66.1	68.3	70.4	4.4	66.2	60.8	67.3	1.3	66.2	54.1	66.5	0.5	66.2	53.5	66.5	0.5	66.3	43.7	66.3	0.3	66.3	49.4	66.4	0.4																																																								
A2 (1f)	1	61.9	61.9	55	62.7	0.8	61.9	59.3	63.8	1.9	61.9	56.2	63.0	1.1	61.9	46.4	62.1	0.2	61.9	47.8	62.1	0.2	62.0	58.3	63.5	1.6	62.0	51.5	62.3	0.5																																																								
A2 (3f)	3	61.7	61.7	68.5	69.3	7.6	61.8	62.6	65.2	3.5	61.8	59.5	63.8	2.1	61.8	49.5	62.0	0.3	61.8	49.9	62.1	0.3	61.8	60.7	64.3	2.6	61.8	54.9	62.6	0.9																																																								
A2 (5f)	5	61.7	61.7	71.2	71.7	10.0	61.7	63.7	65.8	4.1	61.7	60	64.0	2.3	61.8	51.1	62.1	0.4	61.8	50.7	62.1	0.4	61.8	62.3	65.1	3.4	61.8	55.4	62.7	1.0																																																								
A2 (10f)	10	62.2	62.2	70.5	71.1	8.9	62.2	66.2	67.7	5.5	62.3	60.1	64.3	2.1	62.3	49.7	62.5	0.3	62.3	50.5	62.6	0.4	62.3	63.7	66.1	3.9	62.3	55.4	63.1	0.9																																																								
A2 (15f)	15	62.7	62.7	68.6	69.6	6.9	62.8	68.3	69.4	6.7	62.8	60.9	64.9	2.3	62.8	49.6	63.0	0.3	62.8	50.2	63.0	0.4	62.8	63.7	66.3	3.6	62.9	55	63.5	0.8																																																								
A2 (20f)	20	62.9	63.0	67.4	68.7	5.8	63.0	72.2	72.7	9.7	63.0	61.9	65.5	2.6	63.0	49.1	63.2	0.3	63.0	49.8	63.2	0.3	63.1	61.3	65.3	2.3	63.1	55.9	63.8	0.9																																																								
A2 (25f)	25	63.1	63.1	66.2	67.9	4.8	63.2	70.3	71.1	8.0	63.2	62.8	66.0	2.9	63.2	48.7	63.4	0.3	63.2	49.2	63.4	0.3	63.3	61.1	65.3	2.2	63.3	56.4	64.1	1.0																																																								
A2 (30f)	30	63.3	63.4	64.8	67.1	3.8	63.4	68.7	69.8	6.5	63.4	61.5	66.6	2.3	63.4	48.2	63.6	0.3	63.5	48.4	63.6	0.3	63.5	60.8	65.4	2.1	63.5	58.7	64.7	1.4																																																								
A2 (35f)	35	63.4	63.4	63.6	66.5	3.2	63.4	67.2	68.7	5.4	63.5	60.5	65.2	1.9	63.5	51.1	63.7	0.4	63.5	47.8	63.6	0.3	63.5	60.5	65.3	1.9	63.6	59	64.9	1.5																																																								
B (at grade)	1	71.5	71.7	61.6	72.1	0.6	71.8	63.1	72.4	0.9	72.0	62.9	72.5	1.0	72.1	61.4	72.4	0.9	72.2	64.5	72.9	1.4	72.4	53.2	72.4	0.9	72.4	53.2	72.4	0.9																																																								
B1 (1f)	1	70.1	70.3	61.8	70.9	0.7	70.4	61.9	71.0	0.8	70.5	60.4	70.9	0.7	70.5	59.4	70.9	0.7	70.6	63.6	71.4	1.2	70.7	47	70.7	0.6	70.7	47.2	70.8	0.6																																																								
B1 (3f)	3	69.5	69.7	64.8	70.9	1.4	69.8	65.8	71.2	1.7	69.8	63.8	70.8	1.3	69.9	62.7	70.7	1.1	70.0	66.5	71.6	2.1	70.1	49.3	70.1	0.6	70.1	49.7	70.1	0.6																																																								
B2 (1f)	1	64.8	64.7	56.7	65.3	0.5	64.6	50.9	64.8	-0.1	64.5	50.4	64.6	-0.2	64.4	51.7	64.6	-0.2	64.3	56.7	65.0	0.2	64.3	45.1	64.3	-0.5	64.3	44.8	64.3	-0.5																																																								
B2 (3f)	3	64.9	64.8	59.4	65.9	1.0	64.7	54.2	65.1	0.2	64.6	54	65.0	0.1	64.6	55	65.0	0.1	64.5	60.2	65.9	1.0	64.5	49.8	64.6	-0.3	64.5	50.1	64.6	-0.3																																																								
B3 (1f)	1	63.1	63.3	46	63.4	0.3	63.4	54.9	64.0	0.9	63.5	55.4	64.1	1.0	63.6	54.1	64.1	1.0	63.7	57.3	64.6	1.5	63.9	41.3	63.9	0.8	63.9	40.1	63.9	0.8																																																								
B3 (3f)	3	63.4	63.6	49.9	63.7	0.4	63.7	57.9	64.7	1.3	63.8	59.1	65.0	1.7	63.9	56.5	64.6	1.3	64.0	61.3	65.9	2.5	64.1	44.8	64.2	0.8	64.1	43.5	64.2	0.8																																																								
C (1f)	1	71.6	71.7	68.2	73.3	1.7	71.7	62.3	72.2	0.6	71.8	61.2	72.2	0.6	71.8	62.1	72.3	0.7	71.9	63.3	72.5	0.9	72.0	54	72.1	0.5	72.0	54	72.1	0.5																																																								
C (3f)	3	71.1	71.2	73.9	75.8	4.6	71.3	64.9	72.2	1.1	71.3	64.5	72.2	1.0	71.4	65	72.3	1.2	71.4	66.2	72.6	1.4	71.5	53.3	71.6	0.5	71.6	53.5	71.6	0.5																																																								
C (5f)	5	70.8	70.9	77.4	78.3	7.5	71.0	66.9	72.4	1.6	71.0	66	72.2	1.4	71.1	66.7	72.4	1.7	71.2	67.1	72.6	1.8	71.3	51.3	71.3	0.5	71.3	51.5	71.3	0.5																																																								
C (10f)	10	70.7	70.8	76.6	77.6	6.9	70.9	68.8	73.0	2.3	70.9	63	71.6	0.9	71.0	68.7	73.0	2.3	71.1	67.9	72.8	2.1	71.2	48.8	71.2	0.5	71.2	49.3	71.2	0.5																																																								
D (at grade)	1	67.1	67.1	62.1	68.3	1.2	67.1	59.4	67.8	0.7	67.1	60.4	68.0	0.9	67.1	52.9	67.3	0.2	67.2	53	67.3	0.2	67.2	54.7	67.4	0.4	67.2	56.8	67.6	0.5																																																								
E (1f)	1	72.0	72.1	55.8	72.2	0.2	72.2	57.1	72.3	0.3	72.2	56.3	72.3	0.4	72.3	55.3	72.4	0.4	72.4	56.1	72.5	0.5	72.4	63.9	73.0	1.1	72.5	60.8	72.8	0.8																																																								
E (3f)	3	71.5	71.6	56.3	71.7	0.2	71.7	59.1	71.9	0.4	71.7	57.7	71.9	0.4	71.8	55.3	71.9	0.4	71.8	56.7	71.9	0.4	71.9	67.3	73.2	1.7	71.9	63.5	72.5	1.0																																																								
E (5f)	5	71.1	71.2	61.1	71.6	0.5	71.3	59.1	71.5	0.4	71.3	57.5	71.5	0.4	71.4	55.5	71.5	0.4	71.4	57.2	71.6	0.5	71.5	69.9	73.8	2.7	71.5	65.8	72.6	1.4																																																								
E (10f)																																																																																						

Table A

Construction Noise Results
 Exceed the CEQR noise criterion

Receptor	Elevation	Existing Leq(1)	Phase 2																																			
			2018-07			2020-10			2021-07			2022-04			2030-11			2031-10			2032-04																	
			NoBuild	Cons.	Total	Change	NoBuild	Cons.	Total	Change	NoBuild	Cons.	Total	Change	NoBuild	Cons.	Total	Change	NoBuild	Cons.	Total	Change	NoBuild	Cons.	Total	Change	NoBuild	Cons.	Total	Change	NoBuild	Cons.	Total	Change				
A (1f)	1	67.2	67.7	42.2	67.7	0.5	67.7	45.5	67.7	0.6	67.7	47.8	67.8	0.6	67.7	44.4	67.8	0.6	67.8	41.6	67.9	0.7	67.9	41.4	67.9	0.7	67.9	39.6	67.9	0.7	67.9	39.6	67.9	0.7				
A (3f)	3	66.6	67.1	45.3	67.1	0.5	67.1	49.5	67.2	0.6	67.1	52.2	67.3	0.7	67.2	48.9	67.2	0.6	67.3	43.5	67.3	0.7	67.3	43.5	67.3	0.8	67.3	42.1	67.3	0.8	67.3	42.1	67.3	0.8				
A (5f)	5	66.4	66.9	46.1	67.0	0.5	67.0	49.8	67.0	0.6	67.0	52.4	67.1	0.7	67.0	49.3	67.1	0.6	67.1	44.6	67.2	0.7	67.2	44.6	67.2	0.7	67.2	43.5	67.2	0.8	67.2	43.5	67.2	0.8				
A (10f)	10	66.4	66.9	46.3	67.0	0.5	67.0	49.7	67.0	0.6	67.0	52.4	67.1	0.7	67.0	49.3	67.1	0.6	67.1	44.4	67.2	0.7	67.2	44.7	67.2	0.7	67.2	43.4	67.2	0.8	67.2	43.4	67.2	0.8				
A (15f)	15	66.4	66.9	46.4	67.0	0.5	66.9	48.6	67.0	0.6	67.0	51.6	67.1	0.7	67.0	49.2	67.0	0.6	67.1	44.1	67.1	0.7	67.1	45.8	67.1	0.7	67.1	43.6	67.1	0.7	67.1	43.6	67.1	0.7				
A (20f)	20	66.2	66.8	46.6	66.8	0.6	66.8	47.1	66.8	0.6	66.8	50.5	66.9	0.7	66.8	48.9	66.9	0.7	66.9	43.4	66.9	0.7	66.9	44.5	67.0	0.7	66.9	42.2	67.0	0.7	66.9	42.2	67.0	0.7				
A (25f)	25	66.2	66.7	47.1	66.7	0.5	66.7	44.5	66.7	0.5	66.7	50.4	66.8	0.6	66.7	48.7	66.8	0.6	66.8	44	66.9	0.7	66.9	44.1	66.9	0.7	66.9	41.3	66.9	0.7	66.9	41.3	66.9	0.7				
A (30f)	30	66.4	66.9	47.7	66.9	0.6	66.9	46	66.9	0.6	66.9	50.2	67.0	0.6	66.9	48.5	67.0	0.6	67.1	44.2	67.1	0.7	67.1	43.8	67.1	0.7	67.1	40.6	67.1	0.7	67.1	40.6	67.1	0.7				
A (35f)	35	66.4	66.9	47.8	67.0	0.5	66.9	46.7	67.0	0.6	67.0	50.2	67.0	0.6	67.0	48.3	67.0	0.6	67.1	44.1	67.1	0.7	67.1	44.8	67.1	0.7	67.1	39.9	67.1	0.7	67.1	39.9	67.1	0.7				
A1 (1f)	1	66.6	67.1	41.2	67.1	0.5	67.1	44.1	67.1	0.5	67.1	43.6	67.2	0.5	67.2	38.6	67.2	0.5	67.3	47.8	67.3	0.7	67.3	45.1	67.3	0.7	67.3	40.1	67.3	0.7	67.3	40.1	67.3	0.7				
A1 (3f)	3	66.1	66.5	43.7	66.5	0.4	66.5	48.5	66.6	0.5	66.5	47.3	66.6	0.5	66.5	43.1	66.5	0.5	66.6	52	66.8	0.7	66.6	48.8	66.7	0.6	66.6	42.3	66.7	0.6	66.6	42.3	66.7	0.6				
A1 (5f)	5	65.9	66.3	44.4	66.3	0.4	66.3	49.5	66.4	0.5	66.3	47.6	66.4	0.4	66.3	45	66.4	0.4	66.5	53	66.7	0.7	66.5	51	66.6	0.7	66.5	46.3	66.6	0.6	66.5	46.3	66.6	0.6				
A1 (10f)	10	65.9	66.2	43.3	66.2	0.4	66.2	49.5	66.3	0.5	66.3	47.8	66.3	0.4	66.3	45.9	66.3	0.4	66.4	53	66.6	0.7	66.4	52.3	66.6	0.7	66.4	47.2	66.5	0.6	66.4	47.2	66.5	0.6				
A1 (15f)	15	65.8	66.2	42.5	66.2	0.4	66.2	49.6	66.3	0.5	66.2	52.4	66.4	0.6	66.2	46.4	66.3	0.5	66.3	52.9	66.5	0.7	66.3	54.5	66.6	0.8	66.4	49.3	66.6	0.6	66.4	49.3	66.6	0.6				
A1 (20f)	20	65.9	66.3	43.1	66.4	0.4	66.4	51.4	66.5	0.6	66.4	56.3	66.8	0.8	66.4	46.2	66.4	0.5	66.5	53.3	66.7	0.7	66.5	54.7	66.8	0.8	66.5	47.3	66.6	0.6	66.5	47.3	66.6	0.6				
A1 (25f)	25	65.8	66.2	42.1	66.2	0.4	66.2	54	66.5	0.7	66.2	56.2	66.6	0.8	66.2	46	66.3	0.5	66.3	55	66.6	0.8	66.3	55.2	66.7	0.9	66.4	47.2	66.4	0.6	66.4	47.2	66.4	0.6				
A1 (30f)	30	65.9	66.3	41.9	66.3	0.4	66.3	56.5	66.7	0.8	66.3	56.1	66.7	0.8	66.3	47.2	66.4	0.5	66.5	56.3	66.9	0.9	66.5	57.4	67.0	1.1	66.5	47.1	66.5	0.6	66.5	47.1	66.5	0.6				
A1 (35f)	35	66.0	66.3	44.5	66.4	0.4	66.4	56.7	66.8	0.8	66.4	55.9	66.8	0.8	66.4	47.3	66.5	0.5	66.5	57	67.0	1.0	66.6	57.7	67.1	1.1	66.6	47.6	66.6	0.6	66.6	47.6	66.6	0.6				
A2 (1f)	1	61.9	62.0	42.9	62.0	0.2	62.0	48	62.2	0.3	62.0	52.8	62.5	0.6	62.0	46	62.1	0.2	62.0	42.2	62.1	0.2	62.0	40.8	62.1	0.2	62.0	35.4	62.1	0.2	62.0	35.4	62.1	0.2				
A2 (3f)	3	61.7	61.8	46.1	61.9	0.2	61.8	51.7	62.2	0.5	61.8	56.5	62.9	1.2	61.8	50.7	62.2	0.4	61.9	48.6	62.1	0.3	61.9	46.5	62.0	0.3	61.9	39.4	61.9	0.2	61.9	39.4	61.9	0.2				
A2 (5f)	5	61.7	61.8	46.3	61.9	0.2	61.8	49.9	62.1	0.4	61.8	56.3	62.9	1.2	61.8	50.8	62.1	0.4	61.9	48.6	62.1	0.4	61.9	46.7	62.0	0.3	61.9	39.6	61.9	0.2	61.9	39.6	61.9	0.2				
A2 (10f)	10	62.2	62.3	45	62.4	0.2	62.3	50.4	62.6	0.4	62.3	56.7	63.4	1.2	62.3	51.2	62.7	0.5	62.4	48.4	62.6	0.4	62.4	46.9	62.5	0.3	62.4	39.7	62.4	0.2	62.4	39.7	62.4	0.2				
A2 (15f)	15	62.7	62.9	45	62.9	0.2	62.9	52.2	63.2	0.5	62.9	58.2	64.2	1.5	62.9	51.4	63.2	0.5	62.9	54.5	63.5	0.8	62.9	57.1	63.9	1.2	62.9	48.1	63.1	0.4	62.9	48.1	63.1	0.4				
A2 (20f)	20	62.9	63.1	45.7	63.2	0.2	63.1	57	64.1	1.1	63.1	58.8	64.5	1.5	63.1	52.7	63.5	0.6	63.2	57.3	64.2	1.3	63.2	57	64.1	1.2	63.2	48	63.4	0.4	63.2	48	63.4	0.4				
A2 (25f)	25	63.1	63.3	46.6	63.4	0.3	63.3	59.6	64.9	1.8	63.3	58.7	64.6	1.5	63.3	53.9	63.8	0.7	63.4	59.3	64.8	1.7	63.4	58.4	64.6	1.5	63.4	47.9	63.6	0.5	63.4	47.9	63.6	0.5				
A2 (30f)	30	63.3	63.5	47.9	63.6	0.3	63.5	60	65.1	1.8	63.5	58.5	64.7	1.4	63.5	53.7	64.0	0.7	63.6	60.1	65.2	1.9	63.6	59.8	65.1	1.8	63.6	47.8	63.7	0.4	63.6	47.8	63.7	0.4				
A2 (35f)	35	63.4	63.6	48.7	63.7	0.3	63.6	60.4	65.3	1.9	63.6	58.4	64.7	1.4	63.6	53.5	64.0	0.6	63.7	59.9	65.2	1.8	63.7	60.4	65.3	2.0	63.7	48.3	63.8	0.4	63.7	48.3	63.8	0.4				
B (at grade)	1	71.5	72.4	53.1	72.4	0.9	72.4	53.1	72.5	1.0	72.4	53.1	72.5	1.0	72.4	53	72.5	1.0	72.6	53.1	72.6	1.1	72.6	53.1	72.6	1.1	72.6	53	72.7	1.2	72.6	53	72.7	1.2				
B1 (1f)	1	70.1	70.8	46.7	70.8	0.6	70.8	46.9	70.8	0.7	70.8	48.8	70.8	0.7	70.8	46.4	70.9	0.7	71.0	46.8	71.0	0.9	71.0	46.6	71.0	0.9	71.0	46.2	71.1	0.9	71.0	46.2	71.1	0.9				
B1 (3f)	3	69.5	70.1	48.4	70.1	0.6	70.1	51	70.2	0.7	70.2	52.7	70.2	0.7	70.2	48.4	70.2	0.7	70.3	48.8	70.3	0.8	70.3	48.5	70.3	0.8	70.3	47.9	70.4	0.8	70.3	47.9	70.4	0.8				
B2 (1f)	1	64.8	64.3	41.6	64.3	-0.5	64.3	36.7	64.3	-0.5	64.3	43	64.4	-0.5	64.3	40.1	64.4	-0.5	64.5	37.1	64.5	-0.4	64.5	36.8	64.5	-0.4	64.5	35	64.5	-0.3	64.5	35	64.5	-0.3				
B2 (3f)	3	64.9	64.5	45.8	64.5	-0.4	64.5	39.9	64.5	-0.4	64.5	46.2	64.6	-0.3	64.5	44.6	64.6	-0.3	64.6	39.3	64.7	-0.2	64.7	38.9	64.7	-0.2	64.7	37.8	64.7	-0.2	64.7	37.8	64.7	-0.2				
B3 (1f)	1	63.1	63.9	38.3	63.9	0.8	63.9	38.2	63.9	0.8	63.9	40.5	63.9	0.8	63.9	36.9	63.9	0.8	63.9	43.9	64.0	0.9	64.0	42.7	64.0	0.9	64.0	39	64.0	0.9	64.0	39	64.0	0.9				
B3 (3f)	3	63.4	64.1	40.8	64.2	0.8	64.2	40.5	64.2	0.8	64.2	44	64.2	0.9	64.2	39.1	64.2	0.8	64.3	48.3	64.4	1.0	64.3	46.9	64.3	1.0	64.3	42.4	64.3	1.0	64.3	42.4	64.3	1.0				
C (1f)	1	71.6	72.0	53.9	72.1	0.5	72.1	54.5	72.2	0.6	72.1	54.3	72.2	0.6	72.1	54	72.2	0.6	72.3	54.3	72.4	0.8	72.3	54.5	72.4	0.8	72.3	54.1	72.4	0.8	72.3	54.1	72.4	0.8				
C (3f)	3	71.1	71.6	53.2	71.6	0.5	71.6	54.9	71.7	0.6	71.6	54.2	71.7	0.6	71.7	53.5	71.7	0.6	71.8	54.2	71.9	0.8	71.8	55.1	71.9	0.8	71.9	53.8	71.9	0.8	71.9	53.8	71.9	0.8				
C (5f)	5	70.8	71.3	51.1	71.3	0.6	71.3	53.6	71.4	0.6	71.3	52.7	71.4	0.6	71.3	51.7	71.4	0.6	71.5	52.7	71.5	0.8	71.5	53.9	71.6	0.8	71.5	52	71.5	0.8	71.5	52	71.5	0.8				
C (10f)	10	70.7	71.2	48.7	71.2	0.5	71.2	51.2	71.3	0.6	71.2	50.2	71.3	0.6	71.3	49.1	71.3	0.6	71.4	50.5	71.4	0.7	71.4	51.8	71.4	0.8	71.4	49.5	71.4	0.8	71.4	49.5	71.4	0.8				
D (at grade)	1	67.1	67.3	54	67.5	0.4	67.3	66.2	69.8	2.7	67.3	60.4	68.1	1.0	67.3	58.9</																						

Table A

Construction Noise Results
 Exceed the CEQR noise criterion

Receptor	Elevation	Existing Leq(1)	Phase 1																											
			2009-05				2010-10				2011-04				2012-05				2013-02				2016-07				2017-03			
			NoBuild	Cons.	Total	Change	NoBuild	Cons.	Total	Change	NoBuild	Cons.	Total	Change	NoBuild	Cons.	Total	Change	NoBuild	Cons.	Total	Change	NoBuild	Cons.	Total	Change	NoBuild	Cons.	Total	Change
G (3fl)	3	71.0	71.3	62	71.8	0.8	71.5	74.9	76.5	5.5	71.6	68.1	73.2	2.2	71.8	64	72.4	1.4	71.9	66.6	73.0	2.0	72.1	52.5	72.1	1.1	72.1	54.2	72.2	1.1
G1 (1fl)	1	66.0	66.3	53.2	66.5	0.5	66.5	64.8	68.7	2.7	66.6	60	67.5	1.5	66.8	56.1	67.1	1.1	66.9	59.1	67.6	1.6	67.1	52.7	67.3	1.3	67.1	51.5	67.3	1.3
G1 (3fl)	3	65.3	65.6	52.9	65.8	0.5	65.8	68.1	70.1	4.8	65.9	62.7	67.6	2.3	66.1	57.5	66.6	1.3	66.2	61.9	67.6	2.2	66.4	55.7	66.8	1.4	66.4	55.4	66.7	1.4
H (1fl)	1	71.6	71.7	57.7	71.9	0.3	71.7	59.9	72.0	0.4	71.8	58.9	72.0	0.4	71.8	55.9	72.0	0.4	71.9	58.4	72.1	0.5	72.0	49.9	72.0	0.4	72.0	51	72.1	0.5
H (3fl)	3	71.1	71.2	59.1	71.5	0.4	71.3	62.7	71.9	0.7	71.3	61.7	71.8	0.7	71.4	58	71.6	0.5	71.4	61	71.8	0.7	71.5	50.1	71.6	0.4	71.5	52.9	71.6	0.5
H (5fl)	5	70.8	70.9	60.5	71.3	0.5	70.9	64.8	71.9	1.1	71.0	63	71.6	0.8	71.0	59.7	71.3	0.6	71.1	62.3	71.6	0.8	71.2	50.7	71.2	0.4	71.2	52.7	71.3	0.5
H (10fl)	10	70.6	70.7	62.1	71.3	0.7	70.7	67.4	72.4	1.8	70.8	65.3	71.9	1.3	70.8	62.7	71.5	0.9	70.9	64.6	71.8	1.2	71.0	52.9	71.0	0.5	71.0	52.7	71.1	0.5
H (15fl)	15	70.8	70.9	63.1	71.5	0.8	70.9	69.6	73.3	2.6	71.0	66.4	72.3	1.5	71.0	64	71.8	1.0	71.1	65.5	72.1	1.4	71.2	54.5	71.3	0.5	71.2	54.9	71.3	0.5
H (20fl)	20	70.7	70.8	63.1	71.4	0.8	70.8	69.2	73.1	2.4	70.8	67	72.3	1.7	70.9	64.2	71.7	1.0	70.9	65.7	72.1	1.4	71.0	54.7	71.1	0.4	71.0	55	71.1	0.4
H (25fl)	25	70.5	70.6	62.5	71.2	0.7	70.7	68.6	72.8	2.3	70.7	66.3	72.1	1.5	70.8	64.4	71.7	1.2	70.8	64.8	71.8	1.3	70.9	54.5	71.0	0.5	70.9	56.1	71.1	0.6
H (30fl)	30	70.5	70.6	62	71.2	0.7	70.7	67.7	72.4	1.9	70.7	67.3	72.3	1.8	70.8	64.5	71.7	1.2	70.8	64.8	71.8	1.3	70.9	54.4	71.0	0.5	70.9	56.9	71.1	0.6
H (35fl)	35	70.4	70.5	61.5	71.0	0.6	70.6	64.8	71.6	1.2	70.6	65.5	71.8	1.4	70.7	63	71.4	0.9	70.7	63.2	71.4	1.0	70.8	53.4	70.9	0.5	70.8	55.2	70.9	0.5
I (1fl)	1	63.2	63.6	50.1	63.8	0.5	63.7	56.2	64.4	1.2	63.9	55.3	64.5	1.3	64.1	54	64.5	1.3	64.3	56.1	64.9	1.7	64.6	45.2	64.6	1.4	64.6	46.7	64.6	1.4
I (3fl)	3	63.5	63.9	52.2	64.1	0.7	64.1	58.8	65.2	1.7	64.3	58.6	65.3	1.8	64.5	56.8	65.2	1.7	64.7	59.8	65.9	2.5	65.0	49.6	65.1	1.6	65.0	50.8	65.1	1.7
I (5fl)	5	63.5	63.9	56.7	64.6	1.1	64.1	60.9	65.8	2.2	64.3	59.3	65.5	1.9	64.5	57.9	65.3	1.8	64.7	60.5	66.1	2.6	64.9	49.7	65.1	1.5	64.9	50.8	65.1	1.6
I (10fl)	10	63.8	64.1	61.2	65.9	2.1	64.3	64.1	67.2	3.4	64.5	61.3	66.2	2.4	64.7	60.2	66.0	2.2	64.9	62.2	66.8	3.0	65.1	43.3	65.1	1.4	65.1	51.5	65.3	1.5
I (15fl)	15	64.0	64.3	62.4	66.5	2.5	64.5	65.7	68.1	4.1	64.7	61.8	66.5	2.5	64.8	62.5	66.8	2.8	65.0	62.6	67.0	3.0	65.2	48.5	65.3	1.3	65.2	52.5	65.5	1.5
I (20fl)	20	64.4	64.7	62.5	66.8	2.3	64.9	65.8	68.4	3.9	65.0	63	67.2	2.7	65.2	62.6	67.1	2.7	65.4	63.2	67.4	3.0	65.6	49.8	65.7	1.2	65.6	53.1	65.8	1.4
I (25fl)	25	64.4	64.7	62.1	66.6	2.2	64.8	65.8	68.3	4.0	64.9	62.9	67.1	2.7	65.1	63.2	67.3	2.9	65.2	62.9	67.2	2.9	65.4	50	65.5	1.2	65.4	54.1	65.7	1.4
I (30fl)	30	64.4	64.7	62	66.6	2.1	64.9	65.4	68.1	3.7	65.0	62.7	67.0	2.6	65.2	63	67.2	2.8	65.3	62.4	67.1	2.7	65.5	49.7	65.6	1.2	65.5	54.8	65.9	1.4
I (34fl)	34	64.8	65.1	61.7	66.7	1.9	65.2	65.1	68.2	3.3	65.4	62.9	67.3	2.5	65.5	62.8	67.4	2.5	65.7	62.1	67.2	2.4	65.8	48.6	65.9	1.1	65.8	53.4	66.1	1.2
I1 (1fl)	1	64.4	64.4	43.6	64.5	0.1	64.5	44.7	64.5	0.1	64.5	44.2	64.6	0.2	64.5	43.8	64.6	0.2	64.6	43.3	64.6	0.2	64.6	39.9	64.6	0.3	64.6	39.7	64.7	0.3
I1 (3fl)	3	64.2	64.3	45.7	64.3	0.1	64.3	46.7	64.4	0.2	64.3	46.1	64.4	0.2	64.4	46.2	64.4	0.2	64.4	45.5	64.5	0.2	64.5	41.7	64.5	0.3	64.5	41.7	64.5	0.3
I1 (5fl)	5	64.2	64.3	45.4	64.3	0.1	64.3	46.9	64.4	0.2	64.3	46.7	64.4	0.2	64.4	46.1	64.4	0.2	64.4	45.3	64.5	0.2	64.5	41.2	64.5	0.3	64.5	41.2	64.5	0.3
I1 (10fl)	10	64.4	64.5	45	64.6	0.1	64.5	45.9	64.6	0.2	64.6	45.3	64.6	0.2	64.6	45.2	64.7	0.2	64.6	44.1	64.7	0.2	64.7	39.7	64.7	0.3	64.7	39.9	64.7	0.3
I1 (15fl)	15	64.8	64.9	58.7	65.8	1.0	64.9	47.8	65.0	0.2	64.9	47.2	65.0	0.2	65.0	45.6	65.0	0.2	65.0	51.7	65.2	0.4	65.0	39.3	65.1	0.3	65.1	40.3	65.1	0.3
I1 (20fl)	20	65.3	65.3	60.8	66.7	1.4	65.4	49.9	65.5	0.2	65.4	47.5	65.5	0.2	65.5	49.5	65.6	0.3	65.5	51.7	65.7	0.4	65.6	41.9	65.6	0.3	65.6	41.7	65.6	0.3
I1 (25fl)	25	65.1	65.2	60.5	66.5	1.3	65.3	51.3	65.4	0.3	65.3	47.8	65.4	0.2	65.3	51.8	65.5	0.4	65.4	51.7	65.5	0.4	65.4	41.8	65.4	0.3	65.4	41.8	65.5	0.3
I1 (30fl)	30	65.3	65.3	60.2	66.5	1.2	65.4	51.6	65.5	0.3	65.4	47.7	65.5	0.2	65.4	52.5	65.6	0.4	65.4	51.6	65.6	0.3	65.5	41.6	65.5	0.2	65.5	41.2	65.5	0.3
I1 (34fl)	34	65.6	65.7	60	66.7	1.1	65.7	51.8	65.9	0.3	65.8	47.9	65.8	0.2	65.8	54.2	66.1	0.5	65.8	51.4	66.0	0.4	65.9	41.6	65.9	0.3	65.9	48.1	66.0	0.4
J (1fl)	1	71.8	71.8	55	71.9	0.2	71.9	52.6	71.9	0.2	71.9	53.5	72.0	0.2	72.0	53.5	72.0	0.3	72.0	52.4	72.1	0.3	72.1	49.6	72.1	0.3	72.1	50.3	72.1	0.4
J (3fl)	3	71.3	71.4	56	71.5	0.2	71.5	52.6	71.5	0.2	71.5	56.2	71.6	0.3	71.6	55.4	71.7	0.4	71.6	54	71.7	0.4	71.7	49.5	71.7	0.4	71.7	51.5	71.8	0.5
J (7fl)	5	70.8	70.9	57	71.0	0.3	70.9	54.1	71.0	0.2	71.0	56.3	71.1	0.4	71.0	56.5	71.2	0.4	71.1	53.6	71.2	0.4	71.2	47.5	71.2	0.4	71.2	50.2	71.2	0.4
K (1fl)	1	72.0	72.1	53.6	72.2	0.1	72.2	50.7	72.2	0.1	72.2	51.8	72.2	0.2	72.2	51.7	72.3	0.2	72.3	50.9	72.3	0.3	72.4	50.1	72.4	0.3	72.4	50.1	72.4	0.4
K (3fl)	3	72.0	72.1	54.3	72.2	0.2	72.2	51.3	72.2	0.2	72.2	53.4	72.3	0.2	72.2	52.7	72.3	0.2	72.3	51.9	72.3	0.3	72.4	50.7	72.4	0.3	72.4	50.9	72.4	0.4
K (5fl)	5	71.7	71.8	54.6	71.8	0.2	71.8	50.6	71.8	0.2	71.8	53.1	71.9	0.2	71.9	52.7	71.9	0.2	71.9	51.3	72.0	0.3	72.0	48	72.0	0.3	72.0	48.1	72.0	0.4
L (1fl)	1	70.0	70.1	63.6	71.0	1.0	70.1	59	70.4	0.5	70.2	59	70.5	0.5	70.2	56.5	70.4	0.4	70.3	57.2	70.5	0.5	70.4	46.3	70.4	0.4	70.4	46.7	70.4	0.4
L (3fl)	3	69.5	69.6	66.8	71.5	1.9	69.7	61.9	70.4	0.8	69.7	62.1	70.4	0.9	69.8	59.3	70.2	0.6	69.8	60.7	70.3	0.8	69.9	48.2	70.0	0.4	69.9	49	70.0	0.4
L (5fl)	5	69.2	69.3	69.3	72.3	3.1	69.3	63.4	70.3	1.1	69.4	63.9	70.5	1.3	69.4	60.7	70.0	0.8	69.5	61.3	70.1	0.9	69.6	48.2	69.6	0.4	69.6	49.2	69.6	0.4
L (10fl)	10	68.9	69.0	70.5	72.8	3.9	69.1	65.3	70.6	1.7	69.1	65.2	70.6	1.7	69.2	62.8	70.1	1.1	69.2	62	70.0	1.0	69.3	47.7	69.3	0.4	69.3	49.5	69.4	0.4
M (1fl)	1	62.0	62.1	46.2	62.2	0.1	62.1	46	62.2	0.1	62.1	43.4	62.2	0.1	62.1	47.7	62.3	0.2	62.1	39.7	62.2	0.1	62.2	35.3	62.2	0.1	62.2	35	62.2	0.1
M (3fl)	3	62.7	62.7	48.7	62.9	0.2	62.7	48.7	62.9	0.2	62.7	45.2	62.8	0.2	62.8	50.6	63.0	0.4	62.8	40.6	62.8	0.1	62.8	42.7	62.9	0.2	62.8	39.9	62.8	0.2
M (5fl)	5	62.7	62.8	48.4	62.9	0.2	62.8	48.9	63.0	0.2	62.8	45.3	62.9	0.2	62.8	52.4	63.2	0.5	62.9	40.8	62.9	0.1	62.9	42.7	62.9	0.2	62.9	40.1	62.9	0.2
N (1fl)	1	71.5	71.6	56	71.7	0.2	71.7	54.4	71.7	0.2	71.7	53.2	71.8	0.3	71.8	52.8														

Table A

Construction Noise Results

Exceed the CEQR noise criterion

Receptor	Elevation	Existing Leq(1)	Phase 2																															
			2018-07				2020-10				2021-07				2022-04				2030-11				2031-10				2032-04							
			NoBuild	Cons.	Total	Change	NoBuild	Cons.	Total	Change	NoBuild	Cons.	Total	Change	NoBuild	Cons.	Total	Change	NoBuild	Cons.	Total	Change	NoBuild	Cons.	Total	Change	NoBuild	Cons.	Total	Change	NoBuild	Cons.	Total	Change
G (3fl)	3	71.0	72.1	50.5	72.1	1.1	72.1	47.9	72.2	1.1	72.2	47.8	72.2	1.1	72.2	47.6	72.2	1.1	72.3	48.3	72.3	1.3	72.3	48.1	72.3	1.3	72.3	47.6	72.3	1.3	72.3	47.6	72.3	1.3
G1 (1fl)	1	66.0	67.2	48.4	67.2	1.2	67.2	40.2	67.2	1.2	67.2	39.6	67.2	1.2	67.2	34.9	67.2	1.2	67.4	40.5	67.4	1.4	67.4	40.9	67.4	1.4	67.4	36.5	67.4	1.4	67.4	36.5	67.4	1.4
G1 (3fl)	3	65.3	66.4	51.4	66.6	1.2	66.5	40.8	66.5	1.1	66.5	40.4	66.5	1.2	66.5	36	66.5	1.2	66.7	40.9	66.7	1.4	66.7	41.6	66.7	1.4	66.7	37.6	66.7	1.4	66.7	37.6	66.7	1.4
H (1fl)	1	71.6	72.0	50.1	72.1	0.5	72.1	49.9	72.1	0.5	72.1	49.9	72.1	0.5	72.1	49.9	72.1	0.5	72.1	49.9	72.1	0.5	72.1	49.9	72.1	0.5	72.1	49.9	72.1	0.5	72.1	49.9	72.1	0.5
H (3fl)	3	71.1	71.6	50.5	71.6	0.5	71.6	50.2	71.6	0.5	71.6	50.2	71.6	0.5	71.6	49.8	71.6	0.5	71.7	51.5	71.8	0.6	71.8	50.7	71.8	0.7	71.8	50	71.8	0.7	71.8	50	71.8	0.7
H (5fl)	5	70.8	71.2	49.8	71.2	0.5	71.3	48.5	71.3	0.5	71.3	48.7	71.3	0.5	71.3	48.3	71.3	0.5	71.5	48.7	71.5	0.7	71.5	48.8	71.5	0.7	71.5	48.3	71.5	0.7	71.5	48.3	71.5	0.7
H (10fl)	10	70.6	71.0	50.1	71.0	0.5	71.0	46.7	71.1	0.5	71.1	46.7	71.1	0.5	71.1	46.4	71.1	0.5	71.2	47	71.2	0.6	71.2	47.3	71.2	0.6	71.2	46.4	71.2	0.6	71.2	46.4	71.2	0.6
H (15fl)	15	70.8	71.2	51.7	71.3	0.5	71.3	47.1	71.3	0.5	71.3	47.2	71.3	0.5	71.3	47.5	71.3	0.5	71.5	47.7	71.5	0.7	71.5	50.4	71.5	0.7	71.5	48.3	71.5	0.7	71.5	48.3	71.5	0.7
H (20fl)	20	70.7	71.0	51.7	71.1	0.4	71.1	46	71.1	0.4	71.1	48.5	71.1	0.4	71.1	47.6	71.1	0.4	71.3	46.8	71.3	0.6	71.3	53.8	71.4	0.7	71.3	47.5	71.3	0.6	71.3	47.5	71.3	0.6
H (25fl)	25	70.5	70.9	50.8	71.0	0.5	71.0	46.6	71.0	0.5	71.0	50.6	71.0	0.5	71.0	48.4	71.0	0.5	71.2	46.7	71.2	0.7	71.2	54.3	71.3	0.8	71.2	46.9	71.2	0.7	71.2	46.9	71.2	0.7
H (30fl)	30	70.5	70.9	50.5	71.0	0.5	71.0	49.4	71.0	0.5	71.0	54.5	71.1	0.6	71.0	50.1	71.1	0.6	71.2	50.2	71.2	0.7	71.2	54.4	71.3	0.8	71.2	46.5	71.2	0.7	71.2	46.5	71.2	0.7
H (35fl)	35	70.4	70.9	49	70.9	0.5	70.9	50.9	70.9	0.5	70.9	52.4	71.0	0.6	70.9	49.1	71.0	0.5	71.1	51.4	71.1	0.7	71.1	52.8	71.2	0.8	71.1	45.2	71.1	0.7	71.1	45.2	71.1	0.7
I (1fl)	1	63.2	64.6	43.1	64.6	1.4	64.6	41	64.6	1.4	64.6	39.5	64.6	1.4	64.6	36.5	64.6	1.4	64.7	40.6	64.7	1.4	64.7	40.2	64.7	1.5	64.7	35	64.7	1.4	64.7	35	64.7	1.4
I (3fl)	3	63.5	65.0	47.2	65.1	1.6	65.0	45.6	65.1	1.6	65.0	43.2	65.0	1.6	65.0	39.8	65.0	1.5	65.1	44.5	65.1	1.6	65.1	44.1	65.1	1.6	65.1	37	65.1	1.6	65.1	37	65.1	1.6
I (5fl)	5	63.5	64.9	47.1	65.0	1.5	65.0	45.8	65.0	1.5	65.0	43.7	65.0	1.5	65.0	40.7	65.0	1.5	65.1	44.8	65.1	1.6	65.1	44.4	65.1	1.6	65.1	38.6	65.1	1.6	65.1	38.6	65.1	1.6
I (10fl)	10	63.8	65.1	47.9	65.2	1.4	65.1	46.1	65.2	1.4	65.1	44.1	65.2	1.4	65.1	41.4	65.2	1.4	65.2	45.1	65.2	1.5	65.2	45.6	65.3	1.5	65.2	39.5	65.2	1.5	65.2	39.5	65.2	1.5
I (15fl)	15	64.0	65.3	47.4	65.3	1.3	65.3	46.1	65.3	1.3	65.3	44.3	65.3	1.3	65.3	41.7	65.3	1.3	65.4	45.1	65.4	1.4	65.4	45.9	65.4	1.4	65.4	39.9	65.4	1.4	65.4	39.9	65.4	1.4
I (20fl)	20	64.4	65.6	48.1	65.7	1.2	65.6	46	65.6	1.2	65.6	44.5	65.6	1.2	65.6	41.4	65.6	1.2	65.7	45	65.7	1.3	65.7	45.2	65.8	1.3	65.7	39.7	65.7	1.3	65.7	39.7	65.7	1.3
I (25fl)	25	64.4	65.4	48.4	65.5	1.1	65.5	45.9	65.5	1.1	65.5	44.3	65.5	1.1	65.5	41.6	65.5	1.1	65.6	44.9	65.6	1.2	65.6	45.7	65.6	1.2	65.6	39.4	65.6	1.2	65.6	39.4	65.6	1.2
I (30fl)	30	64.4	65.5	47.7	65.6	1.1	65.5	45.7	65.6	1.1	65.5	44.5	65.6	1.1	65.6	42.1	65.6	1.1	65.6	44.8	65.7	1.2	65.7	46.1	65.7	1.2	65.7	40.1	65.7	1.2	65.7	40.1	65.7	1.2
I (34fl)	34	64.8	65.8	46.6	65.9	1.1	65.9	45.6	65.9	1.1	65.9	44.4	65.9	1.1	65.9	42	65.9	1.1	66.0	44.7	66.0	1.2	66.0	46.6	66.0	1.2	66.0	39.9	66.0	1.2	66.0	39.9	66.0	1.2
I1 (1fl)	1	64.4	64.7	39.4	64.7	0.3	64.7	39.3	64.7	0.3	64.7	39.3	64.7	0.3	64.7	38.6	64.7	0.3	64.8	39.4	64.8	0.4	64.8	39.5	64.8	0.5	64.8	38.7	64.8	0.5	64.8	38.7	64.8	0.5
I1 (3fl)	3	64.2	64.5	41.3	64.5	0.3	64.5	41.4	64.5	0.3	64.5	41.4	64.5	0.3	64.5	40.7	64.6	0.3	64.6	41.4	64.7	0.4	64.7	41.5	64.7	0.5	64.7	40.9	64.7	0.5	64.7	40.9	64.7	0.5
I1 (5fl)	5	64.2	64.5	40.8	64.5	0.3	64.5	40.8	64.5	0.3	64.5	40.9	64.5	0.3	64.5	40.1	64.5	0.3	64.6	40.8	64.6	0.4	64.6	41	64.6	0.4	64.6	40.2	64.6	0.4	64.6	40.2	64.6	0.4
I1 (10fl)	10	64.4	64.7	39.3	64.7	0.3	64.7	39.1	64.7	0.3	64.7	39.1	64.7	0.3	64.7	38.2	64.8	0.3	64.8	39.1	64.8	0.4	64.8	39.4	64.8	0.4	64.8	38.4	64.8	0.4	64.8	38.4	64.8	0.4
I1 (15fl)	15	64.8	65.1	38.9	65.1	0.3	65.1	38.6	65.1	0.3	65.1	38.7	65.1	0.3	65.1	37.6	65.1	0.3	65.2	38.5	65.2	0.4	65.2	39.1	65.2	0.4	65.2	39.1	65.2	0.4	65.2	39.1	65.2	0.4
I1 (20fl)	20	65.3	65.6	41.1	65.6	0.3	65.6	39.8	65.6	0.4	65.6	39.8	65.6	0.4	65.6	38.9	65.7	0.4	65.8	39.6	65.8	0.5	65.8	40.1	65.8	0.5	65.8	39.1	65.8	0.5	65.8	39.1	65.8	0.5
I1 (25fl)	25	65.1	65.4	41.2	65.5	0.3	65.5	39.8	65.5	0.3	65.5	39.8	65.5	0.3	65.5	38.9	65.5	0.4	65.6	39.7	65.6	0.4	65.6	40.1	65.6	0.5	65.6	39.2	65.6	0.5	65.6	39.2	65.6	0.5
I1 (30fl)	30	65.3	65.5	40.5	65.5	0.3	65.6	41.8	65.6	0.3	65.6	39.8	65.6	0.3	65.6	40.1	65.6	0.3	65.7	43.9	65.7	0.5	65.7	43.9	65.7	0.5	65.7	39.4	65.7	0.5	65.7	39.4	65.7	0.5
I1 (34fl)	34	65.6	65.9	45.2	65.9	0.4	65.9	41.7	66.0	0.4	65.9	40.1	66.0	0.4	66.0	40.2	66.0	0.4	66.0	43.8	66.1	0.5	66.1	44.3	66.1	0.5	66.1	39.2	66.1	0.5	66.1	39.2	66.1	0.5
J (1fl)	1	71.8	72.1	49.6	72.2	0.4	72.2	49.6	72.2	0.4	72.2	49.5	72.2	0.4	72.2	49.6	72.2	0.5	72.4	49.5	72.4	0.6	72.4	50	72.4	0.7	72.4	49.5	72.4	0.7	72.4	49.5	72.4	0.7
J (3fl)	3	71.3	71.7	49.5	71.8	0.5	71.8	49.4	71.8	0.5	71.8	49.3	71.8	0.5	71.8	49.5	71.8	0.5	71.9	49.4	71.9	0.6	71.9	50.1	72.0	0.7	72.0	49.3	72.0	0.7	72.0	49.3	72.0	0.7
J (7fl)	5	70.8	71.2	47.7	71.2	0.4	71.2	47.4	71.2	0.5	71.2	47.3	71.3	0.5	71.3	47.5	71.3	0.5	71.4	47.3	71.4	0.6	71.4	49.8	71.4	0.6	71.4	47.4	71.4	0.7	71.4	47.4	71.4	0.7
K (1fl)	1	72.0	72.4	49.9	72.4	0.4	72.4	49.8	72.5	0.4	72.5	50	72.5	0.4	72.5	49.6	72.5	0.5	72.7	49.7	72.7	0.6	72.7	49.7	72.7	0.7	72.7	49.6	72.7	0.7	72.7	49.6	72.7	0.7
K (3fl)	3	72.0	72.4	49.8	72.4	0.4	72.4	49.8	72.5	0.4	72.5	50.5	72.5	0.4	72.5	49.5	72.5	0.5	72.7	49.4	72.7	0.6	72.7	49.6	72.7	0.7	72.7	49.4	72.7	0.7	72.7	49.4	72.7	0.7
K (5fl)	5	71.7	72.0	48.2	72.1	0.4	72.1	47.9	72.1	0.4	72.1	47.9	72.1	0.4	72.1	47.8	72.1	0.5	72.3	48	72.3	0.6	72.3	48.1	72.3	0.6	72.3	47.9	72.3	0.7	72.3	47.9	72.3	0.7
L (1fl)	1	70.0	70.4	45.8	70.4	0.4	70.4	46.6	70.4	0.5	70.4	48.6	70.5	0.5	70.4	45.6	70.5	0.5	70.6	49.2	70.6	0.6	70.6	49.9	70.6	0.6	70.6	47.5	70.6	0.6	70.6	47.5	70.6	0.6
L (3fl)	3	69.5	70.0	47.4	70.0	0.4	70.0	49.3	70.0	0.5	70.0	50.6	70.1	0.5	70.0	47.1	70.1	0.5	70.2	52.4	70.3	0.7	70.2	53.6	70.3	0.8	70.2	50.6	70.3	0.7	70.2	50.6	70.3	0.7
L (5fl)	5	69.2	69.6	47.6	69.6	0.4	69.7	51.4	69.7	0.5	69.7</																							

Table A

Construction Noise Results
 Exceed the CEQR noise criterion

Receptor	Elevation	Existing Leq(1)	Phase 1												2016-07			2017-03												
			2009-05				2010-10				2011-04				2012-05				2013-02			2016-07			2017-03					
			NoBuild	Cons.	Total	Change	NoBuild	Cons.	Total	Change	NoBuild	Cons.	Total	Change	NoBuild	Cons.	Total	Change	NoBuild	Cons.	Total	Change	NoBuild	Cons.	Total	Change	NoBuild	Cons.	Total	Change
R (30f)	30	71.0	71.2	62.9	71.8	0.7	71.2	59.3	71.5	0.5	71.3	56.3	71.4	0.4	71.4	54.1	71.4	0.4	71.4	56.8	71.6	0.5	71.5	70.2	73.9	2.9	71.5	72.5	75.1	4.0
R (35f)	35	71.0	71.1	60.2	71.4	0.4	71.1	58.5	71.3	0.4	71.2	54.2	71.2	0.3	71.2	52.9	71.3	0.3	71.3	54.6	71.4	0.4	71.4	69.1	73.4	2.4	71.4	70.5	74.0	3.0
S (1f)	1	68.5	68.7	53.1	68.8	0.3	68.8	54.8	69.0	0.5	68.9	54.2	69.1	0.5	69.0	52.8	69.1	0.6	69.1	53.5	69.2	0.7	69.2	65.4	70.7	2.2	69.3	58.6	69.6	1.1
S (3f)	3	68.0	68.2	54.5	68.3	0.4	68.3	56.9	68.6	0.6	68.4	55.4	68.6	0.6	68.5	53.7	68.6	0.7	68.6	54.5	68.7	0.8	68.7	71.6	73.4	5.5	68.7	64.1	70.0	2.1
T (1f)	1	72.8	72.9	54.3	72.9	0.1	72.9	54.2	73.0	0.2	73.0	54.1	73.0	0.2	73.0	54	73.0	0.3	73.0	53.7	73.1	0.3	73.1	62.4	73.5	0.7	73.1	57.8	73.3	0.5
T (3f)	3	72.3	72.4	55.1	72.5	0.2	72.4	54.9	72.5	0.2	72.5	55	72.6	0.2	72.5	54.7	72.6	0.3	72.6	53.8	72.6	0.3	72.6	65.6	73.4	1.1	72.7	59.9	72.9	0.6
T (5f)	5	72.0	72.1	54.5	72.2	0.2	72.2	53.8	72.2	0.2	72.2	53.9	72.3	0.2	72.2	53.6	72.3	0.3	72.3	52.4	72.3	0.3	72.4	68.1	73.7	1.7	72.4	62	72.8	0.7
T (10f)	10	71.9	71.9	52.8	72.0	0.1	72.0	52.7	72.0	0.2	72.0	53	72.1	0.2	72.1	52.4	72.1	0.2	72.1	50.3	72.1	0.3	72.2	68.6	73.8	1.9	72.2	64.7	72.9	1.0
T (15f)	15	71.9	71.9	52.2	72.0	0.1	72.0	52.1	72.0	0.2	72.0	50.9	72.1	0.2	72.1	51.1	72.1	0.2	72.1	48.6	72.1	0.3	72.2	66.6	73.2	1.4	72.2	63.7	72.8	0.9
U (1f)	1	72.7	72.8	48.4	72.8	0.1	72.9	48.8	72.9	0.2	72.9	48.4	72.9	0.2	73.0	48.3	73.0	0.3	73.0	48.2	73.0	0.3	73.1	54.9	73.2	0.5	73.1	54.4	73.2	0.5
U (3f)	3	72.2	72.3	48.9	72.4	0.1	72.4	49.5	72.4	0.2	72.4	49.6	72.5	0.2	72.5	48.7	72.5	0.3	72.6	48.6	72.6	0.3	72.6	56.9	72.7	0.5	72.7	56.4	72.8	0.5
U (5f)	5	72.0	72.2	48.3	72.2	0.1	72.2	49.6	72.2	0.2	72.3	49.5	72.3	0.2	72.3	48.3	72.3	0.3	72.4	48.3	72.4	0.3	72.4	57.6	72.6	0.5	72.5	56.9	72.6	0.5
U (10f)	10	71.8	71.9	47.3	71.9	0.1	71.9	49.9	72.0	0.2	72.0	48.2	72.0	0.2	72.0	47.3	72.0	0.3	72.1	47.2	72.1	0.3	72.2	59.9	72.4	0.6	72.2	58.7	72.4	0.6
U (15f)	15	71.7	71.8	45.5	71.8	0.1	71.8	47.7	71.9	0.2	71.9	45.3	71.9	0.2	71.9	47.5	72.0	0.3	72.0	45.8	72.0	0.3	72.1	59.4	72.3	0.6	72.1	58.3	72.3	0.6
V (5f)	5	63.1	63.1	42.5	63.1	0.0	63.1	51.6	63.4	0.3	63.1	49.2	63.3	0.2	63.1	47.3	63.2	0.1	63.1	47	63.2	0.1	63.1	43.6	63.1	0.0	63.1	54.4	63.6	0.5
V (10f)	10	63.3	63.3	43.7	63.4	0.1	63.3	44.7	63.4	0.1	63.3	44.7	63.4	0.1	63.3	43.9	63.4	0.1	63.3	43.8	63.4	0.1	63.4	50	63.6	0.3	63.4	54.8	63.9	0.6
V (20f)	20	63.8	63.8	43.1	63.8	0.1	63.8	47	63.9	0.1	63.8	44.6	63.8	0.1	63.8	44.3	63.8	0.1	63.8	42.9	63.8	0.1	63.8	60.5	65.5	1.7	63.8	57.2	64.7	0.9
V (30f)	30	64.4	64.5	42.4	64.5	0.1	64.5	48.4	64.6	0.2	64.5	44.1	64.5	0.1	64.5	47.4	64.6	0.2	64.5	42.5	64.6	0.1	64.6	61.4	66.3	1.8	64.6	58.4	65.5	1.1
V (40f)	40	64.7	64.8	42.1	64.8	0.1	64.8	48.5	64.9	0.2	64.8	44.7	64.8	0.1	64.8	45.6	64.9	0.1	64.8	42	64.8	0.1	64.9	60.8	66.3	1.6	64.9	59.4	66.0	1.2
V (50f)	50	64.8	64.8	43.2	64.8	0.1	64.8	49.5	65.0	0.2	64.9	48.6	65.0	0.2	64.9	52.5	65.1	0.3	64.9	46.8	65.0	0.2	64.9	60.1	66.2	1.4	64.9	59.2	66.0	1.2
W (1f)	1	72.0	72.1	43.2	72.1	0.1	72.1	44.1	72.1	0.2	72.2	47.7	72.2	0.2	72.2	42.7	72.2	0.3	72.3	43.3	72.3	0.3	72.4	46.8	72.4	0.4	72.4	49.9	72.4	0.4
W (3f)	3	71.8	71.9	43.3	71.9	0.1	71.9	46	71.9	0.2	72.0	43.6	72.0	0.2	72.0	42.7	72.0	0.3	72.1	42.2	72.1	0.3	72.2	46.2	72.2	0.4	72.2	50.5	72.2	0.4
W (5f)	5	71.7	71.8	42.9	71.8	0.1	71.8	48.8	71.8	0.1	71.8	43.9	71.8	0.2	71.9	44.5	71.9	0.2	71.9	41.9	71.9	0.2	72.0	48.2	72.0	0.3	72.0	54.3	72.1	0.4
W (10f)	10	71.4	71.5	43.8	71.5	0.1	71.6	48.1	71.6	0.2	71.6	43	71.6	0.2	71.7	43.4	71.7	0.3	71.7	41.8	71.7	0.3	71.8	52.4	71.9	0.4	71.8	57.1	72.0	0.6
W (20f)	20	71.5	71.6	44.1	71.6	0.1	71.7	43.7	71.7	0.2	71.7	42.8	71.7	0.2	71.8	40.2	71.8	0.3	71.8	40.5	71.8	0.3	71.9	57.7	72.1	0.6	71.9	57.7	72.1	0.6
X (1f)	1	73.4	73.4	39.5	73.4	0.1	73.5	40.4	73.5	0.1	73.5	38.7	73.5	0.2	73.6	37.7	73.6	0.2	73.6	39.7	73.6	0.2	73.7	37.7	73.7	0.3	73.7	38.7	73.7	0.3
X (3f)	3	72.7	72.8	39.8	72.8	0.1	72.8	43.5	72.8	0.1	72.9	39.8	72.9	0.2	72.9	39.6	72.9	0.2	72.9	38	72.9	0.2	73.0	38.4	73.0	0.3	73.0	39.1	73.0	0.3
X (5f)	5	72.3	72.4	40.5	72.4	0.1	72.5	44.3	72.5	0.2	72.5	41	72.5	0.2	72.6	42.8	72.6	0.3	72.6	39	72.6	0.3	72.7	38.9	72.7	0.4	72.7	39.8	72.7	0.4
X (10f)	10	72.3	72.4	42.3	72.4	0.1	72.5	46.1	72.5	0.2	72.5	43.3	72.5	0.2	72.6	45.3	72.6	0.3	72.6	40.1	72.6	0.3	72.7	40	72.7	0.4	72.7	42.5	72.7	0.4
X (20f)	20	72.0	72.1	58	72.3	0.2	72.2	53.2	72.2	0.2	72.2	54.4	72.3	0.2	72.2	47.6	72.3	0.2	72.3	48.6	72.3	0.2	72.4	40.2	72.4	0.3	72.4	49.1	72.4	0.3
X (30f)	30	71.8	71.8	58.9	72.1	0.3	71.9	53.5	72.0	0.2	71.9	56.1	72.0	0.3	72.0	48.3	72.0	0.2	72.0	50	72.0	0.3	72.1	42	72.1	0.3	72.1	55.5	72.2	0.4
X (40f)	40	71.6	71.7	58.7	71.9	0.3	71.7	54.1	71.8	0.2	71.7	56.2	71.9	0.3	71.8	49	71.8	0.2	71.8	50.4	71.9	0.3	71.9	46.4	71.9	0.3	71.9	55.9	72.0	0.4
Y (1f)	1	65.3	65.4	44.9	65.4	0.1	65.4	47.5	65.5	0.2	65.5	45.9	65.5	0.3	65.6	41.7	65.6	0.3	65.6	43.1	65.6	0.4	65.7	48.6	65.8	0.5	65.7	47.5	65.8	0.5
Y (3f)	3	64.8	64.9	49.2	65.0	0.2	64.9	51.4	65.1	0.3	65.0	48.8	65.1	0.3	65.0	44.7	65.1	0.3	65.1	44.1	65.1	0.3	65.2	51.3	65.4	0.6	65.2	51	65.4	0.6
Y (5f)	5	64.8	64.9	49.4	65.0	0.2	64.9	51.5	65.1	0.3	65.0	49.4	65.1	0.3	65.0	45.1	65.1	0.3	65.1	44.8	65.1	0.4	65.2	52.5	65.4	0.6	65.2	50.7	65.3	0.5
Y (10f)	10	64.7	64.8	49.5	64.9	0.2	64.8	50.9	65.0	0.3	64.9	49.3	65.0	0.4	65.0	45.7	65.0	0.3	65.0	45.5	65.1	0.4	65.1	53.1	65.4	0.7	65.1	48.4	65.2	0.5
Y (20f)	20	64.6	64.7	42.5	64.7	0.1	64.8	48.8	64.9	0.3	64.8	47.5	64.9	0.3	64.9	47.3	64.9	0.3	64.9	46.5	65.0	0.4	65.0	53.5	65.3	0.7	65.0	52.7	65.3	0.6
Y (30f)	30	65.0	65.1	42.8	65.1	0.1	65.1	49.7	65.2	0.3	65.1	49.1	65.2	0.3	65.2	47.7	65.3	0.3	65.2	48.2	65.3	0.4	65.3	53.3	65.6	0.6	65.3	53.2	65.6	0.6
Y (40f)	40	65.4	65.5	46.3	65.5	0.1	65.5	50.7	65.7	0.3	65.6	50.1	65.7	0.3	65.6	48.6	65.7	0.3	65.7	49.6	65.8	0.4	65.8	53	66.0	0.6	65.8	56	66.2	0.8
Y (50f)	50	65.7	65.8	54.9	66.1	0.4	65.8	54.9	66.1	0.5	65.9	50.7	66.0	0.3	65.9	49.2	66.0	0.3	66.0	50.4	66.1	0.4	66.0	52.3	66.2	0.5	66.0	58.6	66.8	1.1
Y (60f)	60	65.8	65.9	56.3	66.3	0.5	65.9	55.5	66.3	0.5	66.0	51	66.1	0.3	66.0	49.5	66.1	0.3	66.1	50.5	66.2	0.4	66.2	52.5	66.3	0.6	66.2	58.4	66.8	1.0
Y (70f)	70	66.0	66.1	56.1	66.5	0.5	66.1	55.2	66.5	0.5	66.2	51.1	66.3	0.3	66.2	50.3	66.3	0.3	66.2	51.1	66.4	0.4	66.3	53.8	66.5	0.5	66.3	58.1	66.9	0.9
Z (1f)	1	63.6	63.6	41	63.6	0.0	63.6	41.2	63.6	0.0	63.6	40	63.6	0.0	63.6	36.3	63.6	0.0	63.6	36.1	63.6	0.0	63.6	46	63.7	0.1	63.6	45.9	63.7	0.1
Z (3f)	3	63.2	63.2	43.9	63.2	0.1	63.2	44	63.3																					

Table A

Construction Noise Results
 Exceed the CEQR noise criterion

Receptor	Elevation	Existing Leq(1)	Phase 2																															
			2018-07				2020-10				2021-07				2022-04				2030-11				2031-10				2032-04							
			NoBuild	Cons.	Total	Change	NoBuild	Cons.	Total	Change	NoBuild	Cons.	Total	Change	NoBuild	Cons.	Total	Change	NoBuild	Cons.	Total	Change	NoBuild	Cons.	Total	Change	NoBuild	Cons.	Total	Change	NoBuild	Cons.	Total	Change
R (30ft)	30	71.0	71.6	68.7	73.4	2.3	71.6	65.2	72.5	1.4	71.6	67	72.9	1.9	71.6	59.4	71.9	0.8	71.7	55.7	71.8	0.8	71.8	52.9	71.8	0.8	71.8	47	71.8	0.7				
R (35ft)	35	71.0	71.4	68.4	73.2	2.2	71.4	64.5	72.2	1.3	71.5	66.6	72.7	1.7	71.5	57.9	71.7	0.7	71.6	54.5	71.7	0.8	71.7	51.2	71.7	0.7	71.7	45.1	71.7	0.7				
S (1ft)	1	68.5	69.3	57.6	69.6	1.0	69.3	45	69.3	0.8	69.3	47.9	69.4	0.8	69.3	45.4	69.4	0.8	69.5	42.9	69.5	1.0	69.5	42.7	69.5	1.0	69.5	40.1	69.5	1.0				
S (3ft)	3	68.0	68.7	64.2	70.1	2.1	68.8	45.8	68.8	0.8	68.8	50.9	68.9	0.9	68.8	49.4	68.9	0.9	68.9	44.1	68.9	1.0	68.9	44.1	68.9	1.0	68.9	42.1	69.0	1.0				
T (1ft)	1	72.8	73.2	58.6	73.3	0.5	73.2	55.9	73.3	0.5	73.2	54.7	73.3	0.5	73.2	50.8	73.3	0.5	73.4	50.8	73.4	0.6	73.4	50.7	73.5	0.7	73.4	50.6	73.5	0.7				
T (3ft)	3	72.3	72.7	60.8	73.0	0.6	72.7	58	72.9	0.5	72.7	56.3	72.8	0.5	72.8	51.2	72.8	0.5	72.9	50.8	73.0	0.6	73.0	50.8	73.0	0.7	73.0	50.7	73.0	0.7				
T (5ft)	5	72.0	72.4	63.4	72.9	0.9	72.4	59.6	72.7	0.6	72.5	57.7	72.6	0.6	72.5	50	72.5	0.5	72.7	49.5	72.7	0.6	72.7	49.4	72.7	0.6	72.7	49.2	72.7	0.7				
T (10ft)	10	71.9	72.2	65.7	73.1	1.2	72.3	61	72.6	0.7	72.3	58.9	72.5	0.6	72.3	49.2	72.3	0.5	72.5	47.7	72.5	0.6	72.5	47.6	72.5	0.6	72.5	47.2	72.5	0.7				
T (15ft)	15	71.9	72.2	64.4	72.9	1.0	72.2	61.2	72.6	0.7	72.2	59.2	72.5	0.6	72.3	50.1	72.3	0.4	72.4	45.7	72.4	0.5	72.4	45.6	72.4	0.5	72.4	44.8	72.4	0.6				
U (1ft)	1	72.7	73.1	54	73.2	0.5	73.2	52.5	73.2	0.5	73.2	51.9	73.2	0.5	73.2	47.8	73.2	0.5	73.3	48.6	73.3	0.6	73.3	48.5	73.4	0.7	73.4	47.9	73.4	0.7				
U (3ft)	3	72.2	72.7	55.3	72.7	0.5	72.7	53.9	72.8	0.5	72.7	53.1	72.8	0.5	72.7	48.3	72.7	0.5	72.9	50.1	72.9	0.6	72.9	50.4	72.9	0.7	72.9	48.8	72.9	0.7				
U (5ft)	5	72.0	72.5	56.2	72.6	0.5	72.5	54.5	72.6	0.5	72.5	54	72.6	0.5	72.5	47.5	72.6	0.5	72.7	49.5	72.7	0.6	72.7	49.7	72.7	0.7	72.7	48.2	72.7	0.7				
U (10ft)	10	71.8	72.2	58.5	72.4	0.6	72.2	55.9	72.3	0.6	72.2	55.3	72.3	0.6	72.3	46.2	72.3	0.5	72.4	48.7	72.4	0.6	72.4	48.9	72.4	0.7	72.4	47.1	72.4	0.7				
U (15ft)	15	71.7	72.1	57.7	72.3	0.6	72.1	56.5	72.3	0.6	72.2	55.7	72.3	0.6	72.2	44.9	72.2	0.5	72.3	43.6	72.3	0.6	72.3	45.7	72.3	0.6	72.3	43.6	72.3	0.7				
V (5ft)	5	63.1	63.1	48.5	63.2	0.1	63.1	42	63.1	0.0	63.1	43.4	63.2	0.1	63.1	45	63.2	0.1	63.2	41.9	63.2	0.1	63.2	45.9	63.3	0.2	63.2	42.7	63.3	0.2				
V (10ft)	10	63.3	63.4	50.1	63.6	0.3	63.4	43.1	63.4	0.1	63.4	46.8	63.5	0.2	63.4	47.9	63.5	0.2	63.5	43.1	63.5	0.2	63.5	51.3	63.7	0.4	63.5	45.5	63.6	0.2				
V (20ft)	20	63.8	63.9	53.9	64.3	0.5	63.9	43.5	63.9	0.2	63.9	50.1	64.1	0.3	63.9	51.4	64.1	0.4	64.0	44	64.0	0.3	64.0	52.4	64.3	0.5	64.0	44.9	64.1	0.3				
V (30ft)	30	64.4	64.6	55.4	65.1	0.7	64.6	48.1	64.7	0.3	64.6	54.4	65.0	0.6	64.7	51.3	64.8	0.4	64.8	47.1	64.8	0.4	64.8	53.7	65.1	0.7	64.8	44.4	64.8	0.4				
V (40ft)	40	64.7	64.9	55.9	65.4	0.7	64.9	51.9	65.1	0.4	64.9	54.9	65.3	0.6	64.9	51	65.1	0.4	65.0	52.3	65.2	0.5	65.0	53.6	65.3	0.6	65.0	43.9	65.1	0.3				
V (50ft)	50	64.8	64.9	55.7	65.4	0.6	65.0	53.1	65.2	0.5	65.0	55.7	65.5	0.7	65.0	51.1	65.2	0.4	65.1	54.8	65.5	0.7	65.1	53.4	65.4	0.6	65.1	43.5	65.1	0.3				
W (1ft)	1	72.0	72.4	49	72.4	0.5	72.4	46	72.4	0.5	72.4	46	72.4	0.5	72.4	43.2	72.5	0.5	72.6	42.9	72.6	0.6	72.6	46.1	72.6	0.6	72.6	43.1	72.6	0.7				
W (3ft)	3	71.8	72.2	48.4	72.2	0.4	72.2	44	72.2	0.5	72.2	45.9	72.3	0.5	72.3	43.2	72.3	0.5	72.4	42.9	72.4	0.6	72.4	46.1	72.4	0.6	72.4	43.1	72.4	0.7				
W (5ft)	5	71.7	72.0	51.2	72.1	0.4	72.0	44.9	72.1	0.4	72.1	46.6	72.1	0.4	72.1	42.6	72.1	0.4	72.2	42.3	72.2	0.5	72.2	45.8	72.2	0.5	72.2	42.6	72.2	0.6				
W (10ft)	10	71.4	71.8	53.9	71.9	0.5	71.9	53.8	71.9	0.5	71.9	54	71.9	0.5	71.9	43.7	71.9	0.5	72.0	41.8	72.0	0.6	72.0	44.2	72.0	0.6	72.0	41.5	72.1	0.6				
W (20ft)	20	71.5	71.9	56.6	72.0	0.6	72.0	55	72.0	0.5	72.0	53.4	72.0	0.5	72.0	42.5	72.0	0.5	72.1	39.3	72.1	0.6	72.1	41.5	72.1	0.6	72.1	39	72.1	0.6				
X (1ft)	1	73.4	73.7	37.5	73.7	0.3	73.7	40.3	73.7	0.4	73.7	39.6	73.7	0.4	73.8	34.8	73.8	0.4	73.9	37.4	73.9	0.5	73.9	39.4	73.9	0.6	73.9	35.3	73.9	0.6				
X (3ft)	3	72.7	73.1	38.3	73.1	0.4	73.1	41.2	73.1	0.4	73.1	40.5	73.1	0.4	73.1	35.8	73.1	0.4	73.3	38.1	73.3	0.6	73.3	40.6	73.3	0.6	73.3	36.1	73.4	0.7				
X (5ft)	5	72.3	72.8	39.3	72.8	0.4	72.8	41.4	72.8	0.5	72.8	40.8	72.8	0.5	72.8	36.5	72.8	0.5	72.9	38.7	72.9	0.6	73.0	41.8	73.0	0.6	73.0	37.3	73.0	0.7				
X (10ft)	10	72.3	72.8	41.1	72.8	0.4	72.8	42	72.8	0.5	72.8	41.1	72.8	0.5	72.8	37.7	72.8	0.5	72.9	39.2	72.9	0.6	73.0	50.4	73.0	0.7	73.0	45	73.0	0.7				
X (20ft)	20	72.0	72.4	46	72.4	0.3	72.4	41.5	72.4	0.4	72.4	43.4	72.4	0.4	72.4	42.6	72.5	0.4	72.6	48.2	72.6	0.5	72.6	54.4	72.7	0.6	72.6	49.4	72.6	0.6				
X (30ft)	30	71.8	72.1	48.8	72.1	0.4	72.2	45	72.2	0.4	72.2	45.3	72.2	0.4	72.2	44.6	72.2	0.4	72.4	54.9	72.5	0.7	72.4	58.2	72.6	0.8	72.4	52.1	72.5	0.7				
X (40ft)	40	71.6	71.9	48.9	71.9	0.4	72.0	45.6	72.0	0.4	72.0	50.2	72.0	0.4	72.0	45.6	72.0	0.4	72.1	54.9	72.2	0.6	72.1	58	72.3	0.7	72.1	51.9	72.2	0.6				
Y (1ft)	1	65.3	65.7	46.9	65.8	0.5	65.8	38.7	65.8	0.5	65.8	40.8	65.8	0.5	65.8	32.6	65.8	0.5	65.9	36.5	65.9	0.6	65.9	37.3	65.9	0.7	65.9	32.5	65.9	0.7				
Y (3ft)	3	64.8	65.2	50.7	65.4	0.6	65.2	40.4	65.2	0.5	65.2	42.5	65.3	0.5	65.3	35.1	65.3	0.5	65.4	39.3	65.4	0.6	65.4	40.2	65.4	0.6	65.4	35.2	65.4	0.6				
Y (5ft)	5	64.8	65.2	51	65.4	0.6	65.2	40.5	65.2	0.4	65.2	42.5	65.2	0.5	65.2	35.4	65.2	0.5	65.3	43.8	65.3	0.6	65.3	43	65.4	0.6	65.3	35.8	65.3	0.6				
Y (10ft)	10	64.7	65.1	49.7	65.3	0.6	65.1	41.1	65.2	0.5	65.2	51.1	65.3	0.7	65.2	37.7	65.2	0.5	65.3	44	65.3	0.6	65.3	43.7	65.3	0.6	65.3	34.8	65.3	0.6				
Y (20ft)	20	64.6	65.0	52	65.2	0.6	65.0	56.1	65.6	1.0	65.1	56.7	65.7	1.0	65.1	42.2	65.1	0.5	65.2	42.9	65.2	0.6	65.2	43.5	65.2	0.6	65.2	33.9	65.2	0.6				
Y (30ft)	30	65.0	65.3	53.4	65.6	0.6	65.4	56.1	65.8	0.9	65.4	56.6	65.9	1.0	65.4	42.9	65.4	0.4	65.5	42.7	65.5	0.6	65.5	43.7	65.5	0.6	65.5	34	65.5	0.6				
Y (40ft)	40	65.4	65.8	53.7	66.0	0.6	65.8	55.5	66.2	0.8	65.8	56.5	66.3	0.9	65.8	44	65.8	0.4	65.9	46.1	66.0	0.6	65.9	47.4	66.0	0.6	65.9	37.4	65.9	0.5				
Y (50ft)	50	65.7	66.0	53.6	66.3	0.6	66.1	55.5	66.4	0.8	66.1	56.7	66.6	0.9	66.1	47.6	66.2	0.5	66.2	46.5	66.2	0.6	66.2	51.1	66.3	0.7	66.2	40	66.2	0.6				
Y (60ft)	60	65.8	66.2	53.3	66.4	0.6	66.2	56.3	66.6	0.8	66.2	57.4	66.8	1.0	66.2	51	66.4	0.6	66.3	48.9	66.4	0.6	66.3	51.8	66.5	0.7	66.4	42.7	66.4	0.6				
Y (70ft)	70	66.0	66.3	53	66.5	0.5	66.4	55.8	66.7	0.7	66.4	57.1	66.9	0.8	66.4	51	66.5	0.5	66.5	47.8	66.5	0.5	66.5	50.5	66.6	0.6	66.5	40.6	66.5	0.5				
Z (1ft)	1	63.6	63.7	44.8	63.7	0.1	63.7	53.1	64.0	0.5	63.7	53.6	64.1	0.5	63.7	45.3	63.7	0.2	63.7	41.8	63.8	0.2	63.8	41.9	63.8	0.2	63.8	36.8	63.8	0.2				
Z (3ft)	3	63.2	63.3	46.8	63.4	0.2	63.3	55.2	63.9	0.7	63.3																							

Construction Noise Results

Exceed the CEQR noise criterion
Period-refined Calculations

Receptor	Elevation	Existing Leq(1)	Phase 1																											
			2009 (01-04)				2009 (05-09)				2009-10 to 2010-04				2010 (05-07)				2010 (08-12)				2011-04				2012-05			
			NoBuild	Cons.	Total	Change	NoBuild	Cons.	Total	Change	NoBuild	Cons.	Total	Change	NoBuild	Cons.	Total	Change	NoBuild	Cons.	Total	Change	NoBuild	Cons.	Total	Change	NoBuild	Cons.	Total	Change
A (1f)	1	67.2	67.3	64.4	69.1	67.3	64.6	69.2	2.0	67.3	63.8	68.9	1.7	67.4	57.7	68.1	0.6	67.4	60.0	68.1	0.9	67.4	54.7	67.7	0.5	67.5	70.5	72.3	5.1	
A (3f)	3	66.6	66.7	69.7	71.5	4.9	66.7	70.0	71.7	5.1	66.7	69.1	71.1	4.5	66.8	60.4	67.7	1.1	66.8	63.3	68.4	1.8	66.8	55.8	67.2	0.6	66.9	73.9	74.7	8.1
A (5f)	5	66.4	66.6	72.4	73.4	7.0	66.6	72.9	73.8	7.4	66.6	72.1	73.2	6.7	66.6	62.5	68.0	1.6	66.6	67.0	69.8	3.4	66.7	55.8	67.0	0.6	66.7	75.0	75.6	9.2
A (10f)	10	66.4	66.6	71.7	72.9	6.4	66.6	71.6	72.8	6.4	66.6	71.1	72.4	6.0	66.6	62.1	67.9	1.5	66.6	69.6	71.4	4.9	66.7	56.1	67.0	0.6	66.7	73.5	74.3	7.9
A (15f)	15	66.4	66.6	70.1	71.7	5.3	66.6	70.1	71.7	5.3	66.6	69.7	71.4	5.0	66.6	61.9	67.9	1.5	66.6	68.6	70.7	4.3	66.7	58.5	67.3	0.9	66.7	71.9	73.1	6.6
A (20f)	20	66.2	66.4	69.0	70.9	4.7	66.4	69.0	70.9	4.7	66.4	68.6	70.6	4.4	66.4	60.8	67.5	1.3	66.4	67.7	70.1	3.9	66.5	61.3	67.6	1.4	66.6	70.4	71.9	5.7
A (25f)	25	66.2	66.3	67.8	70.1	3.9	66.3	67.9	70.2	4.0	66.3	67.6	70.0	3.8	66.4	59.7	67.2	1.0	66.4	66.7	69.6	3.3	66.5	63.9	68.4	2.2	66.5	69.2	71.1	4.9
A (30f)	30	66.4	66.5	66.7	69.6	3.2	66.5	66.8	69.7	3.3	66.5	66.6	69.6	3.2	66.5	59.3	67.3	0.9	66.5	65.8	69.2	2.8	66.6	65.4	69.1	2.7	66.7	68.0	70.4	4.0
A (35f)	35	66.4	66.6	65.7	69.2	2.7	66.6	65.9	69.2	2.8	66.6	65.8	69.2	2.8	66.6	59.1	67.3	0.9	66.6	65.1	68.9	2.5	66.7	65.1	69.0	2.5	66.7	67.0	69.9	3.5
A1 (1f)	1	66.6	66.8	67.0	69.9	3.2	66.8	66.8	69.8	3.1	66.8	66.4	69.6	2.9	66.8	64.9	69.0	2.3	66.8	61.8	68.0	1.4	66.9	60.8	67.8	1.2	66.9	59.4	67.6	1.0
A1 (3f)	3	66.1	66.2	78.3	78.6	12.5	66.2	78.3	78.6	12.5	66.2	77.4	77.7	11.6	66.2	68.0	70.2	4.1	66.2	64.5	68.5	2.4	66.3	63.8	68.2	2.1	66.3	54.6	66.6	0.5
A1 (5f)	5	65.9	66.0	78.5	78.7	12.8	66.0	78.4	78.6	12.7	66.0	77.6	77.9	12.0	66.1	68.7	70.6	4.7	66.1	65.4	68.7	2.8	66.1	64.6	68.4	2.5	66.1	57.2	66.7	0.7
A1 (10f)	10	65.9	65.9	76.5	76.9	11.0	65.9	76.3	76.7	10.8	65.9	75.3	75.8	9.9	66.0	70.0	71.5	5.6	66.0	67.2	69.6	3.8	66.0	63.8	68.1	2.2	66.1	58.3	66.7	0.9
A1 (15f)	15	65.8	65.9	74.7	75.2	9.4	65.9	74.6	75.1	9.4	65.9	73.7	74.4	8.6	65.9	73.2	73.9	8.2	65.9	67.8	70.0	4.2	66.0	62.0	67.5	1.7	66.0	57.8	66.6	0.9
A1 (20f)	20	65.9	66.0	73.2	74.0	8.0	66.0	73.1	73.9	7.9	66.0	72.3	73.2	7.3	66.1	76.4	76.8	10.9	66.1	72.2	73.2	7.2	66.1	61.0	67.3	1.4	66.2	55.2	66.5	0.6
A1 (25f)	25	65.8	65.9	71.7	72.7	6.9	65.9	71.7	72.7	6.9	65.9	71.1	72.2	6.4	65.9	74.9	75.4	9.6	65.9	70.8	72.0	6.2	66.0	60.2	67.0	1.2	66.0	54.5	66.3	0.5
A1 (30f)	30	65.9	66.0	70.4	71.7	5.8	66.0	70.3	71.7	5.7	66.0	69.9	71.4	5.5	66.1	73.3	74.1	8.1	66.1	69.3	71.0	5.0	66.1	60.6	67.2	1.2	66.1	53.9	66.4	0.5
A1 (35f)	35	66.0	66.1	69.1	70.9	4.9	66.1	69.1	70.9	4.9	66.1	68.9	70.7	4.7	66.1	72.0	73.0	7.0	66.1	68.3	70.4	4.4	66.2	60.8	67.2	1.3	66.2	54.1	66.5	0.5
A2 (1f)	1	61.9	61.9	55.2	62.7	0.9	61.9	55.0	62.7	0.8	61.9	54.7	62.7	0.8	61.9	62.0	65.0	3.1	61.9	59.3	63.8	1.9	61.9	56.2	63.0	1.1	61.9	46.4	62.1	0.2
A2 (3f)	3	61.7	61.7	68.9	69.7	7.9	61.7	68.5	69.3	7.6	61.7	66.9	68.1	6.3	61.8	65.0	66.7	5.0	61.8	62.6	65.2	3.5	61.8	59.5	63.8	2.1	61.8	49.5	62.0	0.3
A2 (5f)	5	61.7	61.7	71.6	72.0	10.3	61.7	71.2	71.7	10.0	61.7	69.5	70.2	8.5	61.7	66.5	67.8	6.0	61.7	63.7	65.8	4.1	61.7	60.0	64.0	2.3	61.8	51.1	62.1	0.4
A2 (10f)	10	62.2	62.2	70.9	71.5	9.3	62.2	70.5	71.1	8.9	62.2	69.2	70.0	8.8	62.2	70.4	71.0	8.8	62.2	66.3	67.7	5.5	62.3	60.1	64.3	2.1	62.3	49.7	62.5	0.3
A2 (15f)	15	62.7	62.7	68.9	69.8	7.1	62.7	68.6	69.6	6.9	62.7	67.7	68.9	6.2	62.8	79.3	79.4	16.7	62.8	68.3	69.4	6.7	62.8	60.9	64.9	2.3	62.8	49.6	63.0	0.3
A2 (20f)	20	62.9	63.0	67.7	69.0	6.0	63.0	67.4	68.7	5.8	63.0	66.5	68.1	5.1	63.0	77.1	77.3	14.3	63.0	72.2	72.7	9.7	63.0	61.8	65.5	2.5	63.0	49.1	63.2	0.3
A2 (25f)	25	63.1	63.1	66.6	68.2	5.1	63.1	66.2	67.9	4.8	63.1	65.1	67.2	4.1	63.2	74.1	74.4	11.3	63.2	70.3	71.1	8.0	63.2	62.8	66.0	2.9	63.2	48.7	63.4	0.3
A2 (30f)	30	63.3	63.4	65.1	67.3	4.0	63.4	64.8	67.1	3.8	63.4	63.7	66.5	3.2	63.4	72.2	72.7	9.4	63.4	68.7	69.8	6.5	63.4	61.6	66.0	2.3	63.4	48.2	63.6	0.3
A2 (35f)	35	63.4	63.4	64.0	66.7	3.4	63.4	63.6	66.5	3.2	63.4	62.4	65.9	2.6	63.4	70.7	71.4	8.1	63.4	67.2	68.7	5.4	63.5	60.5	65.2	1.9	63.5	51.1	63.7	0.4
B (at grade)	1	71.5	71.7	61.5	72.1	0.6	71.7	61.6	72.1	0.6	71.7	60.9	72.1	0.6	71.8	57.6	72.0	0.5	71.8	63.1	72.4	0.9	72.0	62.9	72.5	1.0	72.1	61.4	72.4	0.9
B1 (1f)	1	70.1	70.3	61.7	70.9	0.7	70.3	61.8	70.9	0.7	70.3	60.8	70.8	0.6	70.4	58.8	70.6	0.4	70.4	61.9	71.0	0.8	70.5	59.7	70.8	0.7	70.5	59.4	70.9	0.7
B1 (3f)	3	69.5	69.7	64.8	70.9	1.4	69.7	64.8	70.9	1.4	69.7	63.9	70.7	1.2	69.8	60.0	70.2	0.7	69.8	65.8	71.2	1.7	69.8	63.0	70.7	1.1	69.9	62.7	70.7	1.1
B2 (1f)	1	64.8	64.7	57.3	65.4	0.5	64.7	56.7	65.3	0.5	64.7	56.4	65.3	0.4	64.6	54.2	64.9	0.1	64.6	50.9	64.8	-0.1	64.5	50.3	64.6	-0.2	64.4	51.7	64.6	-0.2
B2 (3f)	3	64.9	64.8	59.9	66.0	1.1	64.8	59.4	65.9	1.0	64.8	59.1	65.8	0.9	64.7	58.1	65.6	0.7	64.7	54.2	65.1	0.2	64.6	53.6	65.0	0.1	64.6	55.0	65.0	0.1
B3 (1f)	1	63.1	63.3	46.0	63.4	0.3	63.3	46.0	63.4	0.3	63.3	47.2	63.4	0.3	63.4	50.6	63.6	0.5	63.4	54.9	64.0	0.9	63.5	55.5	64.2	1.0	63.6	54.1	64.1	1.0
B3 (3f)	3	63.4	63.6	50.0	63.7	0.4	63.6	49.9	63.7	0.4	63.6	51.3	63.8	0.5	63.7	56.3	64.4	1.0	63.7	57.9	64.7	1.3	63.8	59.2	65.1	1.7	63.9	56.5	64.6	1.3
C (1f)	1	71.6	71.7	67.9	73.2	1.6	71.7	68.2	73.3	1.7	71.7	67.3	73.0	1.5	71.7	64.9	72.6	1.0	71.7	62.3	72.2	0.6	71.8	60.7	72.1	0.5	71.8	62.1	72.3	0.7
C (3f)	3	71.1	71.2	73.9	75.8	4.6	71.2	73.9	75.8	4.6	71.2	72.9	75.2	4.0	71.3	68.8	73.2	2.1	71.3	64.9	72.2	1.1	71.3	63.8	72.0	0.9	71.4	65.0	72.3	1.2
C (5f)	5	70.8	70.9	77.5	78.4	7.6	70.9	77.4	78.3	7.5	70.9	76.2	77.3	6.6	71.0	72.3	74.7	3.9	71.0	66.9	72.4	1.6	71.0	65.5	72.1	1.3	71.1	66.7	72.4	1.7
C (10f)	10	70.7	70.8	76.3	77.4	6.7	70.8	76.6	77.6	6.9	70.8	75.5	76.8	6.1	70.9	72.1	74.5	3.9	70.9	68.7	72.9	2.2	70.9	62.1	71.5	0.8	71.0	68.7	73.0	2.3
D (at grade)	1	67.1	67.1	62.4	68.4	1.3	67.1	62.1	68.3	1.2	67.1	61.2	68.1	1.0	67.1	63.3	68.6	1.5	67.1	59.4	67.8	0.7	67.1	60.4	68.0	0.9	67.1	52.9	67.3	0.2
E (1f)	1	72.0	72.1	55.8	72.2	0.2	72.1	55.8	72.2	0.2	72.1	56.1	72.2	0.2	72.2	59.9	72.4	0.4	72.2	57.1	72.3	0.3	72.2	56.3	72.3	0.4	72.3	55.3	72.4	0.4
E (3f)	3	71.5	71.6	56.3	71.7	0.2	71.6	56.3	71.7	0.2	71.6	57.3	71.8	0.3	71.7	63.4	72.3	0.8	71.7	59.1	71.9	0.4	71.7	57.7	71.9	0.4	71.8	55.3	71.9	0.4
E (5f)	5	71.1	71.2	61.2	71.6	0.5	71.2	61.1	71.6	0.5	71.2	60.7	71.6	0.5	71.3	63.6	72.0	0.8	71.3	59.1	71.5	0.4	71.3	57.5	71.5	0.4	71.4	55.5	71.5	0.4
E (10f)	10	71.0	71.1	64.2	71.9	0.9	71.1	64.0	71.9	0.9	71.1	63.1	71.8	0.7	71.2	64.6	72.1	1.0	71.2	60.0	71.5	0.5	71.2	58.1	71.5	0.4	71.3	56.4	71.4	0.4

Construction Noise Results

Exceed the CEQR noise criterion
Period-refined Calculations

Receptor	Elevation	Existing Leq(1)	2013-02				2013 (06-12)				2016 (01-03)				2016 (04-07)				2017 (01-03)				2017 (11) - 2018 (06)				2018-07			
			NoBuild	Cons.	Total	Change	NoBuild	Cons.	Total	Change	NoBuild	Cons.	Total	Change	NoBuild	Cons.	Total	Change	NoBuild	Cons.	Total	Change	NoBuild	Cons.	Total	Change	NoBuild	Cons.	Total	Change
A (1fl)	1	67.2	67.6	65.3	69.6	2.4	67.6	53.7	67.7	0.6	67.7	53.9	67.8	0.7	67.7	54.8	67.9	0.7	67.7	48.5	67.7	0.6	67.7	42.9	67.7	0.5	67.7	42.2	67.7	0.5
A (3fl)	3	66.6	67.0	69.2	71.2	4.7	67.0	54.4	67.2	0.6	67.1	56.3	67.4	0.8	67.1	57.0	67.5	0.9	67.1	52.2	67.2	0.6	67.1	47.1	67.1	0.6	67.1	45.3	67.1	0.5
A (5fl)	5	66.4	66.8	73.6	74.4	8.0	66.8	58.7	67.4	1.0	66.9	56.9	67.3	0.9	66.9	57.6	67.4	1.0	66.9	52.4	67.1	0.6	66.9	46.9	67.0	0.5	66.9	46.1	67.0	0.5
A (10fl)	10	66.4	66.8	76.0	76.5	10.1	66.8	58.3	67.4	0.9	66.9	58.7	67.5	1.1	66.9	59.6	67.6	1.2	66.9	53.2	67.1	0.7	66.9	47.0	67.0	0.6	66.9	46.3	67.0	0.5
A (15fl)	15	66.4	66.8	75.3	75.9	9.4	66.8	61.9	68.0	1.6	66.9	58.7	67.5	1.1	66.9	59.6	67.6	1.2	66.9	53.9	67.1	0.7	66.9	47.0	67.0	0.5	66.9	46.4	67.0	0.5
A (20fl)	20	66.2	66.6	73.3	74.1	7.9	66.6	63.8	68.5	2.2	66.7	58.7	67.4	1.2	66.7	59.5	67.5	1.3	66.8	54.5	67.0	0.8	66.8	47.0	66.8	0.6	66.8	46.6	66.8	0.6
A (25fl)	25	66.2	66.6	71.4	72.6	6.4	66.6	64.3	68.6	2.4	66.7	58.5	67.3	1.1	66.7	59.3	67.4	1.2	66.7	55.4	67.0	0.8	66.7	47.0	66.7	0.5	66.7	47.1	66.7	0.5
A (30fl)	30	66.4	66.7	69.8	71.5	5.2	66.7	64.3	68.6	2.3	66.8	58.3	67.4	1.0	66.8	59.1	67.5	1.1	66.8	57.0	67.3	0.9	66.9	46.9	66.9	0.5	66.9	47.7	66.9	0.6
A (35fl)	35	66.4	66.8	68.4	70.7	4.3	66.8	63.6	68.5	2.1	66.9	58.1	67.4	1.0	66.9	58.9	67.5	1.1	66.9	57.2	67.3	0.9	66.9	47.1	67.0	0.5	66.9	47.8	67.0	0.5
A1 (1fl)	1	66.6	67.0	53.0	67.1	0.5	67.0	49.0	67.0	0.4	67.1	44.1	67.1	0.4	67.1	45.2	67.1	0.4	67.1	40.4	67.1	0.4	67.1	40.4	67.1	0.4	67.1	41.2	67.1	0.5
A1 (3fl)	3	66.1	66.4	53.9	66.6	0.5	66.4	48.7	66.4	0.4	66.5	47.5	66.5	0.4	66.5	48.8	66.5	0.5	66.5	45.6	66.5	0.4	66.5	42.5	66.5	0.4	66.5	43.7	66.5	0.4
A1 (5fl)	5	65.9	66.2	54.3	66.4	0.5	66.2	49.0	66.3	0.3	66.2	47.8	66.3	0.4	66.2	49.0	66.3	0.4	66.3	47.4	66.3	0.4	66.3	41.9	66.3	0.4	66.3	44.4	66.3	0.4
A1 (10fl)	10	65.9	66.1	55.1	66.4	0.6	66.1	52.2	66.3	0.4	66.2	47.8	66.2	0.4	66.2	49.0	66.3	0.4	66.2	47.0	66.2	0.4	66.2	42.2	66.2	0.4	66.2	43.3	66.2	0.4
A1 (15fl)	15	65.8	66.1	54.7	66.4	0.6	66.1	51.7	66.2	0.4	66.2	48.2	66.2	0.4	66.2	49.4	66.3	0.5	66.2	44.9	66.2	0.4	66.2	42.2	66.2	0.4	66.2	42.5	66.2	0.4
A1 (20fl)	20	65.9	66.2	54.5	66.5	0.6	66.2	50.7	66.4	0.4	66.3	42.8	66.3	0.4	66.3	43.5	66.3	0.4	66.3	44.1	66.3	0.4	66.3	41.5	66.3	0.4	66.3	43.1	66.4	0.4
A1 (25fl)	25	65.8	66.1	55.0	66.4	0.6	66.1	50.4	66.2	0.4	66.2	43.4	66.2	0.4	66.2	44.2	66.2	0.4	66.2	44.0	66.2	0.4	66.2	41.1	66.2	0.4	66.2	42.1	66.2	0.4
A1 (30fl)	30	65.9	66.2	54.1	66.4	0.5	66.2	49.7	66.3	0.3	66.2	43.1	66.3	0.3	66.2	43.9	66.3	0.3	66.3	43.8	66.3	0.4	66.3	40.7	66.3	0.4	66.3	41.9	66.3	0.4
A1 (35fl)	35	66.0	66.2	53.5	66.5	0.5	66.2	49.7	66.3	0.3	66.3	42.8	66.3	0.3	66.3	43.7	66.3	0.3	66.3	49.4	66.4	0.4	66.3	46.4	66.4	0.4	66.3	44.5	66.4	0.4
A2 (1fl)	1	61.9	61.9	47.8	62.1	0.2	61.9	43.7	62.0	0.1	62.0	56.8	63.1	1.2	62.0	58.3	63.5	1.6	62.0	51.5	62.3	0.5	62.0	45.0	62.0	0.2	62.0	42.9	62.0	0.2
A2 (3fl)	3	61.7	61.8	49.8	62.1	0.3	61.8	44.2	61.9	0.1	61.8	59.2	63.7	2.0	61.8	60.7	64.3	2.6	61.8	54.9	62.6	0.9	61.8	48.0	62.0	0.3	61.8	46.1	61.9	0.2
A2 (5fl)	5	61.7	61.8	50.7	62.1	0.4	61.8	44.3	61.8	0.1	61.8	60.9	64.4	2.7	61.8	62.3	65.1	3.4	61.8	55.4	62.7	1.0	61.8	48.2	62.0	0.3	61.8	46.3	61.9	0.2
A2 (10fl)	10	62.2	62.3	50.5	62.6	0.4	62.3	44.3	62.4	0.2	62.3	63.7	66.1	3.1	62.3	63.7	66.1	3.9	62.3	55.4	63.1	0.9	62.3	46.4	62.4	0.2	62.3	45.0	62.4	0.2
A2 (15fl)	15	62.7	62.8	50.2	63.0	0.4	62.8	44.3	62.9	0.2	62.8	62.3	65.6	2.9	62.8	63.7	66.3	3.6	62.9	55.0	63.5	0.8	62.9	46.6	63.0	0.3	62.9	45.0	62.9	0.2
A2 (20fl)	20	62.9	63.0	49.8	63.2	0.3	63.0	44.4	63.1	0.2	63.1	60.0	64.8	1.9	63.1	61.3	65.3	2.3	63.1	55.9	63.8	0.9	63.1	47.1	63.2	0.3	63.1	45.7	63.2	0.2
A2 (25fl)	25	63.1	63.2	49.2	63.4	0.3	63.2	43.9	63.3	0.2	63.3	59.8	64.9	1.8	63.3	61.1	65.3	2.2	63.3	56.4	64.1	1.0	63.3	47.5	63.4	0.3	63.3	46.6	63.4	0.3
A2 (30fl)	30	63.3	63.5	48.4	63.6	0.3	63.5	43.9	63.5	0.2	63.5	59.5	65.0	1.6	63.5	60.8	65.4	2.1	63.5	58.7	64.7	1.4	63.5	47.7	63.6	0.3	63.5	47.9	63.6	0.3
A2 (35fl)	35	63.4	63.5	47.8	63.6	0.3	63.5	43.7	63.5	0.2	63.5	59.3	64.9	1.6	63.5	60.5	65.3	1.9	63.6	59.0	64.9	1.5	63.6	48.1	63.7	0.3	63.6	48.7	63.7	0.3
B (at grade)	1	71.5	72.2	64.5	72.9	1.4	72.2	63.0	72.7	1.2	72.4	53.2	72.4	0.9	72.4	53.2	72.4	0.9	72.4	53.2	72.4	0.9	72.4	53.1	72.4	0.9	72.4	53.1	72.4	0.9
B1 (1fl)	1	70.1	70.6	63.8	71.4	1.2	70.6	61.6	71.1	1.0	70.7	46.9	70.7	0.6	70.7	47.0	70.7	0.6	70.7	47.2	70.8	0.6	70.8	46.3	70.8	0.6	70.8	46.7	70.8	0.6
B1 (3fl)	3	69.5	70.0	66.5	71.6	2.1	70.0	64.5	71.1	1.5	70.1	49.2	70.1	0.6	70.1	49.3	70.1	0.6	70.1	49.7	70.1	0.6	70.1	48.2	70.1	0.6	70.1	48.4	70.1	0.6
B2 (1fl)	1	64.8	64.3	56.7	65.0	0.2	64.3	50.9	64.5	-0.3	64.3	44.2	64.3	-0.5	64.3	45.1	64.3	-0.5	64.3	44.8	64.3	-0.5	64.3	40.0	64.3	-0.5	64.3	41.6	64.3	-0.5
B2 (3fl)	3	64.9	64.5	60.2	65.9	1.0	64.5	52.6	64.8	-0.1	64.5	48.9	64.6	-0.3	64.5	49.8	64.6	-0.3	64.5	50.1	64.6	-0.3	64.5	44.2	64.5	-0.4	64.5	45.8	64.5	-0.4
B3 (1fl)	1	63.1	63.7	57.3	64.6	1.5	63.7	52.6	64.1	1.0	63.9	40.7	63.9	0.8	63.9	41.3	63.9	0.8	63.9	40.1	63.9	0.8	63.9	38.5	63.9	0.8	63.9	38.3	63.9	0.8
B3 (3fl)	3	63.4	64.0	61.3	65.9	2.5	64.0	56.4	64.7	1.3	64.1	44.2	64.2	0.8	64.1	44.8	64.2	0.8	64.1	43.5	64.2	0.8	64.1	41.5	64.2	0.8	64.1	40.8	64.2	0.8
C (1fl)	1	71.6	71.9	63.3	72.5	0.9	71.9	59.7	72.2	0.6	72.0	54.0	72.1	0.5	72.0	54.0	72.1	0.5	72.0	54.0	72.1	0.5	72.0	53.9	72.1	0.5	72.0	53.9	72.1	0.5
C (3fl)	3	71.1	71.4	66.2	72.6	1.4	71.4	62.1	71.9	0.8	71.5	53.3	71.6	0.5	71.5	53.3	71.6	0.5	71.6	53.5	71.6	0.5	71.6	53.2	71.6	0.5	71.6	53.2	71.6	0.5
C (5fl)	5	70.8	71.2	67.1	72.6	1.8	71.2	62.2	71.7	0.9	71.3	51.2	71.3	0.5	71.3	51.3	71.3	0.5	71.3	51.5	71.3	0.5	71.3	51.1	71.3	0.6	71.3	51.1	71.3	0.6
C (10fl)	10	70.7	71.1	67.9	72.8	2.1	71.1	62.9	71.7	1.0	71.2	48.7	71.2	0.5	71.2	48.8	71.2	0.5	71.2	49.3	71.2	0.5	71.2	48.5	71.2	0.5	71.2	48.7	71.2	0.5
D (at grade)	1	67.1	67.2	53.0	67.3	0.2	67.2	52.1	67.3	0.2	67.2	54.7	67.4	0.4	67.2	54.7	67.4	0.4	67.2	56.8	67.6	0.5	67.3	54.4	67.5	0.4	67.3	54.0	67.5	0.4
E (1fl)	1	72.0	72.4	56.1	72.5	0.5	72.4	54.9	72.4	0.5	72.4	62.7	72.9	0.9	72.4	63.9	73.0	1.1	72.5	60.8	72.8	0.8	72.5	58.7	72.7	0.7	72.5	60.9	72.8	0.8
E (3fl)	3	71.5	71.8	56.7	71.9	0.4	71.8	54.5	71.9	0.4	71.9	66.1	72.9	1.4	71.9	67.3	73.2	1.7	71.9	63.5	72.5	1.0	71.9	61.5	72.3	0.8	71.9	63.7	72.6	1.1
E (5fl)	5	71.1	71.4	57.2	71.6	0.5	71.4	52.2	71.5	0.4	71.5	68.5	73.3	2.1	71.5	69.9	73.8	2.7	71.5	65.8	72.6	1.4	71.6	63.3	72.2	1.0	71.6	66.5	72.7	1.6
E (10fl)	10	71.0	71.4	57.6	71.5	0.5	71.4	49.9	71.4	0.3	71.4	69.0	73.4	2.4	71.4	70														

Table B

Construction Noise Results

Exceed the CEQR noise criterion
Period-refined Calculations

Receptor	Elevation	Existing Leq(1)	Phase 2																															
			2020-10				2021-07				2021 (10-12)				2022 (01-04)				2030-11				2031-10				2032-04							
			NoBuild	Cons.	Total	Change	NoBuild	Cons.	Total	Change	NoBuild	Cons.	Total	Change	NoBuild	Cons.	Total	Change	NoBuild	Cons.	Total	Change	NoBuild	Cons.	Total	Change	NoBuild	Cons.	Total	Change	NoBuild	Cons.	Total	Change
A (1fl)	1	67.2	67.7	45.5	67.7	0.6	67.7	47.8	67.8	0.6	67.7	46.3	67.8	0.6	67.7	44.4	67.8	0.6	67.8	41.6	67.9	0.7	67.9	41.4	67.9	0.7	67.9	39.6	67.9	0.7	67.9	38.6	67.9	0.7
A (3fl)	3	66.6	67.1	49.5	67.2	0.6	67.1	52.2	67.3	0.7	67.1	50.7	67.2	0.7	67.2	48.9	67.2	0.6	67.3	43.5	67.3	0.7	67.3	43.5	67.3	0.8	67.3	42.1	67.3	0.8	67.3	41.1	67.3	0.8
A (5fl)	5	66.4	67.0	49.8	67.0	0.6	67.0	52.4	67.1	0.7	67.0	50.9	67.1	0.7	67.0	49.3	67.1	0.6	67.1	44.6	67.2	0.7	67.2	44.6	67.2	0.7	67.2	44.6	67.2	0.7	67.2	43.5	67.2	0.8
A (10fl)	10	66.4	67.0	49.7	67.0	0.6	67.0	52.4	67.1	0.7	67.0	50.9	67.1	0.7	67.0	49.3	67.1	0.6	67.1	44.4	67.2	0.7	67.2	44.7	67.2	0.7	67.2	44.7	67.2	0.7	67.2	43.4	67.2	0.8
A (15fl)	15	66.4	66.9	48.6	67.0	0.6	67.0	51.8	67.1	0.7	67.0	49.8	67.0	0.6	67.1	44.1	67.1	0.7	67.1	44.1	67.1	0.7	67.1	45.8	67.1	0.7	67.1	43.8	67.1	0.7	67.1	43.6	67.1	0.7
A (20fl)	20	66.2	66.8	47.1	66.8	0.6	66.8	50.5	66.9	0.7	66.8	48.9	66.9	0.7	66.8	48.9	66.9	0.7	66.9	43.4	66.9	0.7	66.9	44.5	66.9	0.7	66.9	44.1	66.9	0.7	66.9	42.2	66.9	0.7
A (25fl)	25	66.2	66.7	44.5	66.7	0.5	66.7	50.4	66.8	0.6	66.7	48.7	66.8	0.6	66.7	48.7	66.8	0.6	66.8	44.0	66.9	0.7	66.9	44.1	66.9	0.7	66.9	44.1	66.9	0.7	66.9	41.3	66.9	0.7
A (30fl)	30	66.4	66.9	46.0	66.9	0.6	66.9	50.2	67.0	0.6	66.9	48.4	67.0	0.6	66.9	48.5	67.0	0.6	67.1	44.2	67.1	0.7	67.1	43.8	67.1	0.7	67.1	43.8	67.1	0.7	67.1	40.6	67.1	0.7
A (35fl)	35	66.4	66.9	46.7	67.0	0.6	67.0	50.2	67.0	0.6	67.0	48.1	67.0	0.6	67.0	48.3	67.0	0.6	67.1	44.1	67.1	0.7	67.1	44.8	67.1	0.7	67.1	44.8	67.1	0.7	67.1	39.9	67.1	0.7
A (1fl)	1	66.6	67.1	44.1	67.1	0.5	67.1	43.6	67.2	0.5	67.1	39.7	67.1	0.5	67.2	38.6	67.2	0.5	67.3	47.8	67.3	0.7	67.3	45.1	67.3	0.7	67.3	45.1	67.3	0.7	67.3	40.1	67.3	0.7
A1 (3fl)	3	66.1	66.5	48.5	66.6	0.5	66.5	47.3	66.6	0.5	66.5	43.6	66.5	0.5	66.5	43.1	66.5	0.5	66.6	52.0	66.6	0.7	66.6	48.8	66.6	0.6	66.6	48.8	66.6	0.6	66.6	42.3	66.6	0.6
A1 (5fl)	5	65.9	66.3	49.5	66.4	0.5	66.3	47.6	66.4	0.4	66.3	45.2	66.4	0.4	66.3	45.0	66.4	0.4	66.5	53.0	66.5	0.7	66.5	51.0	66.5	0.7	66.5	51.0	66.5	0.7	66.5	46.3	66.5	0.6
A1 (10fl)	10	65.9	66.2	49.5	66.3	0.5	66.3	47.8	66.3	0.4	66.3	45.3	66.3	0.4	66.3	45.9	66.3	0.4	66.4	53.0	66.6	0.7	66.4	52.3	66.6	0.7	66.4	52.3	66.6	0.7	66.4	47.2	66.5	0.6
A1 (15fl)	15	65.8	66.2	49.6	66.3	0.5	66.2	46.4	66.4	0.4	66.2	45.1	66.3	0.5	66.2	46.4	66.3	0.5	66.3	52.9	66.5	0.7	66.3	54.5	66.6	0.8	66.3	54.5	66.6	0.8	66.3	49.3	66.4	0.6
A1 (20fl)	20	65.9	66.4	51.4	66.5	0.6	66.4	56.3	66.8	0.8	66.4	46.5	66.4	0.5	66.4	46.2	66.4	0.5	66.5	53.3	66.7	0.7	66.5	54.7	66.8	0.8	66.5	54.7	66.8	0.8	66.5	47.3	66.6	0.6
A1 (25fl)	25	65.8	66.2	54.0	66.5	0.7	66.2	56.2	66.6	0.8	66.2	46.5	66.3	0.5	66.2	46.0	66.3	0.5	66.3	55.0	66.6	0.8	66.3	55.2	66.7	0.9	66.3	55.2	66.7	0.9	66.4	47.2	66.4	0.6
A1 (30fl)	30	65.9	66.3	56.5	66.7	0.8	66.3	56.1	66.7	0.8	66.3	48.0	66.4	0.5	66.3	47.2	66.4	0.5	66.5	56.3	66.9	0.9	66.5	57.4	67.0	1.1	66.5	57.4	67.0	1.1	66.5	47.1	66.5	0.6
A1 (35fl)	35	66.0	66.4	56.7	66.8	0.8	66.4	55.9	66.8	0.8	66.4	48.8	66.5	0.5	66.4	47.3	66.5	0.5	66.5	57.0	67.0	1.0	66.6	57.7	67.1	1.1	66.6	57.7	67.1	1.1	66.6	47.6	66.6	0.6
A2 (1fl)	1	61.9	62.0	48.0	62.2	0.3	62.0	52.8	62.5	0.6	62.0	48.9	62.2	0.3	62.0	46.0	62.1	0.2	62.0	42.2	62.1	0.2	62.0	40.8	62.1	0.2	62.0	40.8	62.1	0.2	62.0	35.4	62.1	0.2
A2 (3fl)	3	61.7	61.8	51.7	62.2	0.5	61.8	56.5	62.9	1.2	61.8	52.0	62.3	0.5	61.8	50.7	62.2	0.4	61.9	48.6	62.1	0.3	61.9	46.5	62.0	0.3	61.9	46.5	62.0	0.3	61.9	39.4	61.9	0.2
A2 (5fl)	5	61.7	61.8	49.9	62.1	0.4	61.8	56.3	62.9	1.2	61.8	51.8	62.2	0.5	61.8	50.8	62.1	0.4	61.9	48.6	62.1	0.4	61.9	46.7	62.0	0.3	61.9	46.7	62.0	0.3	61.9	39.6	61.9	0.2
A2 (10fl)	10	62.2	62.3	50.4	62.6	0.4	62.3	56.7	63.4	1.2	62.3	51.1	62.7	0.5	62.3	51.2	62.7	0.5	62.4	48.4	62.6	0.4	62.4	46.9	62.5	0.3	62.4	46.9	62.5	0.3	62.4	39.7	62.4	0.2
A2 (15fl)	15	62.7	62.9	52.2	63.2	0.5	62.9	58.2	64.2	1.5	62.9	51.4	63.2	0.5	62.9	51.4	63.2	0.5	62.9	54.5	63.5	0.8	62.9	57.1	63.9	1.2	62.9	57.1	63.9	1.2	62.9	48.1	63.1	0.4
A2 (20fl)	20	62.9	63.1	57.0	64.1	1.1	63.1	58.8	64.5	1.5	63.1	52.8	63.5	0.6	63.1	52.7	63.5	0.6	63.2	57.3	64.2	1.3	63.2	57.0	64.1	1.2	63.2	57.0	64.1	1.2	63.2	48.0	63.4	0.4
A2 (25fl)	25	63.1	63.3	59.6	64.9	1.8	63.3	58.7	64.6	1.5	63.3	54.0	63.8	0.7	63.3	53.9	63.8	0.7	63.4	59.3	64.8	1.7	63.4	58.4	64.6	1.5	63.4	58.4	64.6	1.5	63.4	47.9	63.6	0.5
A2 (30fl)	30	63.3	63.5	60.0	65.1	1.8	63.5	58.5	64.7	1.4	63.5	54.1	64.0	0.7	63.5	53.7	64.0	0.7	63.6	60.1	65.2	1.9	63.6	59.8	65.1	1.8	63.6	59.8	65.1	1.8	63.6	47.8	63.7	0.4
A2 (35fl)	35	63.4	63.6	60.4	65.3	1.9	63.6	58.4	64.7	1.4	63.6	54.3	64.1	0.7	63.6	53.5	64.0	0.6	63.7	59.9	65.2	1.8	63.7	60.4	65.3	2.0	63.7	60.4	65.3	2.0	63.7	48.3	63.8	0.4
B (at grade)	1	71.5	72.4	53.1	72.5	1.0	72.4	53.1	72.5	1.0	72.4	53.0	72.5	1.0	72.4	53.0	72.5	1.0	72.6	53.1	72.6	1.1	72.6	53.1	72.6	1.1	72.6	53.1	72.6	1.1	72.6	53.0	72.7	1.2
B1 (1fl)	1	70.1	70.8	46.9	70.8	0.7	70.8	48.8	70.8	0.7	70.8	47.3	70.8	0.7	70.8	46.4	70.9	0.7	71.0	46.8	71.0	0.9	71.0	46.6	71.0	0.9	71.0	46.2	71.1	0.9	71.0	46.2	71.1	0.9
B1 (3fl)	3	69.5	70.1	51.0	70.2	0.7	70.2	52.7	70.2	0.7	70.2	50.4	70.2	0.7	70.2	48.4	70.2	0.7	70.3	48.8	70.3	0.8	70.3	48.5	70.3	0.8	70.3	47.9	70.4	0.8	70.3	47.9	70.4	0.8
B2 (1fl)	1	64.8	64.3	36.7	64.3	-0.5	64.3	43.0	64.4	-0.5	64.3	40.5	64.3	-0.5	64.3	40.1	64.4	-0.5	64.5	37.1	64.5	-0.4	64.5	36.8	64.5	-0.4	64.5	35.0	64.5	-0.3	64.5	35.0	64.5	-0.3
B2 (3fl)	3	64.9	64.5	39.9	64.5	-0.4	64.5	46.2	64.6	-0.3	64.5	44.8	64.6	-0.3	64.5	44.6	64.6	-0.3	64.6	39.3	64.7	-0.2	64.7	38.9	64.7	-0.2	64.7	37.8	64.7	-0.2	64.7	37.8	64.7	-0.2
B3 (1fl)	1	63.1	63.9	38.2	63.9	0.8	63.9	40.5	63.9	0.8	63.9	37.3	63.9	0.8	63.9	36.9	63.9	0.8	63.9	43.9	64.0	0.9	64.0	42.7	64.0	0.9	64.0	42.7	64.0	0.9	64.0	39.0	64.0	0.9
B3 (3fl)	3	63.4	64.2	40.5	64.2	0.8	64.2	44.0	64.2	0.9	64.2	39.3	64.2	0.8	64.2	39.1	64.2	0.8	64.3	48.3	64.4	1.0	64.3	46.9	64.3	1.0	64.3	46.9	64.3	1.0	64.3	42.4	64.3	1.0
C (1fl)	1	71.6	72.1	54.5	72.2	0.6	72.1	54.3	72.2	0.6	72.1	54.1	72.2	0.6	72.1	54.0	72.2	0.6	72.2	54.3	72.4	0.8	72.3	54.5	72.4	0.8	72.3	54.5	72.4	0.8	72.3	54.4	72.4	0.8
C (3fl)	3	71.1	71.6	54.9	71.7	0.6	71.6	54.2	71.7	0.6	71.6	53.8	71.7	0.6	71.7	53.5	71.7	0.6	71.8	54.2	71.9	0.8	71.8	55.1	71.9	0.8	71.8	55.1	71.9	0.8	71.8	53.8	71.9	0.8
C (5fl)	5	70.8	71.3	53.6	71.4	0.6	71.3	52.7	71.4	0.6	71.3	52.0	71.4	0.6	71.3	51.7	71.4	0.6	71.5	52.7	71.5	0.8	71.5	53.9	71.6	0.8	71.5	53.9	71.6	0.8	71.5	52.0	71.5	0.8
C (10fl)	10	70.7	71.2	51.2	71.3	0.6	71.2	50.2	71.3	0.6	71.2	49.4	71.3	0.6	71.3	49.1	71.3	0.6	71.4	50.5	71.4	0.7	71.4	51.8	71.4	0.8	71.4	49.5	71.4	0.8	71.4	49.5	71.4	0.8
D (at grade)	1	67.1	67.3																															

Construction Noise Results

Exceed the CEQR noise criterion
Period-refined Calculations

Receptor	Elevation	Existing Leq(1)	Phase 1																											
			2009 (01-04)				2009 (05-09)				2009-10 to 2010-04				2010 (05-07)				2010 (08-12)				2011-04				2012-05			
			NoBuild	Cons.	Total	Change	NoBuild	Cons.	Total	Change	NoBuild	Cons.	Total	Change	NoBuild	Cons.	Total	Change	NoBuild	Cons.	Total	Change	NoBuild	Cons.	Total	Change	NoBuild	Cons.	Total	Change
G (1f1)	1	71.3	71.6	60.0	71.9	0.6	71.6	60.3	71.9	0.6	71.6	59.7	71.9	0.6	71.7	58.1	71.8	0.5	71.7	72.4	75.1	3.8	71.9	64.8	72.7	1.4	72.0	59.8	72.3	1.0
G (3f)	3	71.0	71.3	61.7	71.8	0.7	71.3	62.0	71.8	0.8	71.3	61.0	71.8	0.7	71.5	57.8	71.7	0.6	71.5	74.9	76.5	5.5	71.6	68.2	73.2	2.2	71.8	64.0	72.4	1.4
G1 (1f1)	1	66.0	66.3	53.2	66.5	0.5	66.3	53.0	66.5	0.5	66.3	53.0	66.5	0.5	66.5	53.6	66.7	0.7	66.5	64.8	68.7	2.7	66.6	60.4	67.5	1.5	66.8	56.1	67.1	1.1
G1 (3f1)	3	65.3	65.6	57.0	65.8	0.5	65.6	52.9	65.8	0.5	65.6	52.7	65.8	0.5	65.8	53.4	66.0	0.7	65.8	68.1	70.1	4.8	65.9	63.0	67.7	2.4	66.1	57.5	66.6	1.3
H (1f1)	1	71.6	71.7	57.5	71.9	0.3	71.7	57.7	71.9	0.3	71.7	57.0	71.8	0.2	71.7	52.7	71.8	0.2	71.7	59.9	72.0	0.4	71.8	59.6	72.1	0.5	71.8	55.9	72.0	0.4
H (3f1)	3	71.1	71.2	58.9	71.5	0.4	71.2	59.1	71.5	0.4	71.2	58.6	71.5	0.3	71.2	53.8	71.4	0.2	71.3	62.7	71.9	0.7	71.3	62.4	71.9	0.7	71.4	58.0	71.6	0.5
H (5f1)	5	70.8	70.9	60.3	71.2	0.5	70.9	60.5	71.3	0.5	70.9	59.8	71.2	0.4	70.9	53.9	71.0	0.2	70.9	64.8	71.9	1.1	71.0	63.3	71.7	0.9	71.0	59.7	71.3	0.6
H (10f1)	10	70.6	70.7	61.8	71.2	0.6	70.7	62.1	71.3	0.7	70.7	61.2	71.2	0.6	70.7	55.5	70.9	0.3	70.7	67.4	72.4	1.8	70.8	65.9	72.0	1.4	70.8	62.7	71.5	0.9
H (15f1)	15	70.8	70.9	62.8	71.5	0.7	70.9	63.1	71.5	0.8	70.9	62.3	71.4	0.7	70.9	55.7	71.1	0.3	70.9	69.6	73.3	2.6	71.0	67.1	72.5	1.7	71.0	64.0	71.8	1.0
H (20f1)	20	70.7	70.8	62.9	71.4	0.7	70.8	63.1	71.4	0.8	70.8	62.3	71.3	0.7	70.8	56.1	70.9	0.3	70.8	69.2	73.1	2.4	70.8	67.2	72.4	1.7	70.9	64.2	71.7	1.0
H (25f1)	25	70.5	70.6	62.6	71.2	0.7	70.6	62.5	71.2	0.7	70.6	61.9	71.2	0.7	70.7	57.6	70.9	0.4	70.7	68.6	72.8	2.3	70.7	66.5	72.1	1.6	70.8	64.4	71.7	1.2
H (30f1)	30	70.5	70.6	62.2	71.2	0.7	70.6	62.0	71.2	0.7	70.6	61.6	71.1	0.6	70.7	58.3	70.9	0.4	70.7	67.7	72.4	1.9	70.7	67.3	72.3	1.8	70.8	64.5	71.7	1.2
H (35f1)	35	70.4	70.5	61.7	71.1	0.6	70.5	61.5	71.0	0.6	70.5	61.1	71.0	0.6	70.6	57.4	70.8	0.4	70.6	64.8	71.6	1.2	70.6	65.4	71.8	1.3	70.7	63.0	71.4	0.9
I (1f1)	1	63.2	63.6	50.5	63.8	0.5	63.6	50.1	63.8	0.5	63.6	50.3	63.8	0.5	63.7	52.0	64.0	0.8	63.7	56.2	64.4	1.2	63.9	55.7	64.5	1.3	64.1	54.0	64.5	1.3
I (3f1)	3	63.5	63.9	52.6	64.2	0.7	63.9	52.2	64.1	0.7	63.9	52.9	64.2	0.7	64.1	54.9	64.6	1.1	64.1	58.8	65.2	1.7	64.3	59.0	65.4	1.9	64.5	56.8	65.2	1.7
I (5f1)	5	63.5	63.9	56.8	64.7	1.1	63.9	56.7	64.6	1.1	63.9	56.5	64.6	1.1	64.1	55.4	64.6	1.1	64.1	60.9	65.8	2.2	64.3	59.8	65.6	2.1	64.5	57.9	65.3	1.8
I (10f1)	10	63.8	64.1	61.2	65.9	2.1	64.1	61.2	65.9	2.1	64.1	60.5	65.7	1.9	64.3	56.3	64.9	1.2	64.3	64.1	67.2	3.4	64.5	61.8	66.4	2.6	64.7	60.2	66.0	2.2
I (15f1)	15	64.0	64.3	62.3	66.4	2.4	64.3	62.4	66.5	2.5	64.3	61.7	66.2	2.2	64.5	58.1	65.4	1.4	64.5	65.7	68.1	4.1	64.7	62.5	66.7	2.7	64.8	62.5	66.8	2.8
I (20f1)	20	64.4	64.7	62.5	66.8	2.3	64.7	62.5	66.8	2.3	64.7	61.7	66.5	2.0	64.9	58.4	65.8	1.3	64.9	65.8	68.4	3.9	65.0	63.2	67.2	2.8	65.2	62.6	67.1	2.7
I (25f1)	25	64.4	64.7	62.2	66.6	2.2	64.7	62.1	66.6	2.2	64.7	61.3	66.3	1.9	64.8	58.7	65.8	1.4	64.8	65.8	68.3	4.0	64.9	63.0	67.1	2.7	65.1	63.2	67.3	2.9
I (30f1)	30	64.4	64.7	62.1	66.6	2.2	64.7	62.0	66.6	2.1	64.7	61.2	66.3	1.9	64.9	58.8	65.8	1.4	64.9	65.4	68.1	3.7	65.0	62.9	67.1	2.7	65.2	63.0	67.2	2.8
I (34f1)	34	64.8	65.1	61.8	66.8	1.9	65.1	61.7	66.7	1.9	65.1	61.0	66.5	1.7	65.2	58.9	66.1	1.3	65.2	65.1	68.2	3.3	65.4	63.0	67.4	2.5	65.5	62.8	67.4	2.5
I1 (1f1)	1	64.4	64.4	43.7	64.5	0.1	64.4	43.6	64.5	0.1	64.4	43.0	64.5	0.1	64.5	44.3	64.5	0.1	64.5	44.7	64.5	0.1	64.5	44.2	64.6	0.2	64.5	43.8	64.6	0.2
I1 (3f1)	3	64.2	64.3	46.1	64.3	0.1	64.3	45.7	64.3	0.1	64.3	45.4	64.4	0.1	64.3	46.4	64.4	0.2	64.3	46.7	64.4	0.2	64.3	46.1	64.4	0.2	64.4	46.2	64.4	0.2
I1 (5f1)	5	64.2	64.3	45.6	64.3	0.1	64.3	45.4	64.3	0.1	64.3	44.8	64.3	0.1	64.3	49.3	64.4	0.2	64.3	46.9	64.4	0.2	64.3	46.7	64.4	0.2	64.4	46.1	64.4	0.2
I1 (10f1)	10	64.4	64.5	45.1	64.6	0.1	64.5	45.0	64.6	0.1	64.5	46.3	64.6	0.1	64.5	48.8	64.6	0.2	64.5	45.9	64.6	0.2	64.6	45.3	64.6	0.2	64.6	45.2	64.7	0.2
I1 (15f1)	15	64.8	64.9	58.3	65.7	0.9	64.9	58.7	65.8	1.0	64.9	57.8	65.6	0.8	64.9	52.5	65.1	0.3	64.9	47.8	65.0	0.2	64.9	47.2	65.0	0.2	65.0	45.6	65.0	0.2
I1 (20f1)	20	65.3	65.3	60.6	66.6	1.3	65.3	60.8	66.7	1.4	65.3	60.1	66.5	1.2	65.4	53.3	65.6	0.4	65.4	49.9	65.5	0.2	65.4	47.5	65.5	0.2	65.5	49.5	65.6	0.3
I1 (25f1)	25	65.1	65.2	60.4	66.5	1.3	65.2	60.5	66.5	1.3	65.2	59.8	66.3	1.2	65.3	53.8	65.6	0.4	65.3	51.3	65.4	0.3	65.3	47.8	65.4	0.2	65.3	51.8	65.5	0.4
I1 (30f1)	30	65.3	65.3	60.2	66.5	1.2	65.3	60.2	66.5	1.2	65.3	59.5	66.3	1.1	65.4	54.0	65.7	0.4	65.4	51.6	65.5	0.3	65.4	47.7	65.5	0.2	65.4	52.5	65.6	0.4
I1 (34f1)	34	65.6	65.7	60.1	66.7	1.1	65.7	60.0	66.7	1.1	65.7	59.4	66.6	1.0	65.7	54.2	66.0	0.4	65.7	51.8	65.9	0.3	65.8	47.8	65.8	0.2	65.8	54.2	66.1	0.5
J (1f1)	1	71.8	71.8	54.8	71.9	0.2	71.8	55.0	71.9	0.2	71.8	54.4	71.9	0.2	71.9	51.9	71.9	0.2	71.9	52.6	71.9	0.2	71.9	54.1	72.0	0.2	72.0	53.5	72.0	0.3
J (3f1)	3	71.3	71.4	55.7	71.5	0.2	71.4	56.0	71.5	0.2	71.4	55.4	71.5	0.2	71.5	53.2	71.5	0.2	71.5	52.6	71.5	0.2	71.5	57.2	71.7	0.4	71.6	55.4	71.7	0.4
J (7f1)	5	70.8	70.9	56.6	71.0	0.3	70.9	57.0	71.0	0.3	70.9	56.2	71.0	0.2	70.9	51.7	71.0	0.2	70.9	54.1	71.0	0.2	71.0	57.2	71.2	0.4	71.0	56.5	71.2	0.4
K (1f1)	1	72.0	72.1	53.4	72.2	0.1	72.1	53.6	72.2	0.1	72.1	53.1	72.2	0.1	72.2	50.7	72.2	0.1	72.2	50.7	72.2	0.1	72.2	52.0	72.2	0.2	72.2	51.7	72.3	0.2
K (3f1)	3	72.0	72.1	54.0	72.2	0.1	72.1	54.3	72.2	0.2	72.1	53.9	72.2	0.1	72.2	51.4	72.2	0.2	72.2	51.3	72.2	0.2	72.2	54.3	72.3	0.2	72.2	52.7	72.3	0.2
K (5f1)	5	71.7	71.8	54.3	71.8	0.2	71.8	54.6	71.8	0.2	71.8	54.0	71.8	0.2	71.8	50.9	71.8	0.2	71.8	50.6	71.8	0.2	71.8	53.9	71.9	0.2	71.9	52.7	71.9	0.2
L (1f1)	1	70.0	70.1	63.4	70.9	0.9	70.1	63.6	71.0	1.0	70.1	62.8	70.8	0.8	70.1	61.5	70.7	0.7	70.1	59.0	70.4	0.5	70.2	58.9	70.5	0.5	70.2	56.5	70.4	0.4
L (3f1)	3	69.5	69.6	66.7	71.4	1.9	69.6	66.8	71.5	1.9	69.6	66.1	71.2	1.7	69.7	64.5	70.8	1.3	69.7	61.9	70.4	0.8	69.7	61.8	70.4	0.8	69.8	59.3	70.2	0.6
L (5f1)	5	69.2	69.3	69.1	72.2	3.0	69.3	69.3	72.3	3.1	69.3	68.6	72.0	2.8	69.3	66.3	71.1	1.9	69.3	63.4	70.3	1.1	69.4	63.7	70.4	1.2	69.4	60.7	70.0	0.8
L (10f1)	10	68.9	69.0	70.1	72.6	3.7	69.0	70.5	72.8	3.9	69.0	69.6	72.3	3.4	69.1	68.5	71.8	2.9	69.1	65.3	70.6	1.7	69.1	65.1	70.6	1.6	69.2	62.8	70.1	1.1
M (1f1)	1	62.0	62.1	46.0	62.2	0.1	62.1	46.2	62.2	0.1	62.1	45.3	62.2	0.1	62.1	50.8	62.4	0.4	62.1	46.0	62.2	0.1	62.1	43.3	62.2	0.1	62.1	47.7	62.3	0.2
M (3f1)	3	62.7	62.7	48.4	62.9	0.2	62.7	48.7	62.9	0.2	62.7	47.9	62.8	0.2	62.7	51.9	63.1	0.4	62.7	48.7	62.9	0.2	62.7	45.2	62.8	0.2	62.8	50.6		

Construction Noise Results

Exceed the CEQR noise criterion
Period-refined Calculations

Receptor	Elevation	Existing Leq(1)	Phase 2																											
			2020-10				2021-07				2021 (10-12)				2022 (01-04)				2030-11				2031-10				2032-04			
			NoBuild	Cons.	Total	Change	NoBuild	Cons.	Total	Change	NoBuild	Cons.	Total	Change	NoBuild	Cons.	Total	Change	NoBuild	Cons.	Total	Change	NoBuild	Cons.	Total	Change	NoBuild	Cons.	Total	Change
G (1f1)	1	71.3	72.4	46.8	72.5	1.1	72.5	46.7	72.5	1.2	72.5	46.6	72.5	1.2	72.5	46.5	72.5	1.2	72.7	47.1	72.7	1.4	72.7	47.0	72.7	1.4	72.7	47.0	72.7	1.4
G (3f)	3	71.0	72.1	47.9	72.2	1.1	72.2	47.8	72.2	1.1	72.2	47.7	72.2	1.1	72.2	47.6	72.2	1.1	72.3	48.3	72.3	1.3	72.3	48.1	72.3	1.3	72.3	48.1	72.3	1.3
G1 (1f1)	1	66.0	67.2	40.2	67.2	1.2	67.2	39.6	67.2	1.2	67.2	38.0	67.2	1.2	67.2	34.9	67.2	1.2	67.4	40.5	67.4	1.4	67.4	40.9	67.4	1.4	67.4	40.9	67.4	1.4
G1 (3f)	3	65.3	66.5	40.9	66.5	1.1	66.5	40.4	66.5	1.2	66.5	39.9	66.5	1.2	66.5	36.0	66.5	1.2	66.7	40.9	66.7	1.4	66.7	41.6	66.7	1.4	66.7	41.6	66.7	1.4
H (1f1)	1	71.6	72.1	49.9	72.1	0.5	72.1	49.9	72.1	0.5	72.1	49.8	72.1	0.5	72.1	49.6	72.1	0.6	72.3	50.4	72.3	0.7	72.3	50.4	72.3	0.7	72.3	50.4	72.3	0.7
H (3f)	3	71.1	71.6	50.2	71.6	0.5	71.6	50.2	71.6	0.5	71.6	50.0	71.6	0.5	71.6	49.8	71.6	0.5	71.7	51.5	71.8	0.6	71.8	50.7	71.8	0.6	71.8	50.7	71.8	0.6
H (5f)	5	70.8	71.3	48.5	71.3	0.5	71.3	48.7	71.3	0.5	71.3	48.6	71.3	0.5	71.3	48.3	71.3	0.5	71.5	48.7	71.5	0.7	71.5	48.8	71.5	0.7	71.5	48.8	71.5	0.7
H (10f)	10	70.6	71.0	46.7	71.1	0.5	71.1	46.7	71.1	0.5	71.1	46.5	71.1	0.5	71.1	46.4	71.1	0.5	71.2	47.0	71.2	0.6	71.2	47.3	71.2	0.6	71.2	47.3	71.2	0.6
H (15f)	15	70.8	71.3	47.1	71.3	0.5	71.3	47.2	71.3	0.5	71.3	46.9	71.3	0.5	71.3	47.5	71.3	0.5	71.5	47.7	71.5	0.7	71.5	50.4	71.5	0.7	71.5	48.3	71.5	0.7
H (20f)	20	70.7	71.1	46.0	71.1	0.4	71.1	46.5	71.1	0.4	71.1	45.7	71.1	0.4	71.1	47.6	71.1	0.4	71.3	46.8	71.3	0.6	71.3	53.8	71.4	0.7	71.3	47.5	71.3	0.6
H (25f)	25	70.5	71.0	46.6	71.0	0.5	71.0	46.6	71.0	0.5	71.0	45.5	71.0	0.5	71.0	48.4	71.0	0.5	71.2	46.7	71.2	0.7	71.2	54.3	71.3	0.8	71.2	46.9	71.2	0.7
H (30f)	30	70.5	71.0	46.4	71.0	0.5	71.0	46.4	71.0	0.5	71.0	47.8	71.0	0.5	71.0	50.1	71.1	0.6	71.2	50.2	71.2	0.7	71.2	54.4	71.3	0.8	71.2	46.5	71.2	0.7
H (35f)	35	70.4	70.9	50.9	70.9	0.5	70.9	52.4	71.0	0.6	70.9	48.1	70.9	0.5	70.9	49.1	71.0	0.5	71.1	51.4	71.1	0.7	71.1	52.8	71.2	0.8	71.1	45.2	71.1	0.7
I (1f1)	1	63.2	64.6	41.0	64.6	1.4	64.6	39.5	64.6	1.4	64.6	38.1	64.6	1.4	64.6	36.5	64.6	1.4	64.7	40.6	64.7	1.4	64.7	40.2	64.7	1.5	64.7	35.0	64.7	1.4
I (3f)	3	63.5	65.0	45.6	65.1	1.6	65.0	43.2	65.0	1.6	65.0	41.6	65.0	1.5	65.0	39.8	65.0	1.5	65.1	44.5	65.1	1.6	65.1	44.1	65.1	1.6	65.1	37.0	65.1	1.6
I (5f)	5	63.5	65.0	45.8	65.0	1.5	65.0	43.7	65.0	1.5	65.0	42.2	65.0	1.5	65.0	40.7	65.0	1.5	65.1	44.8	65.1	1.6	65.1	44.4	65.1	1.6	65.1	38.6	65.1	1.6
I (10f)	10	63.8	65.1	46.1	65.2	1.4	65.1	44.1	65.2	1.4	65.1	42.7	65.2	1.4	65.1	41.4	65.2	1.4	65.2	45.1	65.2	1.5	65.2	45.6	65.3	1.5	65.2	39.5	65.2	1.5
I (15f)	15	64.0	65.3	46.1	65.3	1.3	65.3	44.3	65.3	1.3	65.3	42.9	65.3	1.3	65.3	41.7	65.3	1.3	65.4	45.1	65.4	1.4	65.4	45.9	65.4	1.4	65.4	39.9	65.4	1.4
I (20f)	20	64.4	65.6	46.0	65.6	1.2	65.6	44.5	65.6	1.2	65.6	42.8	65.6	1.2	65.6	41.4	65.6	1.2	65.7	45.0	65.7	1.3	65.7	45.2	65.8	1.3	65.7	39.7	65.7	1.3
I (25f)	25	64.4	65.5	45.9	65.5	1.1	65.5	44.3	65.5	1.1	65.5	42.8	65.5	1.1	65.5	41.6	65.5	1.1	65.6	44.9	65.6	1.2	65.6	45.7	65.6	1.2	65.6	39.4	65.6	1.2
I (30f)	30	64.4	65.5	45.7	65.6	1.1	65.5	44.5	65.6	1.1	65.5	43.0	65.6	1.1	65.6	42.1	65.6	1.1	65.6	44.8	65.7	1.2	65.7	46.1	65.7	1.3	65.7	40.1	65.7	1.2
I (34f)	34	64.8	65.9	45.6	65.9	1.1	65.9	44.4	65.9	1.1	65.9	42.9	65.9	1.1	65.9	42.0	65.9	1.1	66.0	44.7	66.0	1.2	66.0	46.6	66.0	1.2	66.0	39.9	66.0	1.2
I1 (1f)	1	64.4	64.7	39.3	64.7	0.3	64.7	39.3	64.7	0.3	64.7	39.0	64.7	0.3	64.7	38.6	64.7	0.3	64.8	39.4	64.8	0.4	64.8	39.5	64.8	0.5	64.8	38.7	64.9	0.5
I1 (3f)	3	64.2	64.5	41.4	64.5	0.3	64.5	41.4	64.5	0.3	64.5	41.1	64.5	0.3	64.5	40.7	64.6	0.3	64.6	41.4	64.7	0.4	64.7	41.5	64.7	0.5	64.7	40.9	64.7	0.5
I1 (5f)	5	64.2	64.5	40.8	64.5	0.3	64.5	40.9	64.5	0.3	64.5	40.5	64.5	0.3	64.5	40.1	64.5	0.3	64.6	40.8	64.6	0.4	64.6	41.0	64.6	0.4	64.6	40.2	64.6	0.4
I1 (10f)	10	64.4	64.7	39.1	64.7	0.3	64.7	39.1	64.7	0.3	64.7	38.7	64.7	0.3	64.7	38.2	64.8	0.3	64.8	39.1	64.8	0.4	64.8	39.4	64.8	0.4	64.8	38.4	64.9	0.4
I1 (15f)	15	64.8	65.1	38.6	65.1	0.3	65.1	38.7	65.1	0.3	65.1	38.2	65.1	0.3	65.1	37.6	65.1	0.3	65.2	38.5	65.2	0.4	65.2	39.1	65.2	0.4	65.2	37.9	65.2	0.4
I1 (20f)	20	65.3	65.6	39.8	65.6	0.4	65.6	39.8	65.6	0.4	65.6	39.3	65.6	0.4	65.6	38.9	65.7	0.4	65.8	39.6	65.8	0.5	65.8	40.1	65.8	0.5	65.8	39.1	65.8	0.5
I1 (25f)	25	65.1	65.5	39.8	65.5	0.3	65.5	39.8	65.5	0.3	65.5	39.5	65.5	0.3	65.5	39.1	65.5	0.4	65.6	39.7	65.6	0.4	65.6	40.1	65.6	0.5	65.6	39.2	65.6	0.5
I1 (30f)	30	65.3	65.6	41.8	65.6	0.3	65.6	39.8	65.6	0.3	65.6	40.3	65.6	0.3	65.6	40.1	65.6	0.3	65.7	43.9	65.7	0.5	65.7	43.9	65.7	0.5	65.7	39.4	65.7	0.5
I1 (34f)	34	65.6	65.9	41.7	66.0	0.4	65.9	40.1	66.0	0.4	65.9	40.2	66.0	0.4	66.0	40.2	66.0	0.4	66.0	43.8	66.1	0.5	66.1	44.3	66.1	0.5	66.1	39.2	66.1	0.5
J (1f)	1	71.8	72.2	49.6	72.2	0.4	72.2	49.5	72.2	0.4	72.2	49.5	72.2	0.4	72.2	49.6	72.2	0.5	72.4	49.5	72.4	0.6	72.4	50.0	72.4	0.7	72.4	49.5	72.4	0.7
J (3f)	3	71.3	71.8	49.4	71.8	0.5	71.8	49.3	71.8	0.5	71.8	49.3	71.8	0.5	71.8	49.5	71.8	0.5	71.9	49.4	71.9	0.6	71.9	50.1	72.0	0.7	72.0	49.3	72.0	0.7
J (7f)	5	70.8	71.2	47.4	71.2	0.5	71.2	47.3	71.3	0.5	71.2	47.3	71.3	0.5	71.3	47.5	71.3	0.5	71.4	47.3	71.4	0.6	71.4	49.8	71.4	0.6	71.4	47.4	71.4	0.7
K (1f)	1	72.0	72.4	49.8	72.4	0.4	72.5	50.0	72.5	0.4	72.5	49.8	72.5	0.4	72.5	49.6	72.5	0.5	72.7	49.7	72.7	0.6	72.7	49.7	72.7	0.7	72.7	49.6	72.7	0.7
K (3f)	3	72.0	72.4	49.8	72.5	0.4	72.5	50.5	72.5	0.4	72.5	50.0	72.5	0.4	72.5	49.5	72.5	0.5	72.7	49.4	72.7	0.6	72.7	49.6	72.7	0.7	72.7	49.4	72.7	0.7
K (5f)	5	71.7	72.1	47.9	72.1	0.4	72.1	47.9	72.1	0.4	72.1	47.8	72.1	0.4	72.1	47.8	72.1	0.5	72.3	48.0	72.3	0.6	72.3	48.1	72.3	0.6	72.3	47.9	72.3	0.7
L (1f1)	1	70.0	70.4	46.6	70.4	0.5	70.4	46.6	70.5	0.5	70.4	45.9	70.4	0.5	70.4	45.6	70.5	0.5	70.6	49.2	70.6	0.6	70.6	49.9	70.6	0.6	70.6	47.5	70.6	0.6
L (3f)	3	69.5	70.0	49.3	70.0	0.5	70.0	50.6	70.1	0.5	70.0	47.6	70.0	0.5	70.0	47.1	70.1	0.5	70.2	52.4	70.3	0.7	70.2	53.6	70.3	0.8	70.2	50.6	70.3	0.7
L (5f)	5	69.2	69.7	51.4	69.7	0.5	69.7	51.5	69.7	0.5	69.7	48.5	69.7	0.5	69.7	48.1	69.7	0.5	69.8	53.8	70.0	0.8	69.9	55.1	70.0	0.8	69.9	51.6	70.0	0.8
L (10f)	10	68.9	69.4	52.7	69.5	0.5	69.4	52.3	69.5	0.5	69.4	49.2	69.4	0.5	69.4	48.0	69.4	0.5	69.5	55.0	69.7	0.7	69.5	55.4	69.7	0.7	69.5	51.6	69.6	0.7
M (1f)	1	62.0	62.2	33.9	62.2	0.1	62.2	35.5	62.2	0.1	62.2	32.6	62.2	0.1	62.2	28.4	62.2	0.1	62.2	33.6	62.2	0.2	62.2	34.9	62.2	0.2	62.2	30.7	62.2	0.2
M (3f)	3	62.7	62.8	36.1	62.9	0.2	62.9	37.1	62.9	0.2	62.9	34.5	62.9	0.2	62.9	30.5	62.9	0.2	62.9	35.6	62.9	0.3	62.9	36.8	63.0	0.3	62.9	32.6	63.0	0.3
M (5f)	5	62.7	62.9																											

Construction Noise Results

Exceed the CEQR noise criterion
Period-refined Calculations

Receptor	Elevation	Existing Leq(1)	Phase 1																											
			2009 (01-04)				2009 (05-09)				2009-10 to 2010-04				2010 (05-07)				2010 (08-12)				2011-04				2012-05			
			NoBuild	Cons.	Total	Change	NoBuild	Cons.	Total	Change	NoBuild	Cons.	Total	Change	NoBuild	Cons.	Total	Change	NoBuild	Cons.	Total	Change	NoBuild	Cons.	Total	Change	NoBuild	Cons.	Total	Change
S (1f)	1	68.5	68.8	53.0	68.8	0.3	68.7	53.1	68.8	0.3	68.7	52.9	68.8	0.3	68.8	54.4	69.0	0.4	68.8	54.8	69.0	0.5	68.9	54.7	69.1	0.6	69.0	52.8	69.1	0.6
S (3f)	3	68.0	68.2	54.3	68.3	0.4	68.2	54.5	68.3	0.4	68.2	54.4	68.3	0.4	68.3	56.8	68.6	0.6	68.3	56.9	68.6	0.6	68.4	56.0	68.6	0.7	68.5	53.7	68.6	0.7
T (1f)	1	72.8	72.9	54.3	72.9	0.1	72.9	54.0	72.9	0.1	72.9	54.0	72.9	0.1	72.9	56.0	73.0	0.2	72.9	54.2	73.0	0.2	73.0	54.1	73.0	0.2	73.0	54.0	73.0	0.3
T (3f)	3	72.3	72.4	55.1	72.5	0.2	72.4	54.1	72.5	0.2	72.4	54.7	72.5	0.2	72.4	58.6	72.6	0.3	72.4	54.9	72.5	0.2	72.5	55.0	72.6	0.2	72.5	54.7	72.6	0.3
T (5f)	5	72.0	72.1	54.5	72.2	0.2	72.1	54.5	72.2	0.2	72.1	53.7	72.2	0.1	72.2	58.0	72.3	0.3	72.2	53.8	72.2	0.2	72.2	53.9	72.3	0.2	72.2	53.6	72.3	0.3
T (10f)	10	71.9	71.9	53.3	72.0	0.1	71.9	52.8	72.0	0.1	71.9	51.2	72.0	0.1	72.0	57.1	72.1	0.3	72.0	52.7	72.0	0.2	72.0	53.0	72.1	0.2	72.1	52.4	72.1	0.2
T (15f)	15	71.9	71.9	52.9	72.0	0.1	71.9	52.2	72.0	0.1	71.9	50.6	72.0	0.1	72.0	55.2	72.1	0.2	72.0	52.1	72.0	0.2	72.0	51.3	72.1	0.2	72.1	51.1	72.1	0.2
U (1f)	1	72.7	72.8	48.5	72.8	0.1	72.8	48.4	72.8	0.1	72.8	48.4	72.8	0.1	72.9	49.5	72.9	0.2	72.9	48.8	72.9	0.2	72.9	48.4	72.9	0.2	73.0	48.3	73.0	0.3
U (3f)	3	72.2	72.3	48.9	72.4	0.1	72.3	48.9	72.4	0.1	72.3	48.9	72.4	0.1	72.4	51.2	72.4	0.2	72.4	49.5	72.4	0.2	72.4	49.6	72.5	0.2	72.5	48.7	72.5	0.3
U (5f)	5	72.0	72.2	48.4	72.2	0.1	72.2	48.3	72.2	0.1	72.2	48.3	72.2	0.1	72.2	51.6	72.2	0.2	72.2	49.6	72.2	0.2	72.3	49.5	72.3	0.2	72.3	48.3	72.3	0.3
U (10f)	10	71.8	71.9	47.4	71.9	0.1	71.9	47.3	71.9	0.1	71.9	47.4	71.9	0.1	71.9	52.3	72.0	0.2	71.9	49.9	72.0	0.2	72.0	48.2	72.0	0.2	72.0	47.3	72.0	0.3
U (15f)	15	71.7	71.8	45.5	71.8	0.1	71.8	45.5	71.8	0.1	71.8	45.6	71.8	0.1	71.8	48.2	71.9	0.2	71.8	47.7	71.9	0.2	71.9	45.3	71.9	0.2	71.9	47.5	72.0	0.3
V (5f)	5	63.1	63.1	42.6	63.1	0.0	63.1	42.5	63.1	0.0	63.1	42.1	63.1	0.0	63.1	51.3	63.4	0.3	63.1	51.6	63.4	0.3	63.1	49.2	63.3	0.2	63.1	47.3	63.2	0.1
V (10f)	10	63.3	63.3	43.7	63.4	0.1	63.3	43.7	63.4	0.1	63.3	43.4	63.4	0.1	63.3	44.7	63.4	0.1	63.3	44.7	63.4	0.1	63.3	45.4	63.4	0.1	63.3	43.9	63.4	0.1
V (20f)	20	63.8	63.8	43.1	63.8	0.1	63.8	43.1	63.8	0.1	63.8	42.7	63.8	0.0	63.8	47.8	63.9	0.1	63.8	47.0	63.9	0.1	63.8	45.4	63.9	0.1	63.8	44.3	63.8	0.1
V (30f)	30	64.4	64.5	42.5	64.5	0.1	64.5	42.4	64.5	0.1	64.5	42.0	64.5	0.1	64.5	47.9	64.6	0.1	64.5	48.4	64.6	0.1	64.5	45.0	64.6	0.1	64.5	47.4	64.6	0.2
V (40f)	40	64.7	64.8	42.2	64.8	0.1	64.8	42.1	64.8	0.1	64.8	41.7	64.8	0.1	64.8	47.8	64.9	0.1	64.8	48.5	64.9	0.2	64.8	45.4	64.8	0.1	64.8	45.6	64.9	0.1
V (50f)	50	64.8	64.8	43.4	64.8	0.1	64.8	43.2	64.8	0.1	64.8	42.6	64.8	0.1	64.8	50.0	65.0	0.2	64.8	49.5	65.0	0.2	64.9	48.9	65.0	0.2	64.9	52.5	65.1	0.3
W (1f)	1	72.0	72.1	43.3	72.1	0.1	72.1	43.2	72.1	0.1	72.1	42.9	72.1	0.1	72.1	45.6	72.1	0.2	72.1	44.1	72.1	0.2	72.2	47.7	72.2	0.2	72.2	42.7	72.2	0.3
W (3f)	3	71.8	71.9	43.3	71.9	0.1	71.9	43.3	71.9	0.1	71.9	43.3	71.9	0.1	71.9	48.3	71.9	0.2	71.9	46.0	71.9	0.2	72.0	43.6	72.0	0.2	72.0	42.7	72.0	0.3
W (5f)	5	71.7	71.8	43.0	71.8	0.1	71.8	42.9	71.8	0.1	71.8	42.9	71.8	0.1	71.8	48.3	71.8	0.1	71.8	48.8	71.8	0.1	71.8	43.9	71.8	0.2	71.9	44.5	71.9	0.2
W (10f)	10	71.4	71.5	43.8	71.5	0.1	71.5	43.8	71.5	0.1	71.5	43.7	71.5	0.1	71.6	47.8	71.6	0.2	71.6	48.1	71.6	0.2	71.6	43.0	71.6	0.2	71.7	43.4	71.7	0.3
W (20f)	20	71.5	71.6	44.1	71.6	0.1	71.6	44.1	71.6	0.1	71.6	43.5	71.6	0.1	71.7	48.5	71.7	0.2	71.7	43.7	71.7	0.2	71.7	42.8	71.7	0.2	71.8	40.2	71.8	0.3
X (1f)	1	73.4	73.4	39.6	73.4	0.1	73.4	39.5	73.4	0.1	73.4	39.3	73.4	0.1	73.5	42.5	73.5	0.1	73.5	40.4	73.5	0.1	73.5	38.7	73.5	0.2	73.6	37.7	73.6	0.2
X (3f)	3	72.7	72.8	39.9	72.8	0.1	72.8	39.8	72.8	0.1	72.8	40.7	72.8	0.1	72.8	47.0	72.8	0.1	72.8	43.5	72.8	0.1	72.9	39.8	72.9	0.2	72.9	39.6	72.9	0.2
X (5f)	5	72.3	72.4	40.5	72.4	0.1	72.4	40.4	72.4	0.1	72.4	41.7	72.4	0.1	72.5	47.5	72.5	0.2	72.5	44.3	72.5	0.2	72.5	41.0	72.5	0.2	72.6	42.8	72.6	0.3
X (10f)	10	72.3	72.4	42.2	72.4	0.1	72.4	42.3	72.4	0.1	72.4	44.9	72.4	0.1	72.5	50.5	72.5	0.2	72.5	46.1	72.5	0.2	72.5	43.2	72.5	0.2	72.6	45.3	72.6	0.3
X (20f)	20	72.0	72.1	57.9	72.3	0.2	72.1	58.0	72.3	0.2	72.2	57.8	72.3	0.3	72.2	53.2	72.2	0.2	72.2	54.3	72.2	0.2	72.2	54.3	72.3	0.2	72.2	47.6	72.3	0.2
X (30f)	30	71.8	71.8	59.0	72.1	0.3	71.8	58.9	72.1	0.3	71.8	58.2	72.0	0.3	71.9	58.5	72.1	0.3	71.9	53.5	72.0	0.2	71.9	56.2	72.0	0.3	72.0	48.3	72.0	0.2
X (40f)	40	71.6	71.7	58.9	71.9	0.3	71.7	58.7	71.9	0.3	71.7	57.8	71.8	0.3	71.7	59.2	71.9	0.4	71.7	54.1	71.8	0.2	71.7	56.2	71.9	0.3	71.8	49.0	71.8	0.2
Y (1f)	1	65.3	65.4	45.2	65.4	0.2	65.4	44.9	65.4	0.1	65.4	43.9	65.4	0.1	65.4	48.7	65.5	0.3	65.4	47.5	65.5	0.2	65.5	46.7	65.6	0.3	65.6	41.7	65.6	0.3
Y (3f)	3	64.8	64.9	49.6	65.0	0.2	64.9	49.2	65.0	0.2	64.9	48.3	65.0	0.2	64.9	53.4	65.2	0.4	64.9	51.4	65.1	0.3	65.0	49.2	65.1	0.3	65.0	44.7	65.1	0.3
Y (5f)	5	64.8	64.9	49.8	65.0	0.2	64.9	49.4	65.0	0.2	64.9	48.3	65.0	0.2	64.9	53.4	65.2	0.4	64.9	51.5	65.1	0.3	65.0	49.8	65.1	0.3	65.0	45.1	65.1	0.3
Y (10f)	10	64.7	64.8	49.8	64.9	0.3	64.8	49.5	64.9	0.2	64.8	47.9	64.9	0.2	64.8	51.9	65.1	0.4	64.8	50.9	65.0	0.3	64.9	50.0	65.0	0.4	65.0	45.7	65.0	0.3
Y (20f)	20	64.6	64.7	42.6	64.7	0.1	64.7	42.5	64.7	0.1	64.7	41.6	64.7	0.1	64.8	44.1	64.8	0.2	64.8	48.8	64.9	0.3	64.8	49.0	64.9	0.3	64.9	47.3	64.9	0.3
Y (30f)	30	65.0	65.1	43.1	65.1	0.1	65.1	42.8	65.1	0.1	65.1	41.9	65.1	0.1	65.1	46.4	65.2	0.2	65.1	49.7	65.2	0.3	65.1	50.1	65.3	0.3	65.2	47.7	65.3	0.3
Y (40f)	40	65.4	65.5	46.3	65.5	0.1	65.5	46.3	65.5	0.1	65.5	46.7	65.6	0.1	65.5	51.3	65.7	0.3	65.5	50.7	65.7	0.3	65.6	50.9	65.7	0.3	65.6	48.6	65.7	0.3
Y (50f)	50	65.7	65.8	54.7	66.1	0.4	65.8	54.9	66.1	0.4	65.8	53.7	66.0	0.4	65.8	57.9	66.5	0.8	65.8	54.9	66.1	0.5	65.9	51.4	66.0	0.3	65.9	49.2	66.0	0.3
Y (60f)	60	65.8	65.9	56.3	66.3	0.5	65.9	56.3	66.3	0.5	65.9	54.9	66.2	0.4	65.9	58.4	66.6	0.9	65.9	55.5	66.3	0.5	66.0	51.6	66.1	0.4	66.0	49.5	66.1	0.3
Y (70f)	70	66.0	66.1	56.0	66.5	0.5	66.1	56.1	66.5	0.5	66.1	54.7	66.4	0.4	66.1	58.1	66.8	0.8	66.1	55.2	66.5	0.5	66.2	51.7	66.3	0.3	66.2	50.3	66.3	0.3
Z (1f)	1	63.6	63.6	41.1	63.6	0.0	63.6	41.0	63.6	0.0	63.6	39.9	63.6	0.0	63.6	44.0	63.6	0.1	63.6	41.2	63.6	0.0	63.6	40.0	63.6	0.0	63.6	36.3	63.6	0.0
Z (3f)	3	63.2	63.2	44.1	63.2	0.1	63.2	43.9	63.2	0.1	63.2	42.7	63.2	0.1	63.2	47.2	63.3	0.1	63.2	44.0	63.3	0.1	63.2	42.9	63.2	0.1	63.2	38.0	63.2	0.0
Z (5f)	5	63.3	63.3	44.2	63.3	0.1	63.3	44.0	63.3	0.1	63.3	42.9	63.3	0.1	63.3	47.3	63.4	0.1	63.3	44.2	63.3	0.1	63.3	43.0	63.3	0.1	63.3	38.6	63.3	0.0
Z (10f																														

Construction Noise Results

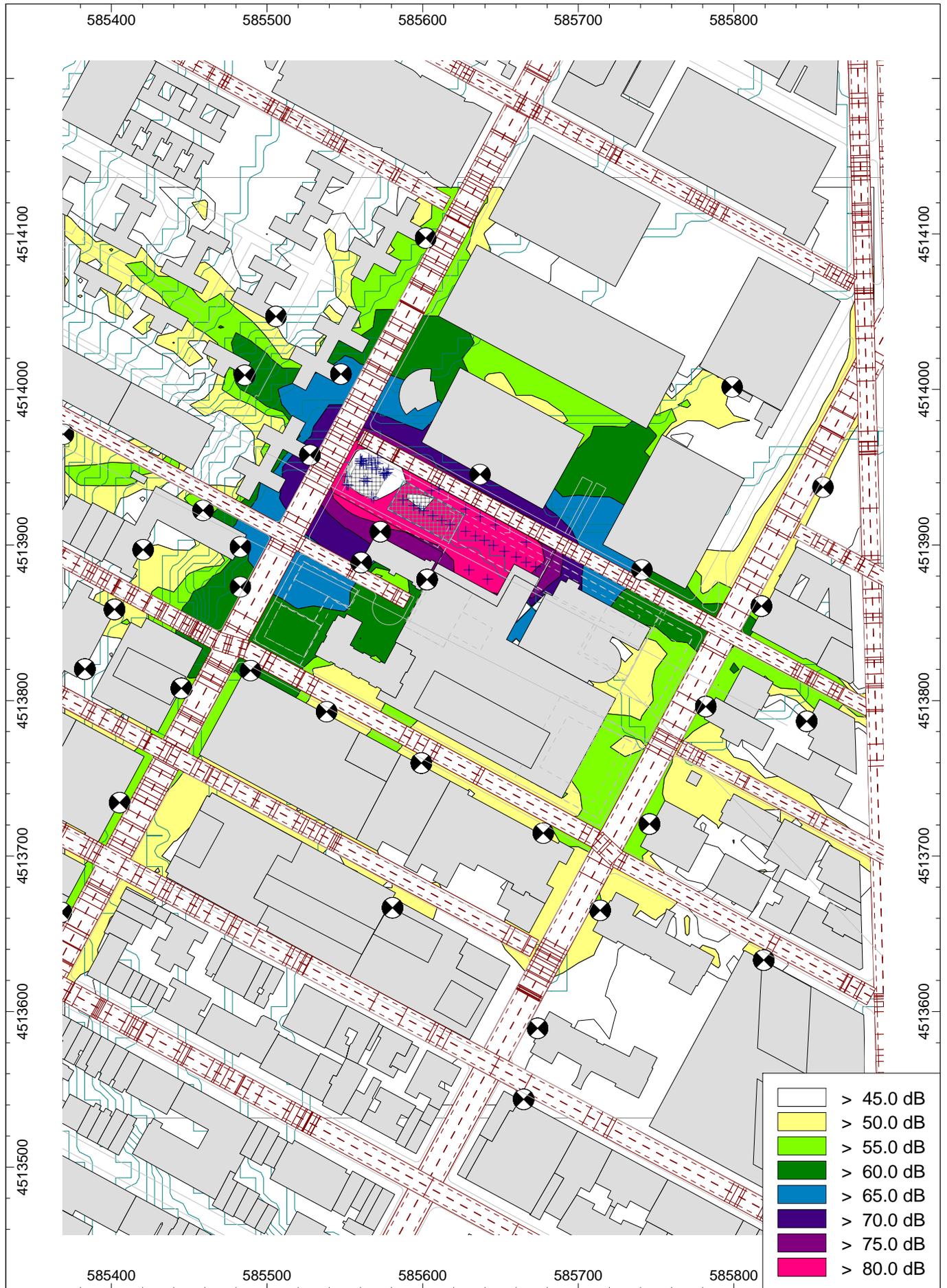
Exceed the CEQR noise criterion
Period-refined Calculations

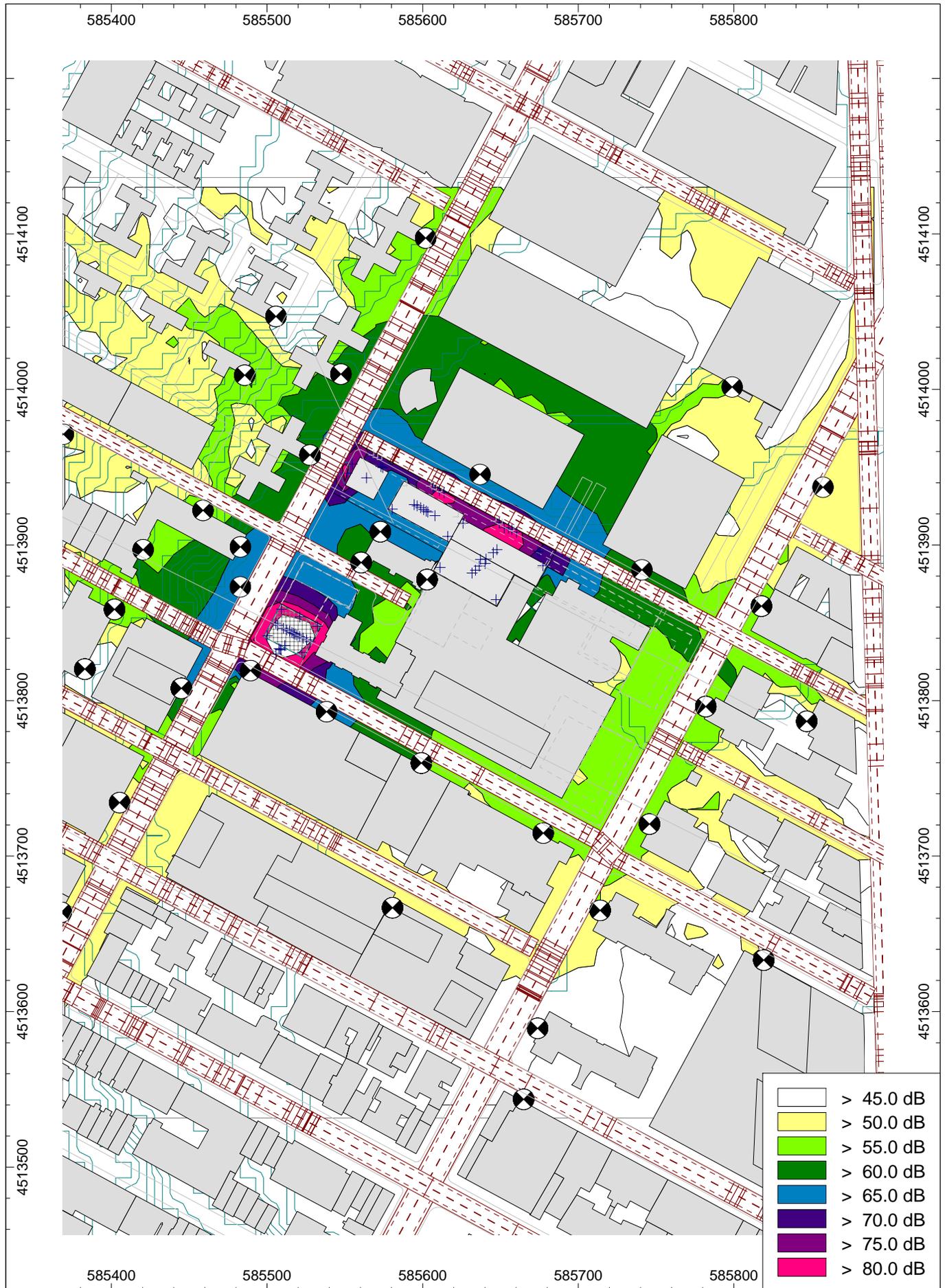
Receptor	Elevation	Existing Leq(1)	2013-02				2013 (06-12)				2016 (01-03)				2016 (04-07)				2017 (01-03)				2017 (11) - 2018 (06)				2018-07			
			NoBuild	Cons.	Total	Change	NoBuild	Cons.	Total	Change	NoBuild	Cons.	Total	Change	NoBuild	Cons.	Total	Change	NoBuild	Cons.	Total	Change	NoBuild	Cons.	Total	Change	NoBuild	Cons.	Total	Change
S (1f)	1	68.5	69.1	53.5	69.2	0.7	69.1	51.9	69.2	0.7	69.2	64.1	70.4	1.9	69.2	65.4	70.7	2.2	69.3	58.6	69.6	1.1	69.3	59.5	69.7	1.2	69.3	57.6	69.6	1.0
S (3f)	3	68.0	68.6	54.5	68.7	0.8	68.6	52.6	68.7	0.7	68.7	61.2	72.5	4.6	68.7	71.6	73.4	5.5	68.7	64.1	70.0	2.1	68.7	64.6	70.2	2.2	68.7	64.2	70.1	2.1
T (1f)	1	72.8	73.0	53.7	73.1	0.3	73.0	53.6	73.1	0.3	73.1	70.3	73.4	0.6	73.1	62.4	73.5	0.7	73.1	57.8	73.3	0.5	73.2	56.7	73.3	0.5	73.2	58.6	73.3	0.5
T (3f)	3	72.3	72.6	53.8	72.6	0.3	72.6	53.7	72.6	0.3	72.6	64.4	73.3	0.9	72.6	65.6	73.4	1.1	72.7	59.9	72.9	0.6	72.7	59.0	72.9	0.5	72.7	60.8	73.0	0.6
T (5f)	5	72.0	72.3	52.4	72.3	0.3	72.3	52.2	72.3	0.3	72.4	66.6	73.4	1.3	72.4	68.1	73.7	1.7	72.4	62.0	72.8	0.7	72.4	61.0	72.7	0.7	72.4	63.4	72.9	0.9
T (10f)	10	71.9	72.1	50.3	72.1	0.3	72.1	51.1	72.1	0.3	72.2	67.3	73.4	1.5	72.2	68.6	73.8	1.9	72.2	64.7	72.9	1.0	72.2	63.3	72.7	0.9	72.2	65.7	73.1	1.2
T (15f)	15	71.9	72.1	48.6	72.1	0.3	72.1	48.4	72.1	0.3	72.2	65.5	73.0	1.2	72.2	66.6	73.2	1.4	72.2	63.7	72.8	0.9	72.2	62.3	72.6	0.8	72.2	64.4	72.9	1.0
U (1f)	1	72.7	73.0	48.2	73.0	0.3	73.0	48.1	73.0	0.3	73.1	53.5	73.2	0.5	73.1	54.9	73.2	0.5	73.1	54.4	73.2	0.5	73.1	51.2	73.2	0.5	73.1	54.0	73.2	0.5
U (3f)	3	72.2	72.6	48.6	72.6	0.3	72.6	48.5	72.6	0.3	72.6	55.6	72.7	0.5	72.6	56.9	72.7	0.5	72.7	56.4	72.8	0.5	72.7	53.2	72.7	0.5	72.7	55.3	72.7	0.5
U (5f)	5	72.0	72.4	48.3	72.4	0.3	72.4	48.0	72.4	0.3	72.4	56.2	72.6	0.5	72.4	57.6	72.6	0.5	72.5	56.9	72.6	0.5	72.5	53.6	72.5	0.5	72.5	56.2	72.6	0.5
U (10f)	10	71.8	72.1	47.2	72.1	0.3	72.1	46.8	72.1	0.3	72.2	58.3	72.3	0.6	72.2	59.9	72.4	0.6	72.2	58.7	72.4	0.6	72.2	55.3	72.3	0.5	72.2	58.5	72.4	0.6
U (15f)	15	71.7	72.0	45.8	72.0	0.3	72.0	44.5	72.0	0.3	72.1	58.0	72.2	0.6	72.1	59.4	72.3	0.6	72.1	58.3	72.3	0.6	72.1	54.5	72.2	0.5	72.1	57.7	72.3	0.6
V (5f)	5	63.1	63.1	47.0	63.2	0.1	63.1	43.6	63.1	0.0	63.1	43.1	63.1	0.0	63.1	43.6	63.1	0.0	63.1	54.4	63.6	0.5	63.1	49.2	63.3	0.2	63.1	48.5	63.2	0.1
V (10f)	10	63.3	63.3	43.8	63.4	0.1	63.3	43.1	63.4	0.1	63.4	49.1	63.5	0.2	63.4	50.0	63.6	0.3	63.4	54.8	63.9	0.6	63.4	49.8	63.6	0.3	63.4	50.1	63.6	0.3
V (20f)	20	63.8	63.8	42.9	63.8	0.1	63.8	42.0	63.8	0.1	63.8	59.0	65.1	1.3	63.8	60.5	65.5	1.7	63.8	57.2	64.7	0.9	63.9	53.2	64.2	0.5	63.9	53.9	64.3	0.5
V (30f)	30	64.4	64.5	42.5	64.6	0.1	64.5	40.9	64.6	0.1	64.6	60.1	65.9	1.5	64.6	61.4	66.3	1.8	64.6	58.4	65.5	1.1	64.6	53.9	65.0	0.5	64.6	55.4	65.1	0.7
V (40f)	40	64.7	64.8	42.0	64.8	0.1	64.8	40.1	64.8	0.1	64.9	59.5	66.0	1.2	64.9	60.8	66.3	1.6	64.9	59.4	66.0	1.2	64.9	55.0	65.3	0.6	64.9	55.9	65.4	0.7
V (50f)	50	64.8	64.9	46.8	65.0	0.2	64.9	40.2	64.9	0.1	64.9	58.9	65.9	1.1	64.9	60.1	66.2	1.4	64.9	59.2	66.0	1.2	64.9	54.2	65.3	0.6	64.9	55.7	65.4	0.6
W (1f)	1	72.0	72.3	43.3	72.3	0.3	72.3	42.1	72.3	0.3	72.4	45.7	72.4	0.4	72.4	46.8	72.4	0.4	72.4	49.9	72.4	0.4	72.4	45.4	72.4	0.4	72.4	49.0	72.4	0.5
W (3f)	3	71.8	72.1	44.2	72.1	0.3	72.1	44.3	72.1	0.3	72.2	45.7	72.2	0.4	72.2	46.2	72.2	0.4	72.2	50.5	72.2	0.4	72.2	44.8	72.2	0.4	72.2	48.4	72.2	0.4
W (5f)	5	71.7	71.9	41.9	71.9	0.2	71.9	43.4	71.9	0.2	72.0	47.1	72.0	0.3	72.0	48.2	72.0	0.3	72.0	54.3	72.1	0.4	72.0	49.0	72.0	0.4	72.0	51.2	72.1	0.4
W (10f)	10	71.4	71.7	41.8	71.7	0.3	71.7	40.8	71.7	0.3	71.8	51.0	71.8	0.4	71.8	52.4	71.9	0.4	71.8	57.1	72.0	0.6	71.8	52.3	71.9	0.5	71.8	53.9	71.9	0.5
W (20f)	20	71.5	71.8	40.5	71.8	0.3	71.8	39.5	71.8	0.3	71.9	56.1	72.0	0.5	71.9	57.7	72.1	0.6	71.9	57.7	72.1	0.6	71.9	53.4	72.0	0.5	71.9	56.6	72.0	0.6
X (1f)	1	73.4	73.6	36.7	73.6	0.2	73.6	35.7	73.6	0.2	73.7	36.8	73.7	0.3	73.7	37.7	73.7	0.3	73.7	39.0	73.7	0.3	73.7	35.9	73.7	0.3	73.7	37.5	73.7	0.3
X (3f)	3	72.7	72.9	38.0	72.9	0.2	72.9	36.7	72.9	0.2	73.0	37.6	73.0	0.3	73.0	38.4	73.0	0.3	73.0	39.1	73.0	0.3	73.1	36.8	73.1	0.4	73.1	38.3	73.1	0.4
X (5f)	5	72.3	72.6	39.0	72.6	0.3	72.6	37.8	72.6	0.3	72.7	38.1	72.7	0.4	72.7	38.9	72.7	0.4	72.7	39.8	72.7	0.4	72.8	37.7	72.8	0.4	72.8	39.3	72.8	0.4
X (10f)	10	72.3	72.6	40.1	72.6	0.3	72.6	38.8	72.6	0.3	72.7	39.2	72.7	0.4	72.7	40.0	72.7	0.4	72.7	42.5	72.7	0.4	72.8	40.5	72.8	0.4	72.8	41.1	72.8	0.4
X (20f)	20	72.0	72.3	48.6	72.3	0.3	72.3	39.5	72.3	0.2	72.4	39.5	72.4	0.3	72.4	40.2	72.4	0.3	72.4	49.1	72.4	0.3	72.4	45.3	72.4	0.3	72.4	46.0	72.4	0.3
X (30f)	30	71.8	72.0	50.0	72.0	0.3	72.0	39.8	72.0	0.2	72.1	40.9	72.1	0.3	72.1	42.0	72.1	0.3	72.1	55.5	72.2	0.4	72.1	47.3	72.1	0.4	72.1	48.8	72.1	0.4
X (40f)	40	71.6	71.8	50.4	71.9	0.3	71.8	39.6	71.8	0.2	71.9	45.4	71.9	0.3	71.9	46.4	71.9	0.3	71.9	55.9	72.0	0.4	71.9	50.2	72.0	0.4	71.9	48.9	71.9	0.4
Y (1f)	1	65.3	65.6	43.1	65.6	0.4	65.6	33.5	65.6	0.3	65.7	48.1	65.8	0.5	65.7	48.6	65.8	0.5	65.7	47.5	65.8	0.5	65.7	45.0	65.8	0.5	65.7	46.9	65.8	0.5
Y (3f)	3	64.8	65.1	44.1	65.1	0.3	65.1	34.0	65.1	0.3	65.2	50.9	65.3	0.6	65.2	51.3	65.4	0.6	65.2	51.0	65.4	0.6	65.2	46.6	65.3	0.5	65.2	50.7	65.4	0.6
Y (5f)	5	64.8	65.1	44.8	65.1	0.4	65.1	34.8	65.1	0.3	65.2	52.0	65.4	0.6	65.2	52.5	65.4	0.6	65.2	50.7	65.3	0.5	65.2	48.1	65.3	0.5	65.2	51.0	65.4	0.6
Y (10f)	10	64.7	65.0	45.5	65.1	0.4	65.0	36.2	65.0	0.4	65.1	52.7	65.3	0.7	65.1	53.1	65.4	0.7	65.1	48.4	65.2	0.5	65.1	51.4	65.3	0.6	65.1	49.7	65.3	0.6
Y (20f)	20	64.6	64.9	46.5	65.0	0.4	64.9	40.9	64.9	0.3	65.0	53.0	65.3	0.6	65.0	53.5	65.3	0.7	65.0	52.7	65.3	0.6	65.0	52.6	65.3	0.7	65.0	52.0	65.2	0.6
Y (30f)	30	65.0	65.2	48.2	65.3	0.4	65.2	40.8	65.2	0.3	65.3	52.8	65.5	0.6	65.3	53.3	65.6	0.6	65.3	53.2	65.6	0.6	65.3	52.4	65.5	0.6	65.3	53.4	65.6	0.6
Y (40f)	40	65.4	65.7	49.6	65.8	0.4	65.7	39.0	65.7	0.3	65.8	52.4	65.9	0.5	65.8	53.0	66.0	0.6	65.8	56.0	66.2	0.8	65.8	52.2	66.0	0.6	65.8	53.7	66.0	0.6
Y (50f)	50	65.7	66.0	50.4	66.1	0.4	66.0	38.9	66.0	0.3	66.0	51.7	66.2	0.5	66.0	52.3	66.2	0.5	66.0	58.6	66.8	1.1	66.0	52.4	66.2	0.6	66.0	53.6	66.3	0.6
Y (60f)	60	65.8	66.1	50.5	66.2	0.4	66.1	39.7	66.1	0.3	66.2	51.9	66.3	0.5	66.2	52.5	66.3	0.6	66.2	58.4	66.8	1.0	66.2	53.3	66.4	0.6	66.2	53.3	66.4	0.6
Y (70f)	70	66.0	66.2	51.1	66.4	0.4	66.2	40.2	66.3	0.3	66.3	52.9	66.5	0.5	66.3	53.8	66.5	0.5	66.3	58.1	66.9	0.9	66.3	53.6	66.6	0.6	66.3	53.0	66.5	0.5
Z (1f)	1	63.6	63.6	36.1	63.6	0.0	63.6	34.2	63.6	0.0	63.6	45.0	63.7	0.1	63.6	46.0	63.7	0.1	63.6	45.9	63.7	0.1	63.7	42.4	63.7	0.1	63.7	44.8	63.7	0.1
Z (3f)	3	63.2	63.2	37.9	63.2	0.0	63.2	36.1	63.2	0.0	63.2	46.7	63.3	0.2	63.2	47.7	63.4	0.2	63.3	47.7	63.4	0.2	63.3	44.5	63.3	0.1	63.3	46.8	63.4	0.2
Z (5f)	5	63.3	63.3	38.4	63.3	0.1	63.3	36.9	63.3	0.0	63.3	47.0	63.4	0.2	63.3	47.9	63.4	0.2	63.3	48.0	63.5	0.2	63.3	45.0	63.4	0.1	63.3	46.9	63.4	0.2
Z (10f)	10	63.1	63.																											

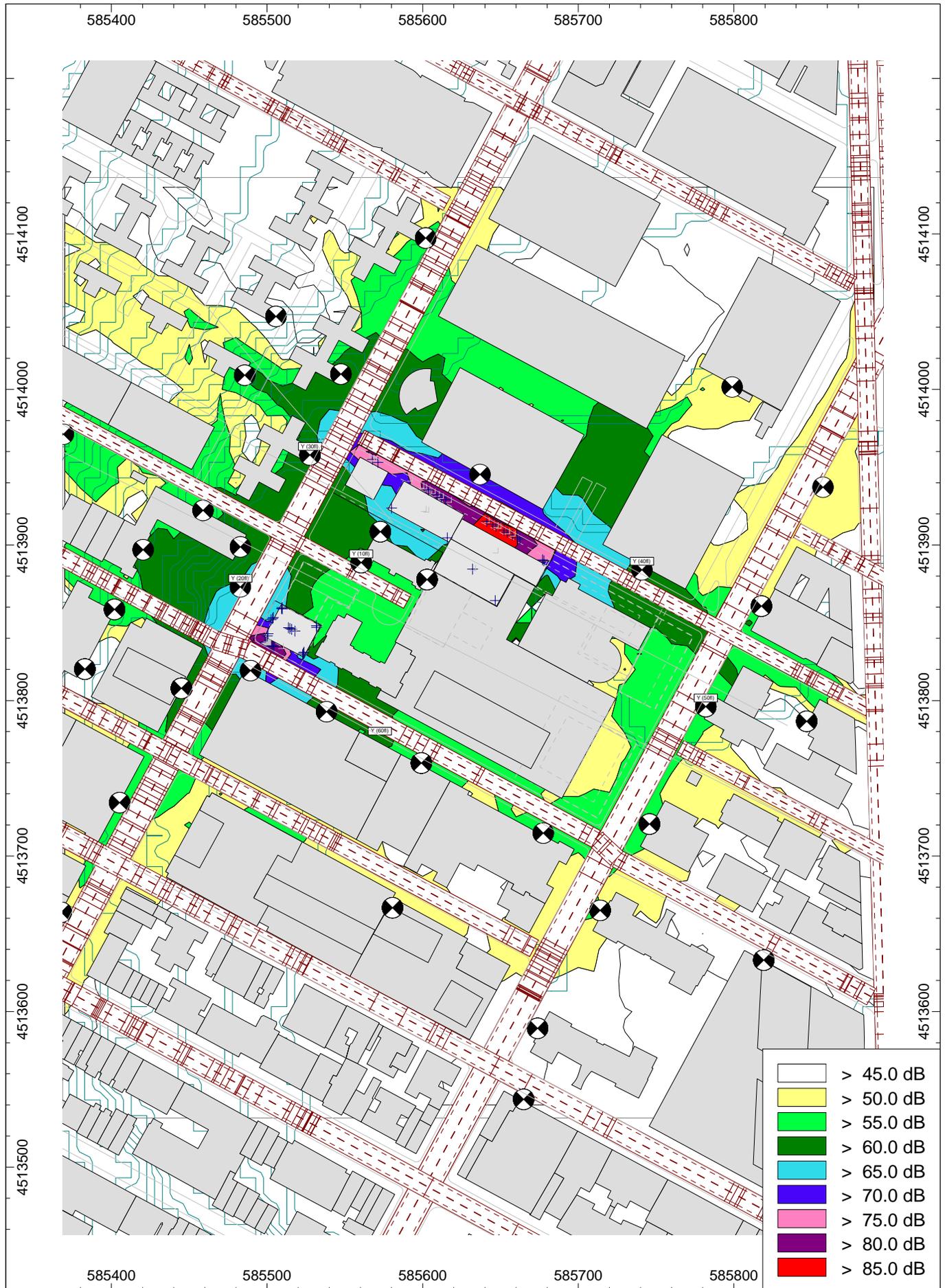
Construction Noise Results

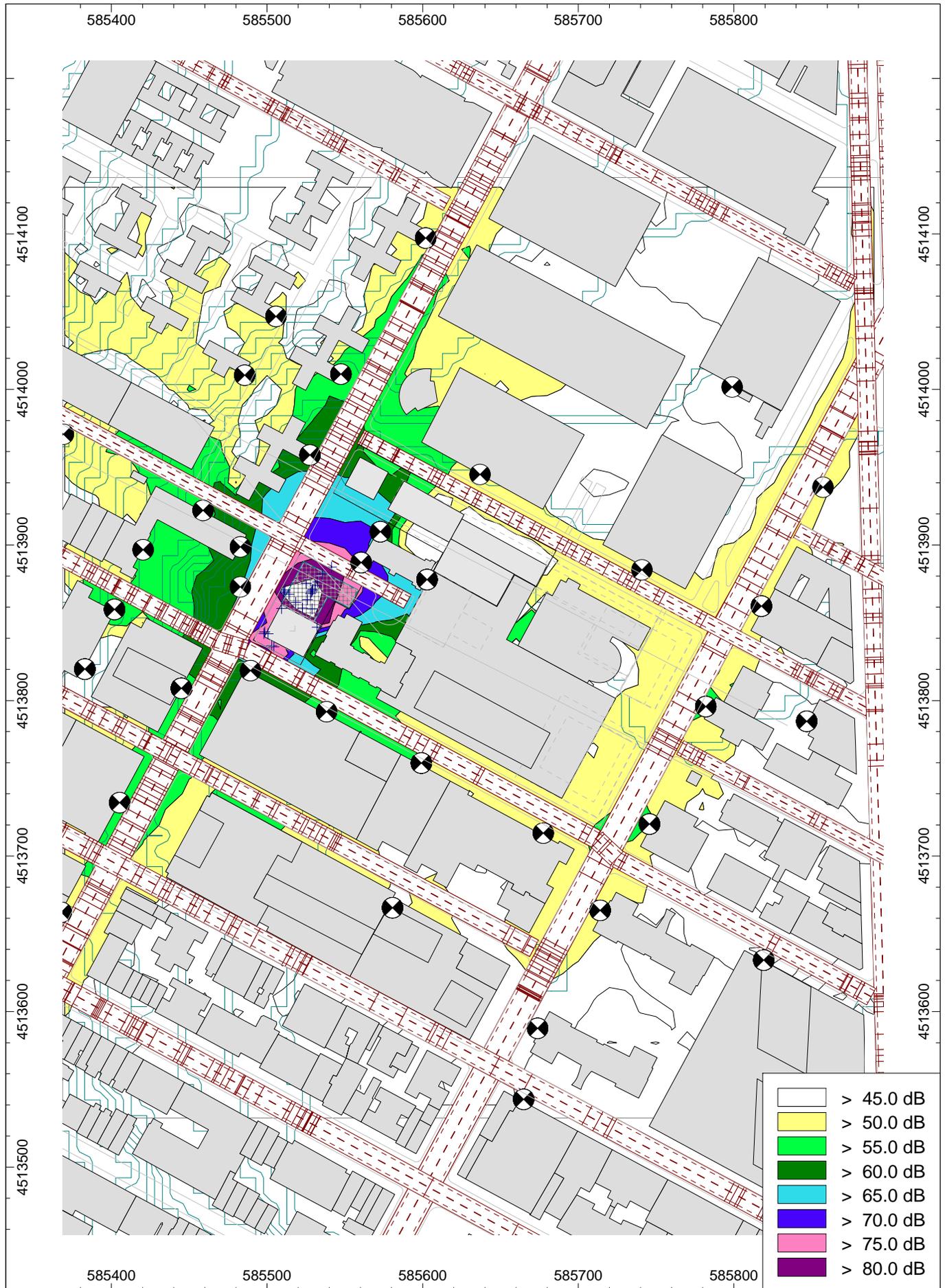
Exceed the CEQR noise criterion
Period-refined Calculations

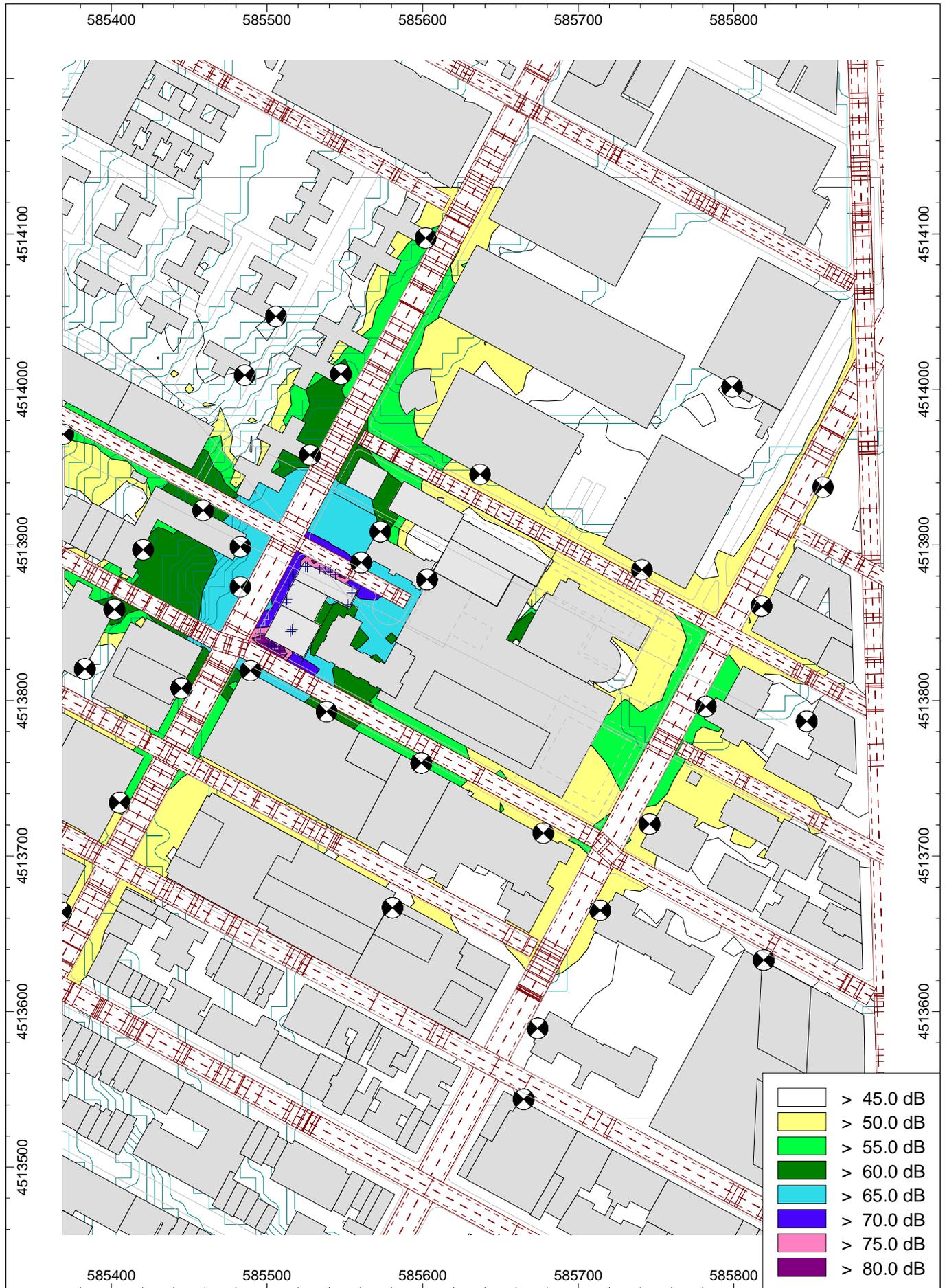
Receptor	Elevation	Existing Leq(1)	Phase 2																											
			2020-10				2021-07				2021 (10-12)				2022 (01-04)				2030-11				2031-10				2032-04			
			NoBuild	Cons.	Total	Change	NoBuild	Cons.	Total	Change	NoBuild	Cons.	Total	Change	NoBuild	Cons.	Total	Change	NoBuild	Cons.	Total	Change	NoBuild	Cons.	Total	Change	NoBuild	Cons.	Total	Change
S (1f)	1	68.5	69.3	45.0	69.3	0.8	69.3	47.9	69.4	0.8	69.3	46.5	69.4	0.8	69.3	45.4	69.4	0.8	69.5	42.9	69.5	1.0	69.5	42.7	69.5	1.0	69.5	40.1	69.5	1.0
S (3f)	3	68.0	68.8	45.8	68.8	0.8	68.8	50.9	68.9	0.9	68.8	50.0	68.8	0.9	68.8	49.4	68.9	0.9	68.9	44.1	68.9	1.0	68.9	44.1	68.9	1.0	68.9	42.1	68.9	1.0
T (1f)	1	72.8	73.2	55.9	73.3	0.5	73.2	54.7	73.3	0.5	73.2	51.8	73.2	0.5	73.2	50.8	73.3	0.5	73.4	50.8	73.4	0.6	73.4	50.7	73.4	0.6	73.4	50.6	73.4	0.7
T (3f)	3	72.3	72.7	58.0	72.9	0.5	72.7	56.3	72.8	0.5	72.7	52.2	72.8	0.5	72.8	51.2	72.8	0.5	72.9	50.8	73.0	0.6	73.0	50.8	73.0	0.7	73.0	50.7	73.0	0.7
T (5f)	5	72.0	72.4	59.6	72.7	0.6	72.5	57.7	72.5	0.6	72.5	52.5	72.5	0.5	72.5	50.0	72.5	0.5	72.7	49.5	72.7	0.6	72.7	49.4	72.7	0.6	72.7	49.2	72.7	0.7
T (10f)	10	71.9	72.3	61.0	72.6	0.7	72.3	58.9	72.5	0.6	72.3	54.3	72.4	0.5	72.3	49.2	72.3	0.5	72.5	47.7	72.5	0.6	72.5	47.6	72.5	0.6	72.5	47.2	72.5	0.7
T (15f)	15	71.9	72.2	61.2	72.6	0.7	72.2	59.2	72.5	0.6	72.2	54.0	72.3	0.4	72.3	50.1	72.3	0.4	72.4	45.7	72.4	0.5	72.4	45.6	72.4	0.5	72.4	44.8	72.4	0.6
U (1f)	1	72.7	73.2	52.5	73.2	0.5	73.2	51.9	73.2	0.5	73.2	49.2	73.2	0.5	73.2	47.8	73.2	0.5	73.3	48.6	73.3	0.6	73.3	48.5	73.4	0.7	73.4	47.9	73.4	0.7
U (3f)	3	72.2	72.7	53.9	72.8	0.5	72.7	53.1	72.8	0.5	72.7	49.7	72.7	0.5	72.7	48.3	72.7	0.5	72.9	50.1	72.9	0.6	72.9	50.4	72.9	0.7	72.9	48.8	72.9	0.7
U (5f)	5	72.0	72.5	54.5	72.6	0.5	72.5	54.0	72.6	0.5	72.5	49.6	72.5	0.5	72.5	47.5	72.6	0.5	72.7	49.5	72.7	0.6	72.7	49.7	72.7	0.7	72.7	48.2	72.7	0.7
U (10f)	10	71.8	72.2	55.9	72.3	0.6	72.2	56.3	72.3	0.6	72.2	50.8	72.3	0.5	72.3	46.2	72.3	0.5	72.4	48.7	72.4	0.6	72.4	48.9	72.4	0.7	72.4	47.1	72.4	0.7
U (15f)	15	71.7	72.1	56.5	72.3	0.6	72.2	55.7	72.3	0.6	72.2	50.8	72.2	0.5	72.2	44.9	72.2	0.5	72.3	43.6	72.3	0.6	72.3	45.7	72.3	0.6	72.3	43.6	72.3	0.7
V (5f)	5	63.1	63.1	42.0	63.1	0.0	63.1	43.4	63.2	0.1	63.1	42.7	63.2	0.1	63.1	45.0	63.2	0.1	63.2	41.9	63.2	0.1	63.2	45.9	63.3	0.2	63.2	42.7	63.3	0.2
V (10f)	10	63.3	63.4	43.1	63.4	0.1	63.4	46.8	63.5	0.2	63.4	46.3	63.5	0.2	63.4	47.9	63.5	0.2	63.5	43.1	63.5	0.2	63.5	51.3	63.7	0.4	63.5	45.5	63.6	0.2
V (20f)	20	63.8	63.9	43.5	63.9	0.2	63.9	50.1	64.1	0.3	63.9	46.0	64.0	0.2	63.9	51.4	64.1	0.4	64.0	44.0	64.0	0.3	64.0	52.4	64.3	0.5	64.0	44.9	64.1	0.3
V (30f)	30	64.4	64.6	48.1	64.7	0.3	64.6	54.4	65.0	0.6	64.6	47.2	64.7	0.3	64.7	51.3	64.8	0.4	64.8	47.1	64.8	0.4	64.8	53.7	65.1	0.7	64.8	44.4	64.8	0.4
V (40f)	40	64.7	64.9	51.9	65.1	0.4	64.9	54.9	65.3	0.6	64.9	49.9	65.0	0.3	64.9	51.0	65.1	0.4	65.0	52.3	65.2	0.5	65.0	53.6	65.3	0.6	65.0	43.9	65.1	0.3
V (50f)	50	64.8	65.0	53.1	65.2	0.5	65.0	56.7	65.5	0.7	65.0	52.2	65.2	0.4	65.0	51.1	65.2	0.4	65.1	54.8	65.5	0.7	65.1	53.4	65.4	0.6	65.1	43.5	65.1	0.3
W (1f)	1	72.0	72.4	46.0	72.4	0.5	72.4	46.0	72.4	0.5	72.4	44.6	72.4	0.5	72.4	43.2	72.5	0.5	72.6	42.9	72.6	0.6	72.6	46.1	72.6	0.6	72.6	43.1	72.6	0.7
W (3f)	3	71.8	72.2	44.0	72.2	0.5	72.2	45.9	72.3	0.5	72.2	44.3	72.3	0.5	72.3	43.2	72.3	0.5	72.4	42.9	72.4	0.6	72.4	46.1	72.4	0.6	72.4	43.1	72.4	0.7
W (5f)	5	71.7	72.0	44.9	72.1	0.4	72.1	46.6	72.1	0.4	72.1	44.3	72.1	0.4	72.1	42.6	72.1	0.4	72.2	42.3	72.2	0.5	72.2	45.8	72.2	0.5	72.2	42.6	72.2	0.6
W (10f)	10	71.4	71.9	53.8	71.9	0.5	71.9	54.0	71.9	0.5	71.9	44.8	71.9	0.5	71.9	43.7	71.9	0.5	72.0	41.8	72.0	0.6	72.0	44.2	72.0	0.6	72.0	41.5	72.1	0.6
W (20f)	20	71.5	72.0	55.0	72.0	0.5	72.0	53.4	72.0	0.5	72.0	47.4	72.0	0.5	72.0	42.5	72.0	0.5	72.1	39.3	72.1	0.6	72.1	41.5	72.1	0.6	72.1	39.0	72.1	0.6
X (1f)	1	73.4	73.7	40.3	73.7	0.4	73.7	39.6	73.7	0.4	73.7	38.1	73.7	0.4	73.8	34.8	73.8	0.4	73.9	37.4	73.9	0.5	73.9	39.4	73.9	0.6	73.9	35.3	73.9	0.6
X (3f)	3	72.7	73.1	41.2	73.1	0.4	73.1	40.5	73.1	0.4	73.1	39.0	73.1	0.4	73.1	35.8	73.1	0.4	73.3	38.1	73.3	0.6	73.3	40.6	73.3	0.6	73.4	36.1	73.4	0.7
X (5f)	5	72.3	72.8	41.4	72.8	0.5	72.8	40.8	72.8	0.5	72.8	39.3	72.8	0.5	72.8	36.5	72.8	0.5	72.9	38.7	72.9	0.6	73.0	41.8	73.0	0.6	73.0	37.3	73.0	0.7
X (10f)	10	72.3	72.8	42.0	72.8	0.5	72.8	41.1	72.8	0.5	72.8	39.6	72.8	0.5	72.8	37.7	72.8	0.5	72.9	39.2	72.9	0.6	73.0	50.4	73.0	0.7	73.0	45.0	73.0	0.7
X (20f)	20	72.0	72.4	41.5	72.4	0.4	72.4	43.4	72.4	0.4	72.4	42.1	72.4	0.4	72.4	42.6	72.5	0.4	72.6	48.2	72.6	0.5	72.6	54.4	72.7	0.6	72.6	49.4	72.6	0.6
X (30f)	30	71.8	72.2	45.0	72.2	0.4	72.2	45.3	72.2	0.4	72.2	43.5	72.2	0.4	72.2	44.6	72.2	0.4	72.4	54.9	72.5	0.7	72.4	58.2	72.6	0.8	72.4	52.1	72.5	0.7
X (40f)	40	71.6	72.0	45.6	72.0	0.4	72.0	50.2	72.0	0.4	72.0	44.4	72.0	0.4	72.0	45.6	72.0	0.4	72.1	54.9	72.2	0.6	72.1	58.0	72.3	0.7	72.1	51.9	72.2	0.6
Y (1f)	1	65.3	65.8	38.7	65.8	0.5	65.8	40.8	65.8	0.5	65.8	37.6	65.8	0.5	65.8	32.6	65.8	0.5	65.9	36.5	65.9	0.6	65.9	37.5	65.9	0.7	65.9	32.5	65.9	0.7
Y (3f)	3	64.8	65.2	40.4	65.2	0.5	65.2	42.5	65.3	0.5	65.2	39.0	65.3	0.5	65.3	35.1	65.3	0.5	65.4	39.3	65.4	0.6	65.4	40.2	65.4	0.6	65.4	35.2	65.4	0.6
Y (5f)	5	64.8	65.2	40.5	65.2	0.4	65.2	42.5	65.2	0.5	65.2	38.7	65.2	0.4	65.2	35.4	65.2	0.5	65.3	43.8	65.3	0.6	65.3	43.0	65.4	0.6	65.3	35.8	65.3	0.6
Y (10f)	10	64.7	65.1	41.1	65.2	0.5	65.2	51.1	65.3	0.7	65.2	40.0	65.2	0.5	65.2	37.7	65.2	0.5	65.3	44.0	65.3	0.6	65.3	43.7	65.3	0.6	65.3	34.8	65.3	0.6
Y (20f)	20	64.6	65.0	56.1	65.6	1.0	65.1	56.7	65.7	1.0	65.1	51.1	65.2	0.6	65.1	42.2	65.1	0.5	65.2	42.9	65.2	0.6	65.2	43.5	65.2	0.6	65.2	33.9	65.2	0.6
Y (30f)	30	65.0	65.4	56.1	65.8	0.9	65.4	56.6	65.9	1.0	65.4	51.3	65.5	0.6	65.4	42.9	65.4	0.4	65.5	42.7	65.5	0.6	65.5	43.7	65.5	0.6	65.5	34.0	65.5	0.6
Y (40f)	40	65.4	65.8	55.5	66.2	0.8	65.8	56.5	66.3	0.9	65.8	52.3	66.0	0.6	65.8	44.0	65.8	0.4	65.9	46.1	66.0	0.6	65.9	47.4	66.0	0.6	65.9	37.4	65.9	0.5
Y (50f)	50	65.7	66.1	55.5	66.4	0.8	66.1	56.7	66.6	0.9	66.1	53.2	66.3	0.6	66.1	47.6	66.2	0.5	66.2	46.5	66.2	0.6	66.2	51.1	66.3	0.7	66.2	40.0	66.2	0.6
Y (60f)	60	65.8	66.2	55.3	66.6	0.8	66.2	57.4	66.8	1.0	66.2	54.5	66.5	0.7	66.2	51.0	66.4	0.6	66.3	48.9	66.4	0.6	66.3	51.8	66.5	0.7	66.4	42.7	66.4	0.6
Y (70f)	70	66.0	66.4	55.8	66.7	0.7	66.4	57.1	66.9	0.8	66.4	54.7	66.7	0.6	66.4	51.0	66.5	0.5	66.5	47.8	66.5	0.5	66.5	50.5	66.6	0.6	66.5	40.6	66.5	0.5
Z (1f)	1	63.6	63.7	53.1	64.0	0.5	63.7	53.6	64.1	0.5	63.7	48.7	63.8	0.2	63.7	45.3	63.7	0.2	63.7	41.8	63.8	0.2	63.8	41.9	63.8	0.2	63.8	36.8	63.8	0.2
Z (3f)	3	63.2	63.3	55.2	63.9	0.7	63.3	56.6	64.1	0.9	63.3	50.2	63.5	0.3	63.3	47.8	63.4	0.2	63.4	44.8	63.4	0.3	63.4	45.2	63.5	0.3	63.4	39.9	63.4	0.2
Z (5f)	5	63.3	63.4	57.3	64.3	1.0	63.4	57.1	64.3	1.0	63.4	50.6	63.6	0.3	63.4	48.2	63.5	0.2	63.4	44.8	63.5	0.2	63.4	45.3	63.5	0.2	63.4	40.1	63.5	0.2
Z (10f)	10	63.																												











585400

585500

585600

585700

585800

4514100

4514000

4513900

4513800

4513700

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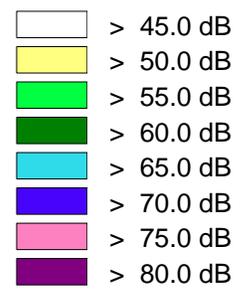
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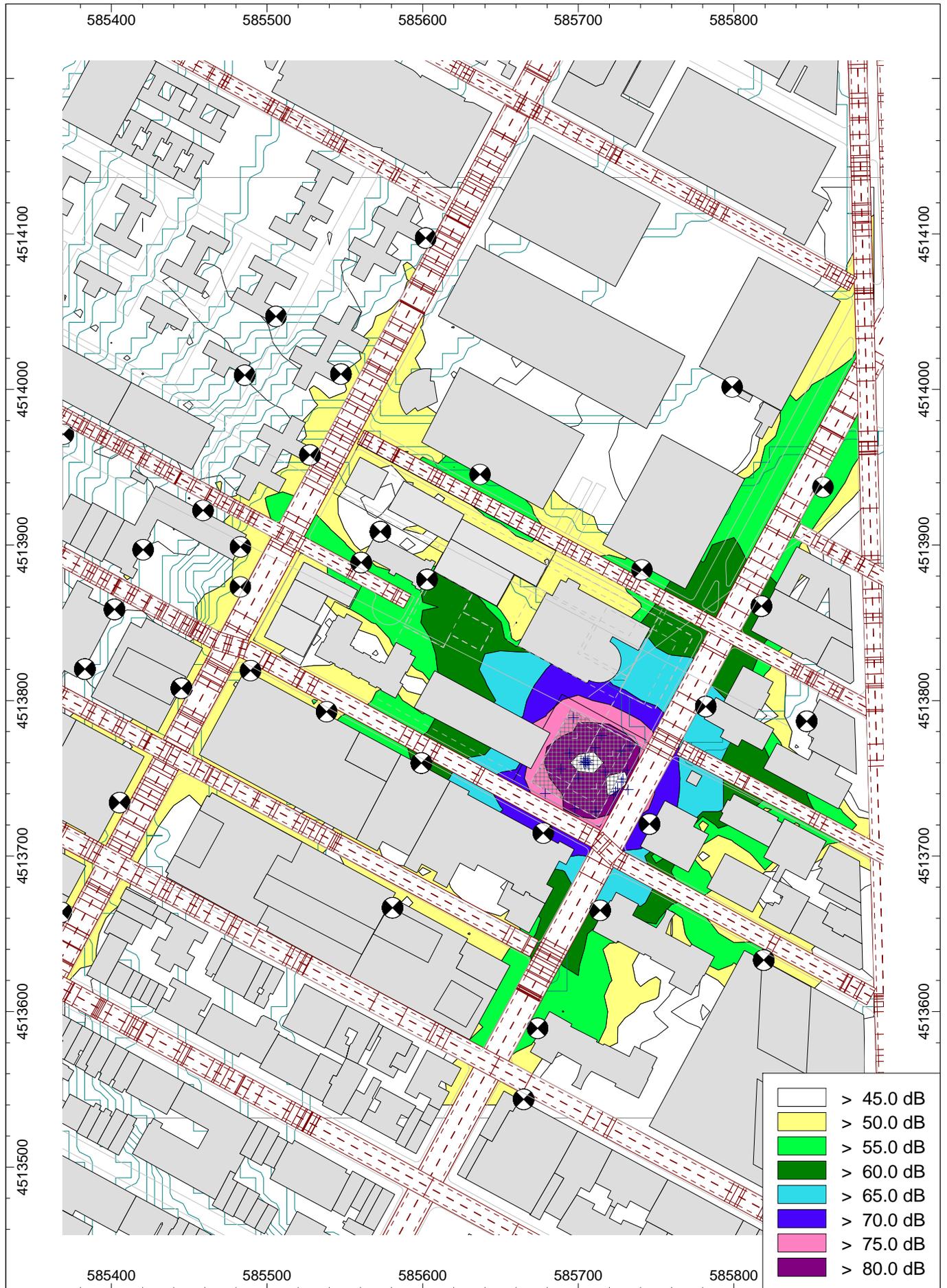
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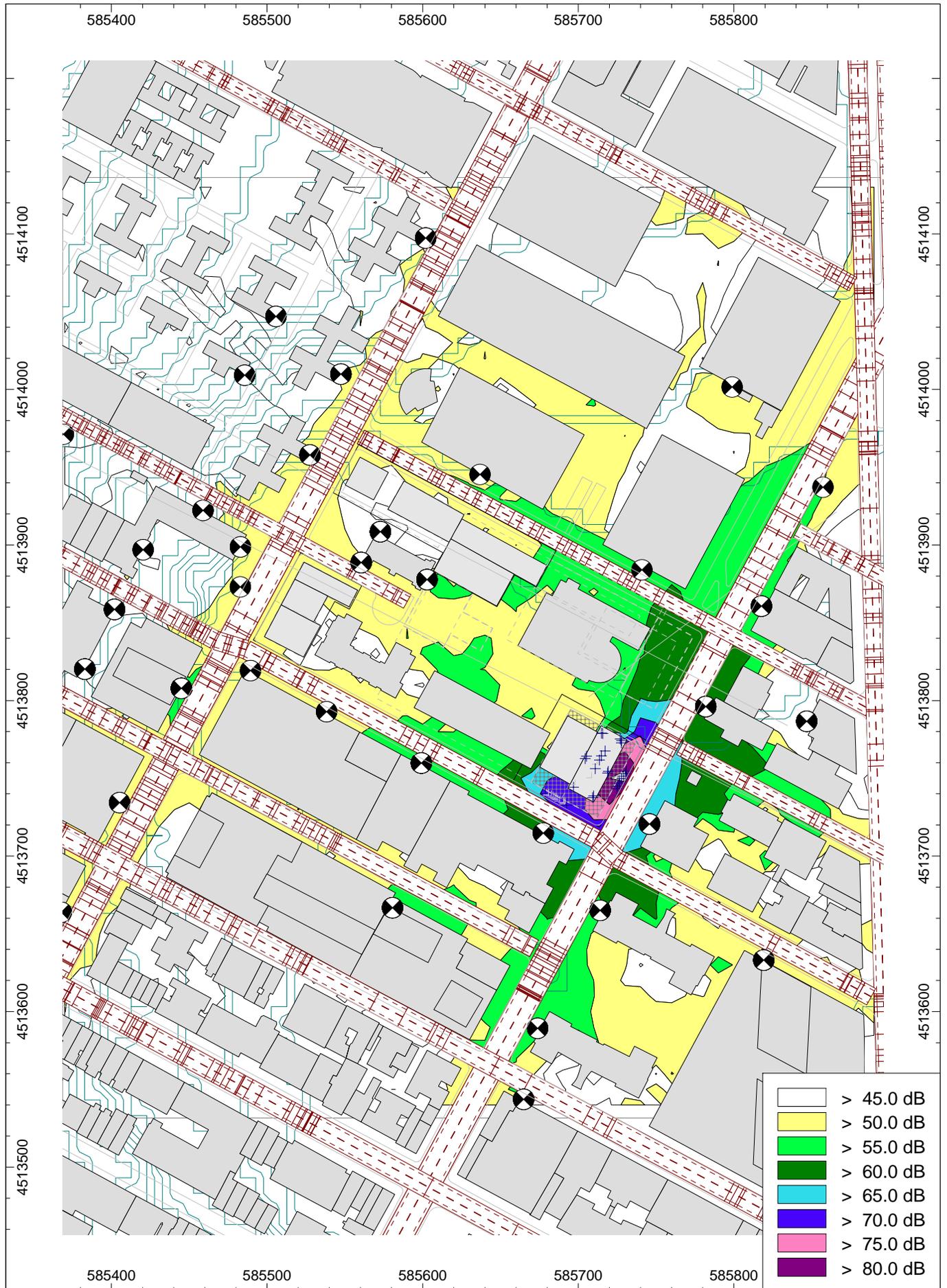
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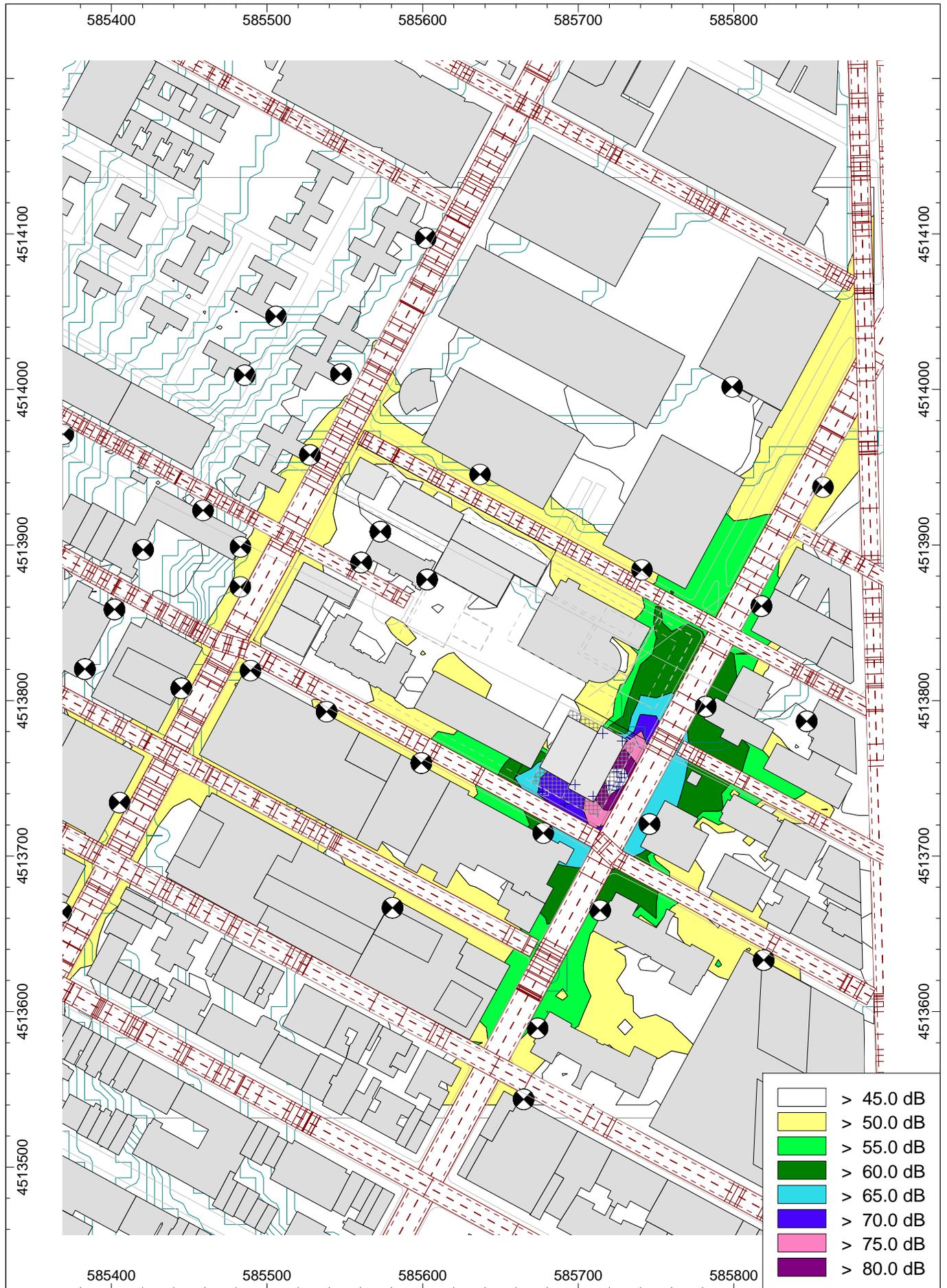
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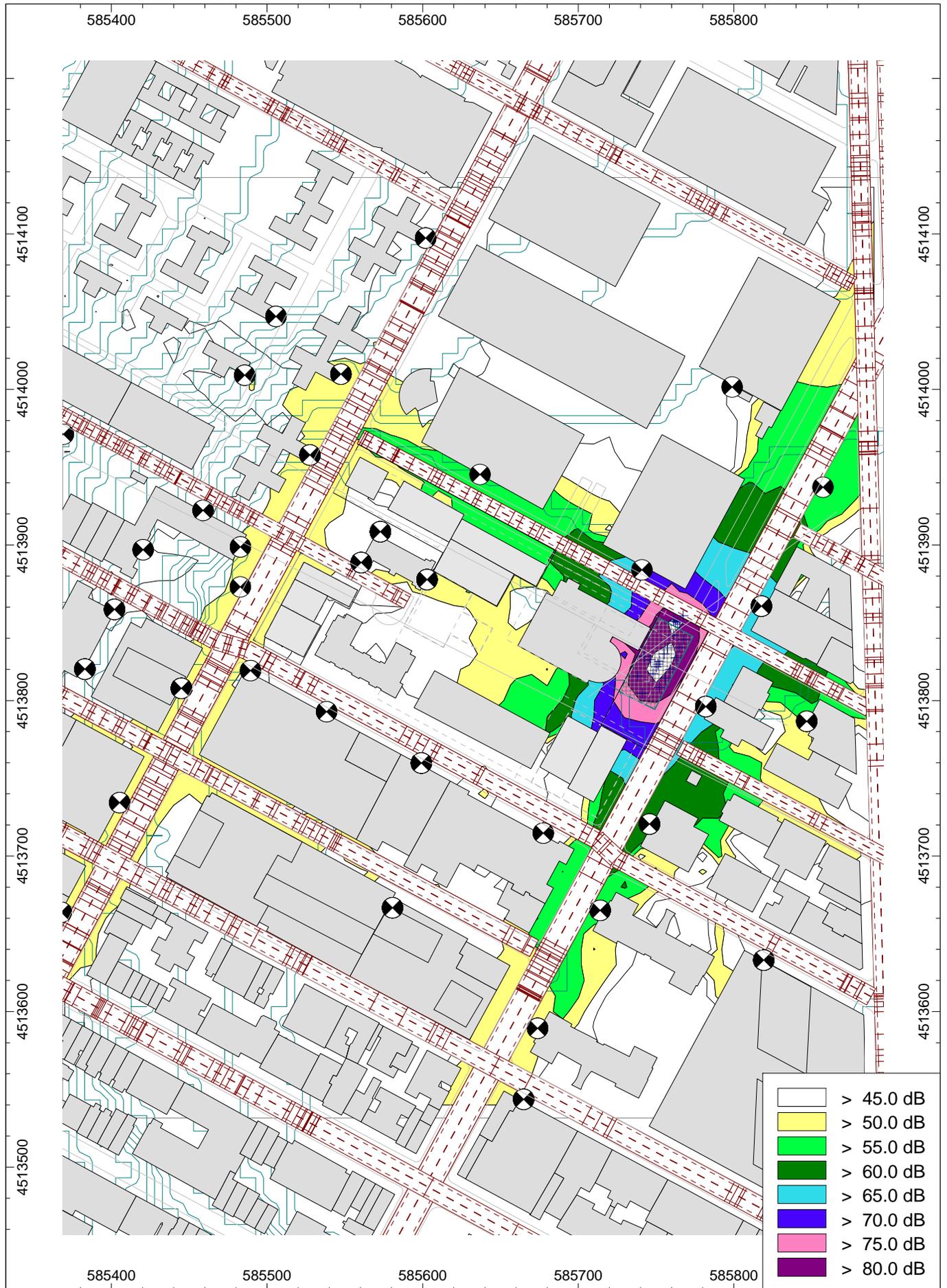
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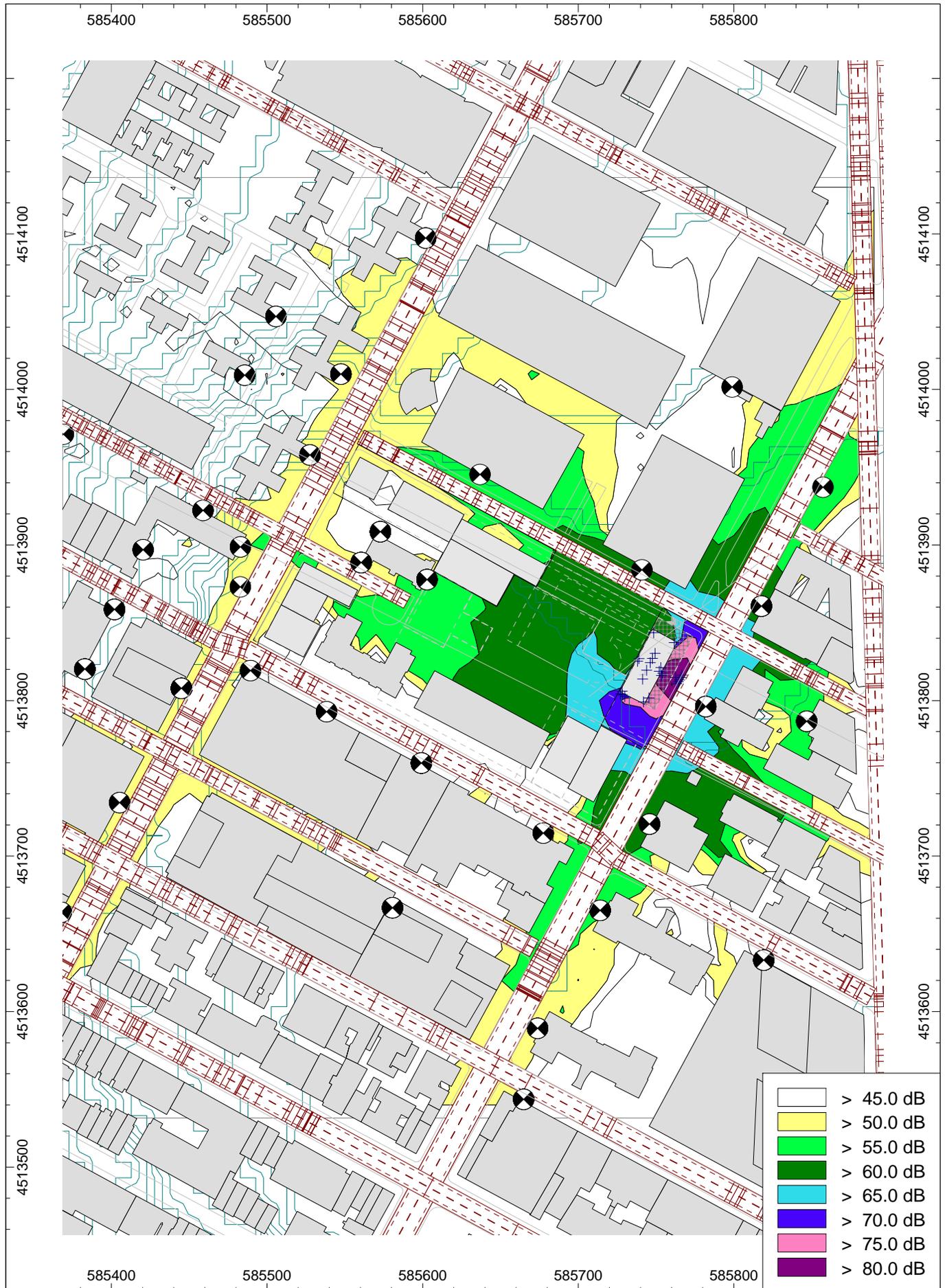


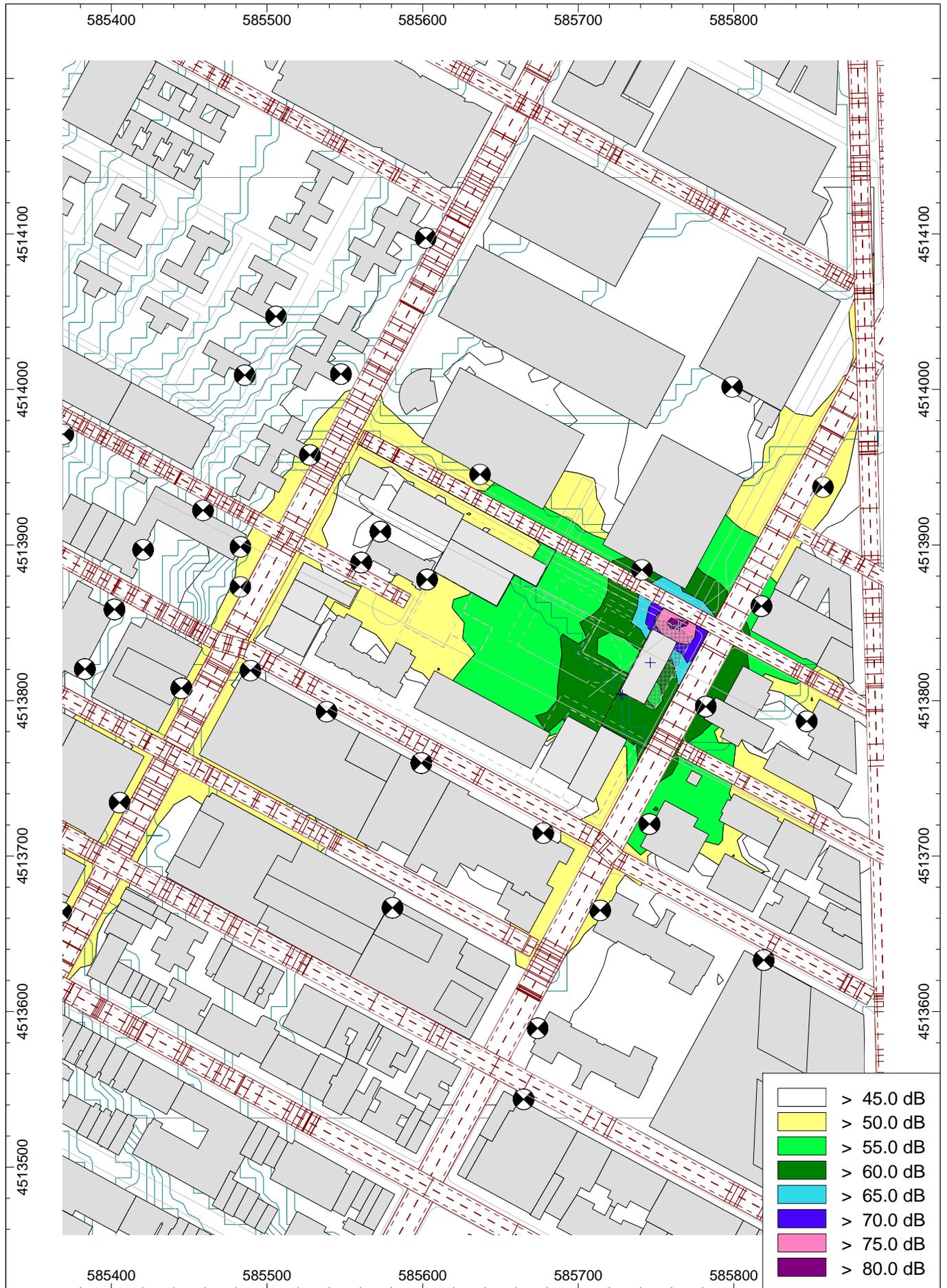


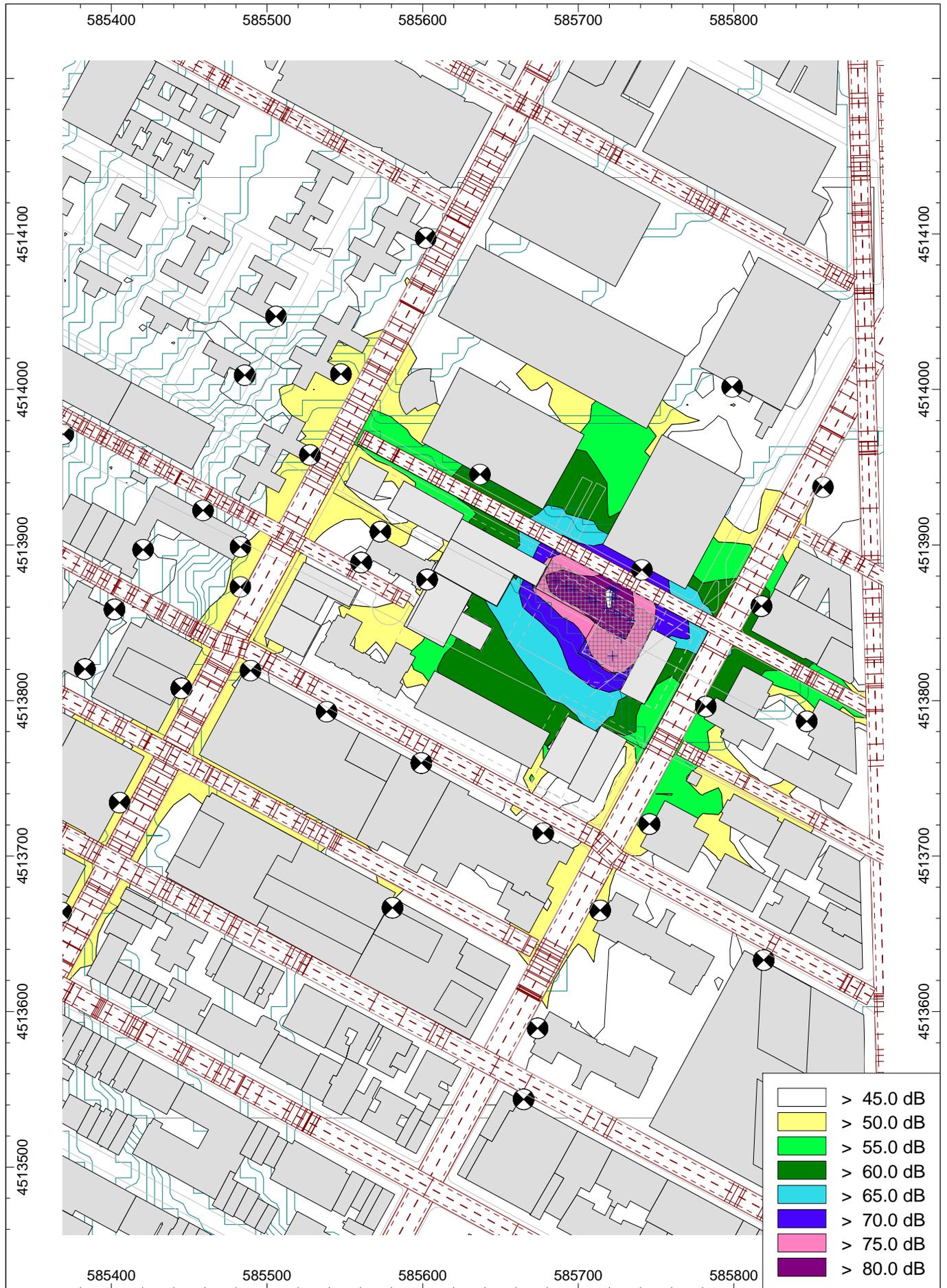


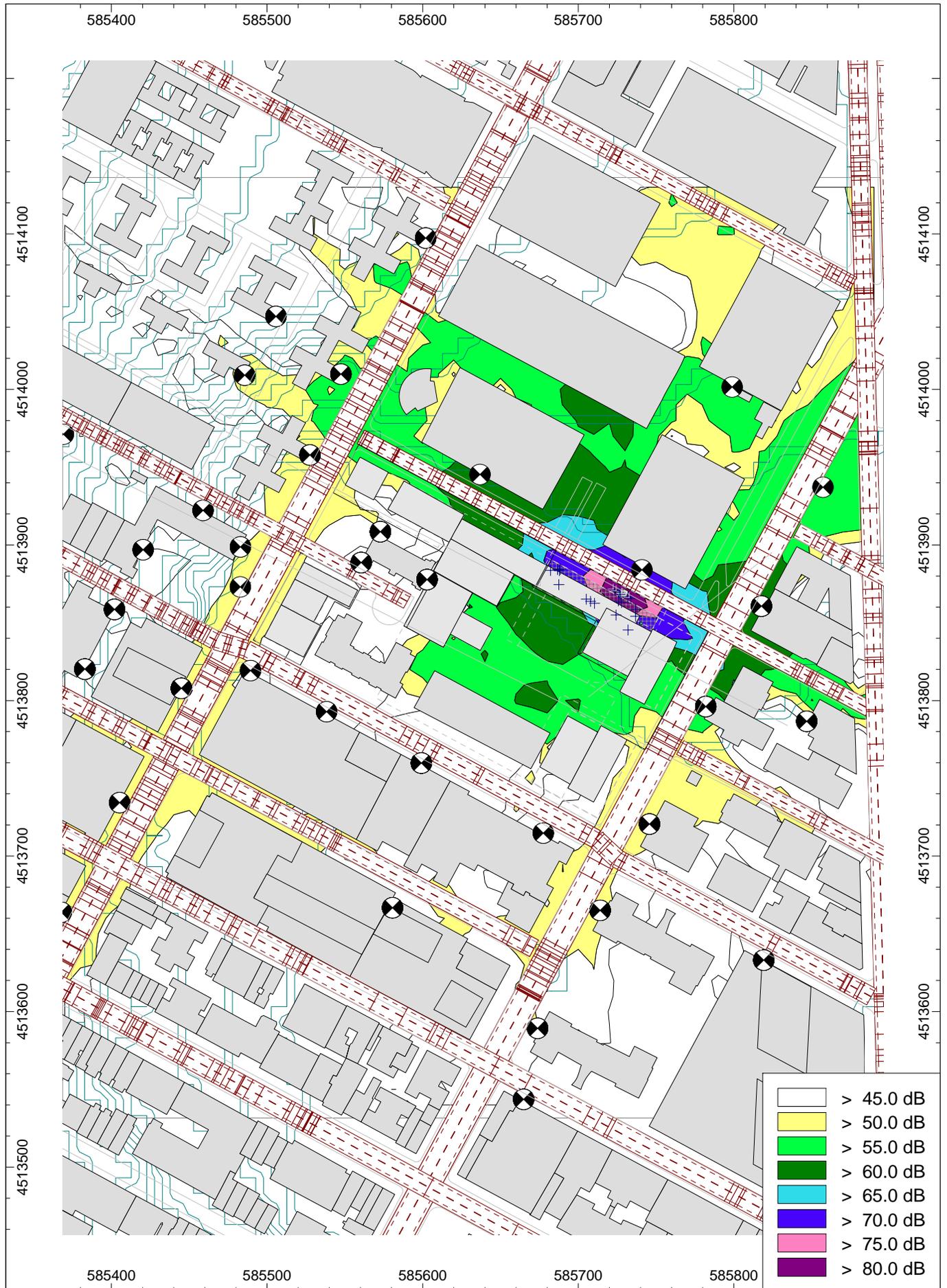


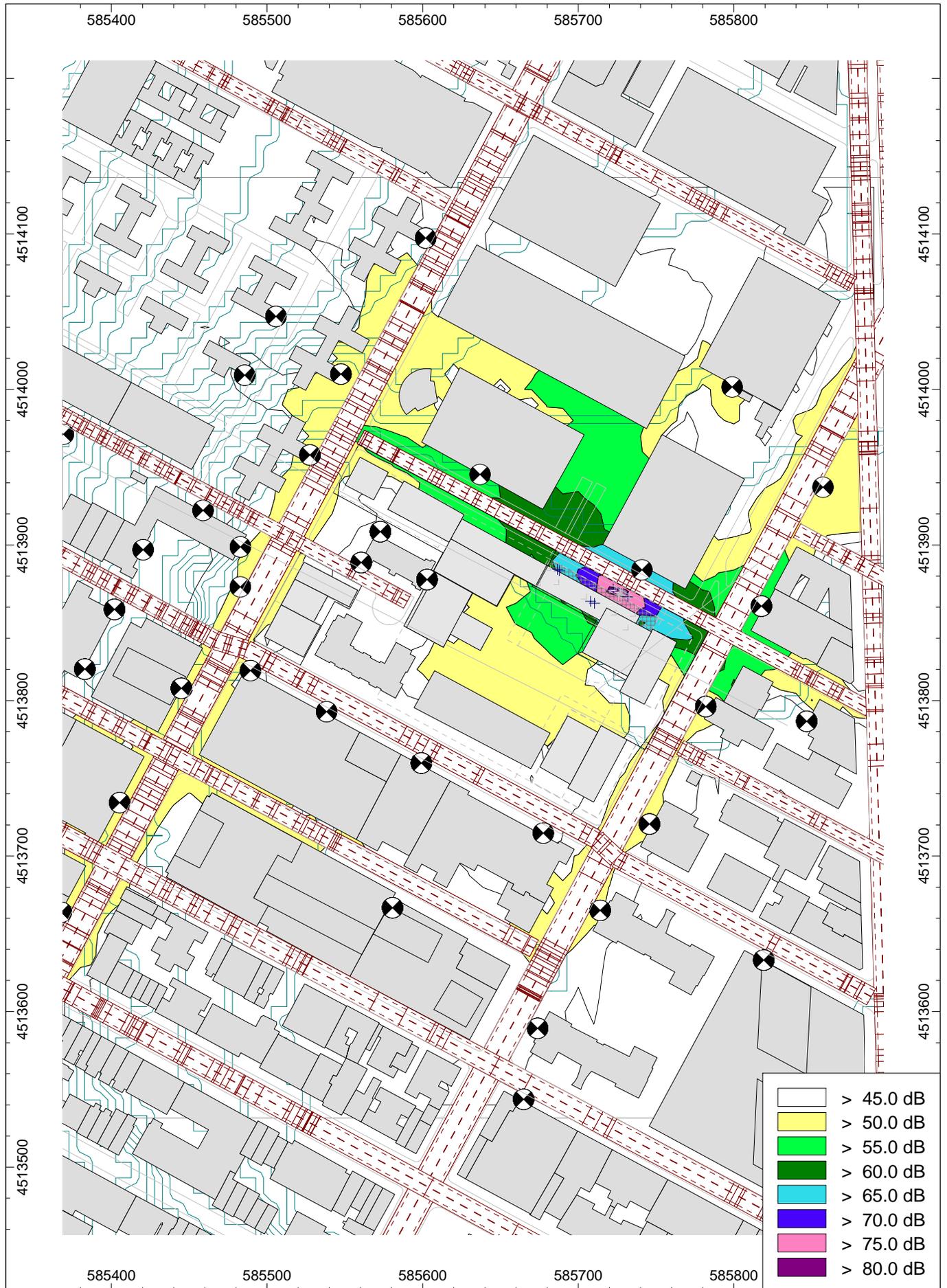












Vibration Calculations

Construction Vibration Damage Criterion

$$PPV_{\text{equipment}} = PPV_{\text{ref}} * (25/D)^{1.5}$$

Equipment		PPVr	Criterion PPV	Impact Distance (ft)	PPVe
Clam Shovel drop (slurry wall)	uper range	0.734	0.5	32	0.497
	typical	0.170	0.5	12	0.499
Clam Shovel drop (slurry wall)		0.202	0.5	14	0.498

Ground-Boren Vibration Impact Criterion

$$Lv(D) = Lv(25ft) - 30 \log(D/25)$$

Equipment		Lv(25ft)	Criterion VdB	Impact Distance (ft)	Lv(D)
Pile Driver (Sonic)	uper range	105	65	539	65.0
	typical	93	65	214	65.0
Clam Shovel drop (slurry wall)		94.0	65	232	65.0

 The worst case