APPENDIX D NOISE MEASUREMENT DATA

This appendix includes data acquired during the noise measurement program, including noise monitor output, site sketches, photographs, field noise data sheets, traffic count data sheets, and calibration certificates.

SHORT-TERM NOISE MEASUREMENT DATA SHEET

PROJECT: Rolling Road Phase 2 Design Study

JOB NO.: 309820.002

MEASUREMENT SITE NO.: M1

PERSONNEL: HTJ/JMR

ADDRESS/DESCRIPTION: 8301 Kenwood Ave

DATE: 10/3/18

File #001

#	30 Minute Period Starting	Meas'd Leq (dBA)	√ or X	on Kenwood Ave Autos	Medium Trucks	Heavy Trucks	Other Noise Sources	COMMENTS (Include Calibration Data)
1	9:05	62.1		11			change cal:	114.1, check: 114.1
2	06	59.2		1				car radio 9:06:15-30
3	07	69.3			1		wheel squeal	School Bus Passing
4	08	58.1		1				Music into 9:09
5	09	62.0		1				
6	10	65.3		11				
7	11	59.2		11				
8	12	62.5		1				
9	13	73.7	X	11	1		wheel squeal	school bus passing/idling
10	14	65.9		1				
11	15	63.2						
12	16	63.0		1				
13	17	59.1		1				
14	18	63.8		1				car lock beeping nearby
15	19	62.8						
16	20	57.8		1				
17	21	65.8		1				
18	22	61.8						
19	23	61.2		1				
20	24	65.4		1				
21	25	61.4						
22	26	62.0		1				
23	27	64.5						
24	28	60.6		1				
25	29	62.6		1				
26	30	63.4					wheel squeal	from school bus on Rolling
27	31	62.6						
28	32	60.0		1				
29	33	64.5		1				Pedestrians walking/talk
30	34	62.8		11				Car starting/pulling Away

TOTAL Leq = SUBSET Leq =

√ = Other sources contributed to Leq X = Exclude period - contaminated by non-characteristic sources

>> ADD SKETCH AND WEATHER CONDITIONS TO REVERSE OR OTHER SHEET <<

HARRIS MILLER MILLER & HANSON INC.

PROJECT: Rolling Road Phase 2 Design Study

JOB NO.: 309820.002

SHORT-TERM NOISE MEASUREMENT SITE LOG

ASSESSMENT AREA: W. Springfield MEASUREMENT SITE NO.: M1

ADDRESS: 8301 Kenwood Ave

OWNER:

DESCRIPTION: SF suburb home

NOISE SOURCES: Rolling Road, Birds, Insects, Old Keene Mill Rd

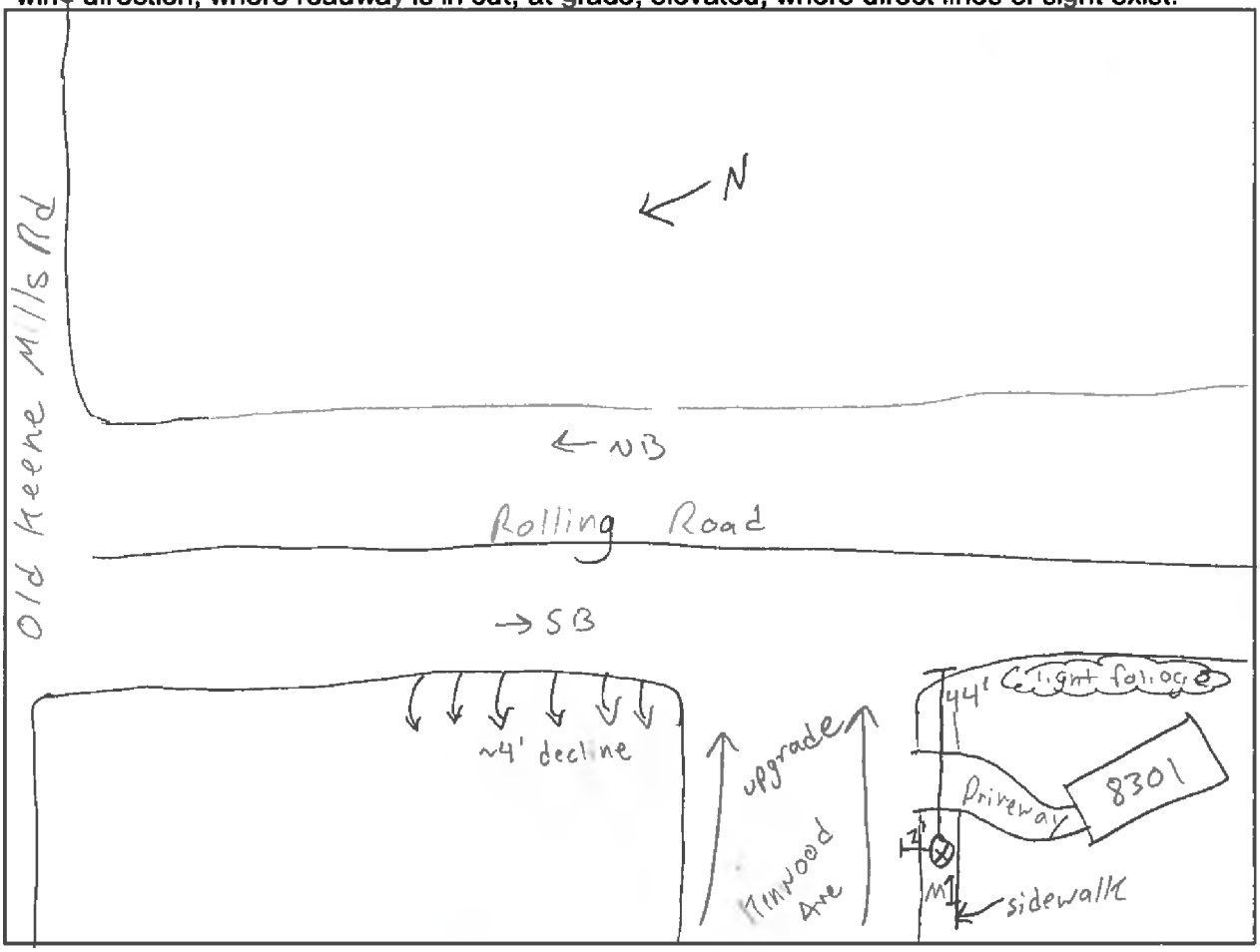
NOISE MONITOR: LD 824 # 1 S/N:

MICROPHONE: S/N:

CALIBRATOR: S/N:

TEMP. RANGE (°F): 8° WEATHER CONDITIONS: calm, low humidity, clear skies

SITE SKETCH: Show roadway, homes, local roads, reference distances, arrows for North & wind direction, where roadway is in cut, at grade, elevated, where direct lines of sight exist.



PHOTOS: GPS COORDINATES:

HARRIS MILLER MILLER & HANSON INC.

Measurement Site M1

PROJECT: Rolling Road Phase 2 Design Study
JOB NO.: 309820.002

E
W → S

TRAFFIC VOLUME COUNT DATA SHEET

ASSESSMENT AREA:	West Springfield	START TIME:	0905
MEASUREMENT SITE NO.:	M1	END TIME:	0935
ADDRESS/DESCRIPTION:	8301 Kenwood Ave Suburb home	DATE:	10/3/18
		PERSONNEL:	HTJ/JMR

ROADWAY:		DIRECTION 1: North	DIRECTION 2: ~~South~~
First Sample: 5 **minutes** **Start Time:**			
	Automobiles	68	
	Medium Trucks (6 Tires)	7	
	Heavy Trucks (>6 Tires)	3	
	Average speed (mph)	30, 29, 27, 31, 27, 27, 26, 25	
Second Sample: 5 **minutes** **Start Time:**			South
	Automobiles		45
	Medium Trucks (6 Tires)		2
	Heavy Trucks (>6 Tires)		5
	Average speed (mph)		17, 18, 20, 22, 23, 20, 22, 22, 20, 19
Third Sample: 5 **minutes** **Start Time:**		East	
	Automobiles	99	
	Medium Trucks (6 Tires)	~~99~~ 4	
	Heavy Trucks (>6 Tires)	~~4~~ 1	
	Average speed (mph)	~~+~~ 18, 19, 20, 23, 21, 18	
Fourth Sample: 5 **minutes** **Start Time:**			West
	Automobiles		70
	Medium Trucks (6 Tires)		5
	Heavy Trucks (>6 Tires)		3
	Average speed (mph)		23, 23, 25, 25, 24, 36, 21, 25

SHORT-TERM NOISE MEASUREMENT DATA SHEET

PROJECT: Rolling Road Phase 2 Design Study

JOB NO.: 309820.002

MEASUREMENT SITE NO.: M2 PERSONNEL: HTJ/JMR

ADDRESS/DESCRIPTION: 6401 Rivington Road on Rivington Road DATE: 10/3/18

File #002

#	30 Minute Period Starting	Meas'd Leq (dBA)	√ or X	Autos	Medium Trucks	Heavy Trucks	Other Noise Sources	COMMENTS (Include Calibration Data)
1	9:51	58.8						aircraft distant
2	52	60.6						
3	53	56.9						car door nearby
4	54	56.3		I				
5	55	56.9		I				car starting /pulling away
6	56	55.6						
7	57	57.3						
8	58	56.3						
9	59	59.8		II		I	Garbage Truck / Brake Squeal	
10	10:00	56.6						car door slam
11	01	57.4						
12	02	54.5					Birds chirping	
13	03	57.8						
14	04	55.5						
15	05	57.8		I				car door slam
16	06	54.8						
17	07	58.5		II				
18	08	54.8						
19	09	57.1		I			car starting	/pulling away
20	10	55.4						
21	11	57.0						
22	12	56.9		I				
23	13	57.0		I				
24	14	54.6						
25	15	56.4		I				
26	16	55.7						
27	17	57.2						
28	18	56.5		I				
29	19	58.1		I			car passing	slowly
30	20	55.1		I				

Cal Check 114 C

Cal Check 114.

TOTAL Leq = SUBSET Leq =

√ = Other sources contributed to Leq X = Exclude period - contaminated by non-characteristic sources

>> ADD SKETCH AND WEATHER CONDITIONS TO REVERSE OR OTHER SHEET <<

HARRIS MILLER MILLER & HANSON INC.

PROJECT: Rolling Road Phase 2 Design Study

JOB NO.: 309820.002

SHORT-TERM NOISE MEASUREMENT SITE LOG

ASSESSMENT AREA: W. Springfield MEASUREMENT SITE NO.: M2

ADDRESS: 6401 Rivington Rd

OWNER:

DESCRIPTION: Sidewalk by house

NOISE SOURCES: Rolling Road, Birds, Insects

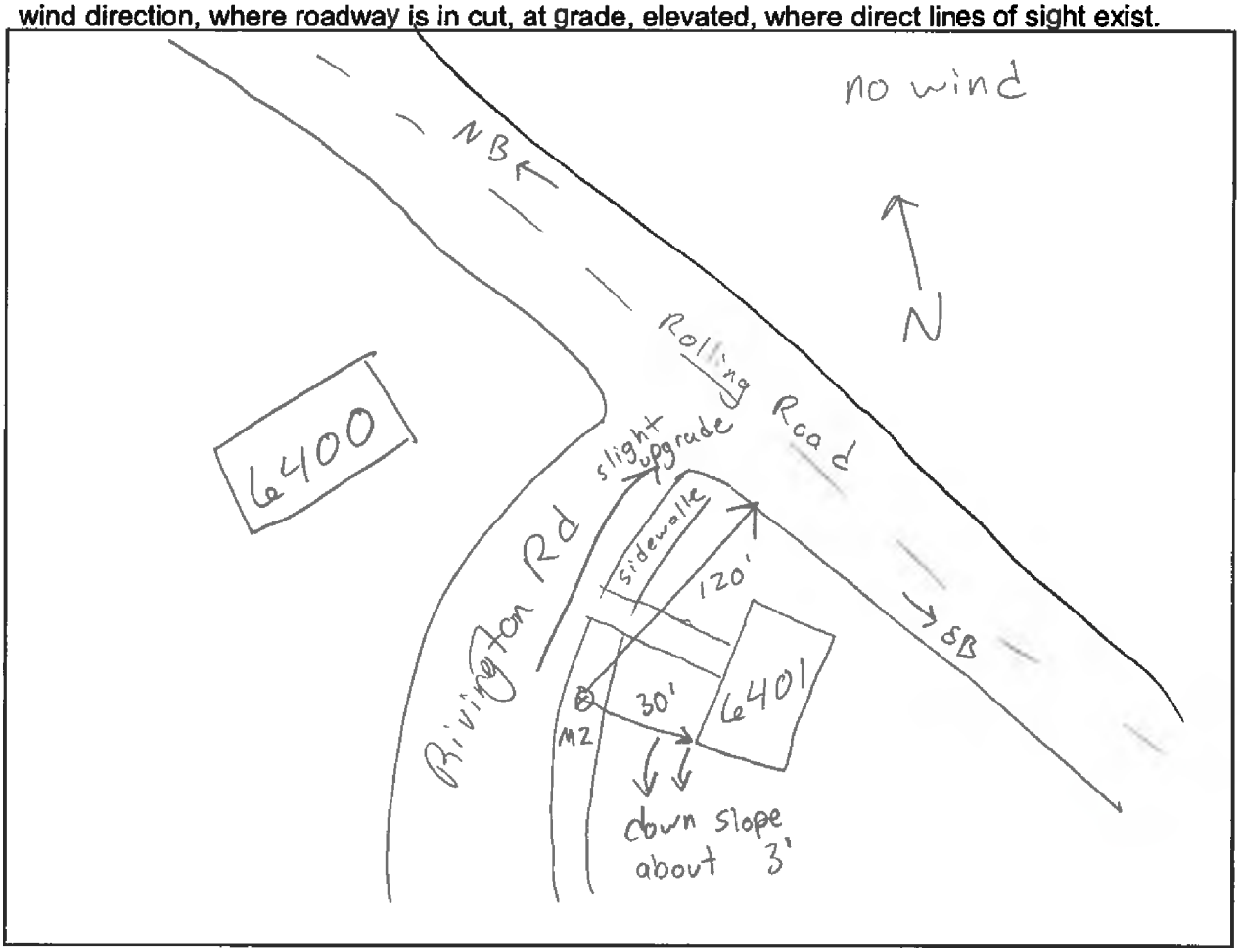
NOISE MONITOR: LD 824 #1 S/N:

MICROPHONE: S/N:

CALIBRATOR: S/N:

TEMP. RANGE (°F): 80-82°F WEATHER CONDITIONS: calm, clear, not humid

SITE SKETCH: Show roadway, homes, local roads, reference distances, arrows for North & wind direction, where roadway is in cut, at grade, elevated, where direct lines of sight exist.



PHOTOS: GPS COORDINATES:

Measurement Site M2

PROJECT: Rolling Road Phase 2 Design Study
JOB NO.: 309820.002

TRAFFIC VOLUME COUNT DATA SHEET

ASSESSMENT AREA:	West Springfield	START TIME:	0951
MEASUREMENT SITE NO.:	~~6~~ M2	END TIME:	1021
ADDRESS/DESCRIPTION:	6401 Rivington Road	DATE:	10/3/18
		PERSONNEL:	HTJ/JMR

ROADWAY:		DIRECTION 1: North	DIRECTION 2: South
First Sample: 5 minutes **Start Time:** 0951			
	Automobiles	56	
	Medium Trucks (6 Tires)	4	
	Heavy Trucks (>6 Tires)	2	
	Average speed (mph)	~~23, 26, 25, 29~~ 31, 32, 33	
Second Sample: 5 minutes **Start Time:** 0957			
	Automobiles		31
	Medium Trucks (6 Tires)		1
	Heavy Trucks (>6 Tires)		3
	Average speed (mph)	~~30, 33, 40, 29~~ ~~34, 29~~	~~30, 33, 40, 29,~~ 34, 33, 31, 32, 33
Third Sample: 5 minutes **Start Time:** 1003			
	Automobiles	47	
	Medium Trucks (6 Tires)	2	
	Heavy Trucks (>6 Tires)	0	
	Average speed (mph)	37, 34, 37, 36 35, 34	
Fourth Sample: 5 minutes **Start Time:** 1008			
	Automobiles		45
	Medium Trucks (6 Tires)		1
	Heavy Trucks (>6 Tires)		0
	Average speed (mph)		~~41, 40, 32, 43~~ 33, 35, 34

SHORT-TERM NOISE MEASUREMENT DATA SHEET

PROJECT: Rolling Road Phase 2 Design Study

JOB NO.: 309820.002

MEASUREMENT SITE NO.: M3 PERSONNEL: HTJ/JMR

ADDRESS/DESCRIPTION: 8261 Taunton Place DATE: 10/3/18

File #003

#	30 Minute Period Starting	Meas'd Leq (dBA)	√ or X	On Taunton Place Autos	Medium Trucks	Heavy Trucks	Other Noise Sources	COMMENTS (Include Calibration Data)
1	10:34	63.0		1				
2	35	65.4		1				
3	36	65.6				1	Garbage Truck	/Brake Squeal
4	37	63.7						
5	38	63.3						
6	39	65.4						
7	40	59.4						
8	41	64.3						
9	42	62.5						
10	43	65.5						
11	44	63.8						
12	45	62.8						
13	46	64.7						
14	47	63.5						
15	48	62.3						
16	49	64.3						
17	50	63.9						
18	51	62.9		1				
19	52	62.5						
20	53	65.7		1				
21	54	63.8						
22	55	63.6						
23	56	64.0						
24	57	65.1						
25	58	63.6	✓	1			Birds	
26	59	63.1		11				
27	11:00	64.1	✓	1	1			Mail Truck Passing
28	01	64.0						
29	02	66.4	✓	1				Loud Truck
30	03	64.6						

Cal chec 114.0

Cal cha 114.0

TOTAL Leq = SUBSET Leq =

√ = Other sources contributed to Leq X = Exclude period - contaminated by non-characteristic sources

>> ADD SKETCH AND WEATHER CONDITIONS TO REVERSE OR OTHER SHEET <<

HARRIS MILLER MILLER & HANSON INC.

PROJECT: Rolling Road Phase 2 Design Study

JOB NO.: 309820.002

SHORT-TERM NOISE MEASUREMENT SITE LOG

ASSESSMENT AREA: W. Springfield MEASUREMENT SITE NO.: M3

ADDRESS: 8261 Taunton Place

OWNER: —

DESCRIPTION: Townhouse Community, on sidewalk

NOISE SOURCES: Rolling Road, Birds, Insects, Distant Power Tool Noise

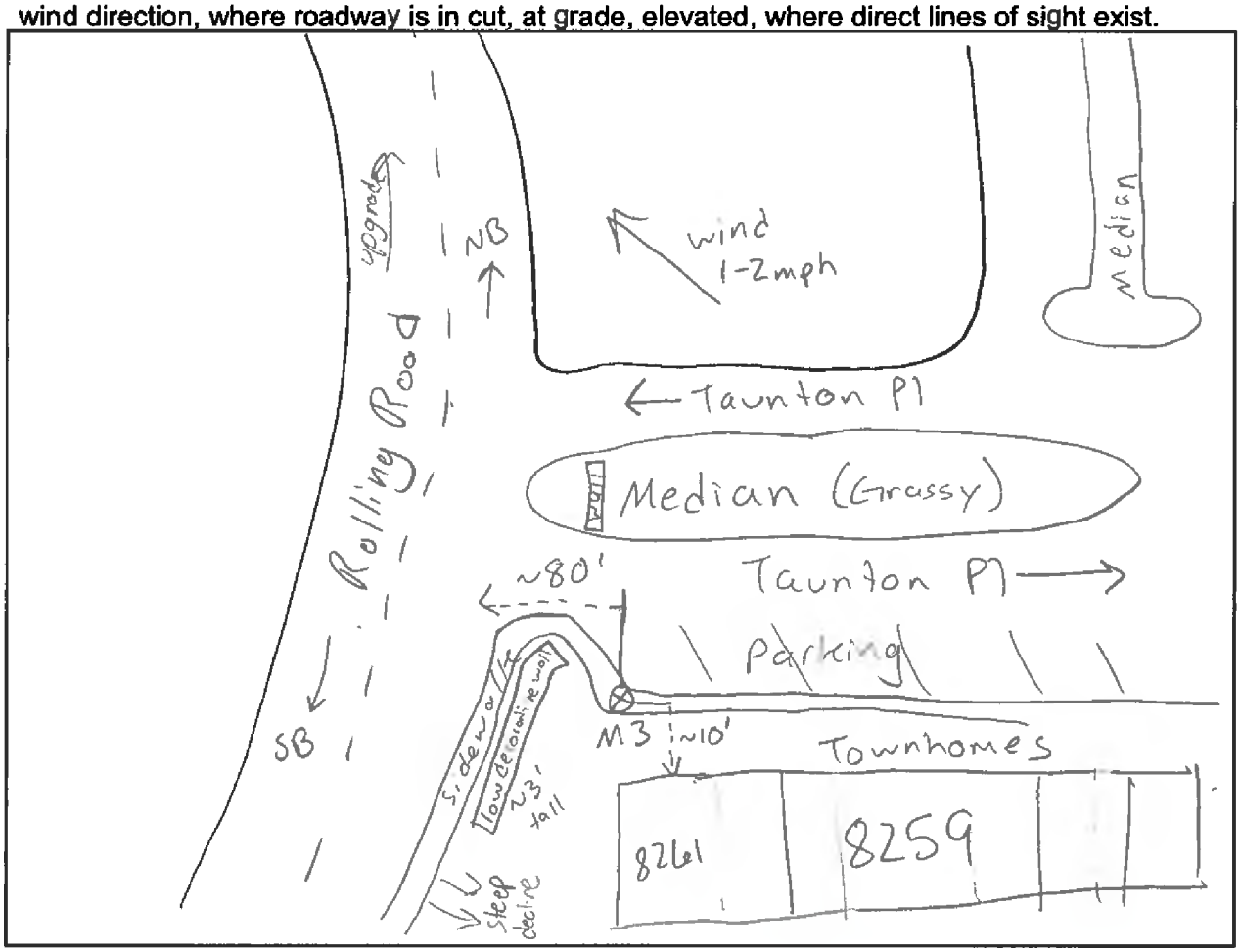
NOISE MONITOR: LD 824 #1 S/N:

MICROPHONE: S/N:

CALIBRATOR: S/N:

TEMP. RANGE (°F): 79 - 80°F WEATHER CONDITIONS: calm, clear, light breeze if any

SITE SKETCH: Show roadway, homes, local roads, reference distances, arrows for North & wind direction, where roadway is in cut, at grade, elevated, where direct lines of sight exist.



PHOTOS: GPS COORDINATES:

Measurement Site M3

PROJECT: Rolling Road Phase 2 Design Study
JOB NO.: 309820.002

TRAFFIC VOLUME COUNT DATA SHEET

ASSESSMENT AREA: West Springfield
MEASUREMENT SITE NO.: M3
ADDRESS/DESCRIPTION: 8261 Taunton Place

START TIME: 1 4
END TIME:
DATE: 1/3/18
PERSONNEL: HTJ/JMR

ROADWAY:		DIRECTION 1: North	DIRECTION 2: South
First Sample: 5 **minutes** **Start Time:** 1034			
	Automobiles	44	
	Medium Trucks (6 Tires)	1	
	Heavy Trucks (>6 Tires)	0	
	Average speed (mph)	29, 33, 29, 33, 32	
Second Sample: 5 **minutes** **Start Time:** 1039			
	Automobiles		40
	Medium Trucks (6 Tires)		2
	Heavy Trucks (>6 Tires)		0
	Average speed (mph)		29, 26, 41, 34, 34, 21, 33, 29
Third Sample: 5 **minutes** **Start Time:** 1045			
	Automobiles	49	
	Medium Trucks (6 Tires)	4	
	Heavy Trucks (>6 Tires)	0	
	Average speed (mph)	33, 27, 21, 36, 38	
Fourth Sample: 5 **minutes** **Start Time:** 1051			
	Automobiles		41
	Medium Trucks (6 Tires)		1
	Heavy Trucks (>6 Tires)		0
	Average speed (mph)		24, 27, 32, 33

SHORT-TERM NOISE MEASUREMENT DATA SHEET

PROJECT: Rolling Road Phase 2 Design Study

JOB NO.: 309820.002

MEASUREMENT SITE NO.: M4 PERSONNEL: HTJ/JMR

ADDRESS/DESCRIPTION: 8209 Marcey Ave DATE: 10/3/18

File #005

#	30 Minute Period Starting	Meas'd Leq (dBA)	√ or X	Autos	Medium Trucks	Heavy Trucks	Other Noise Sources	COMMENTS (Include Calibration Data)
1	12:02	51.9	✓	1				cardoor, talking
2	03	51.9						
3	04	51.8						
4	05	50.4						
5	06	53.6						
6	07	52.5						
7	08	54.8						
8	09	51.5						
9	10	50.5						
10	11	53.2						
11	12	52.5	✓	1				van starting/pulling aw
12	13	52.3	✓					car door slam
13	14	51.7						
14	15	50.6						
15	16	52.5						
16	17	51.3					Talking, cars	beeping, door slams
17	18	53.7					car starts/	pulls away, aircraft
18	19	52.4						
19	20	55.2	X				Aircraft	(:25 → :58)
20	21	52.3						
21	22	51.4						
22	23	50.8						
23	24	51.9					cardoor,	coughing
24	25	53.1						
25	26	72.4	X				Garbage Truck,	brakes, idling
26	27	73.0	X				↓ ↓	↓ ↓
27	28	54.7	✓				Fedex Truck,	idling
28	29	51.1						
29	30	51.5						
30	31	49.6						

Cal Chec 113.

Ca Che 114.

TOTAL Leq = SUBSET Leq =

√ = Other sources contributed to Leq X = Exclude period - contaminated by non-characteristic sources

>> ADD SKETCH AND WEATHER CONDITIONS TO REVERSE OR OTHER SHEET <<

HARRIS MILLER MILLER & HANSON INC.

PROJECT: Rolling Road Phase 2 Design Study

JOB NO.: 309820.002

SHORT-TERM NOISE MEASUREMENT SITE LOG

ASSESSMENT AREA: W. Springfield MEASUREMENT SITE NO.: M4

ADDRESS: 8207 Marcey Ave

OWNER:

DESCRIPTION: Cul-de-Sac sidewalk

NOISE SOURCES: Rolling Rd, Birds, residents in yards

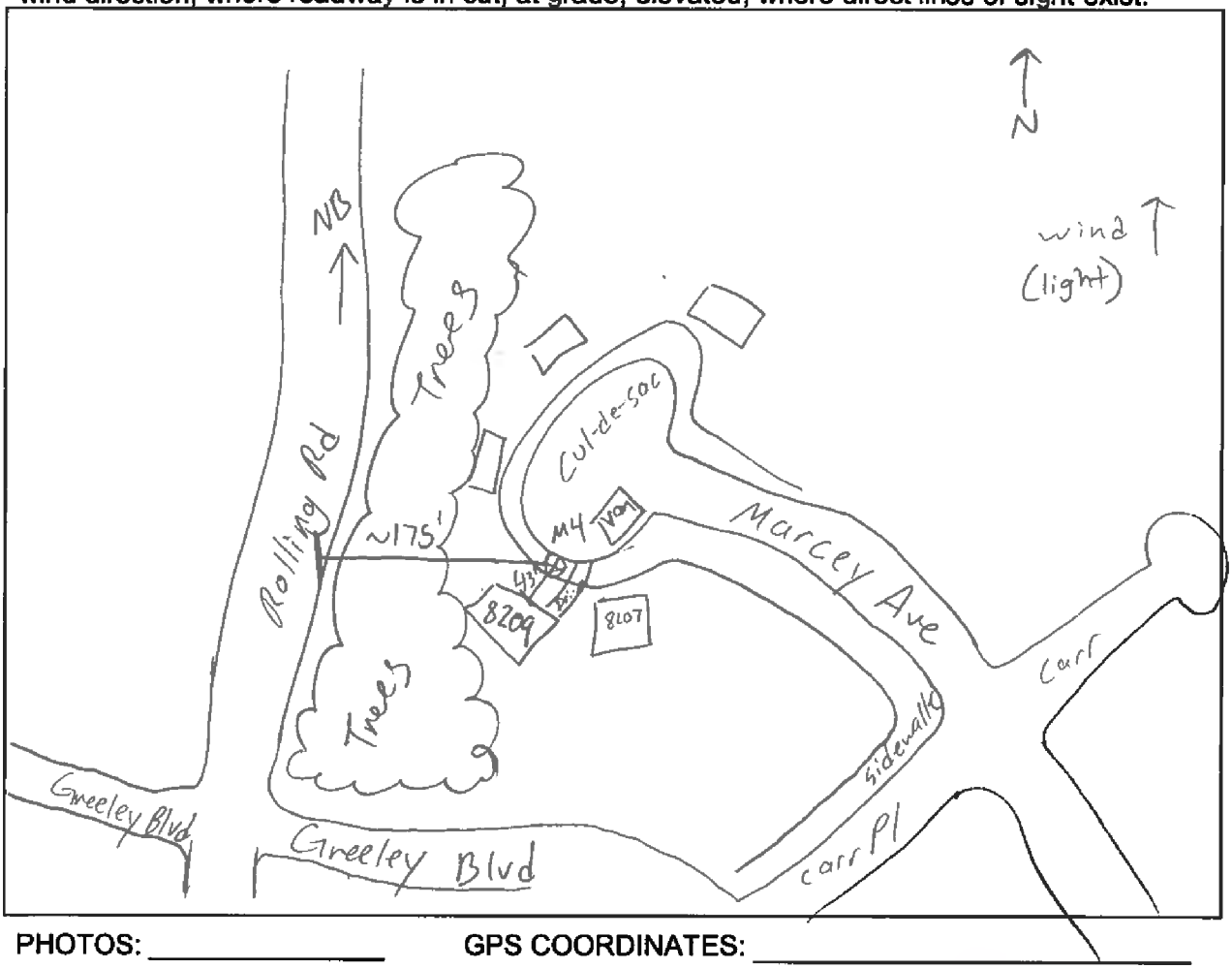
NOISE MONITOR: LD 824 #1 S/N:

MICROPHONE: S/N:

CALIBRATOR: S/N:

TEMP. RANGE (°F): WEATHER CONDITIONS: Cloudy, calm, light breeze (~1mph)

SITE SKETCH: Show roadway, homes, local roads, reference distances, arrows for North & wind direction, where roadway is in cut, at grade, elevated, where direct lines of sight exist.



PHOTOS: GPS COORDINATES:

HARRIS MILLER MILLER & HANSON INC.

Measurement Site M4

←SN
→NS

PROJECT: Rolling Road Phase 2 Design Study
JOB NO.: 309820.002

TRAFFIC VOLUME COUNT DATA SHEET

ASSESSMENT AREA:		START TIME:	1202
MEASUREMENT SITE NO.:	M4	END TIME:	1232
ADDRESS/DESCRIPTION:	8207 Marcy Ave	DATE:	10/3/18
		PERSONNEL:	HTJ/JMR

ROADWAY:		DIRECTION 1: North	DIRECTION 2: South
First Sample: 5 **minutes** **Start Time:** 1202			
	Automobiles	42	
	Medium Trucks (6 Tires)	1	
	Heavy Trucks (>6 Tires)	1	
	Average speed (mph)	28,25,26,28,33	
Second Sample: 5 **minutes** **Start Time:** 1208			
	Automobiles		46
	Medium Trucks (6 Tires)		0
	Heavy Trucks (>6 Tires)		0
	Average speed (mph)		34,34,33,32,27
Third Sample: 5 **minutes** **Start Time:** 1214			
	Automobiles	40	
	Medium Trucks (6 Tires)	1	
	Heavy Trucks (>6 Tires)	1	
	Average speed (mph)	41,44,39,38,38	
Fourth Sample: 5 **minutes** **Start Time:** 1220			
	Automobiles		43
	Medium Trucks (6 Tires)		~~2~~ 0
	Heavy Trucks (>6 Tires)		
	Average speed (mph)		39,30,32,31,30

SHORT-TERM NOISE MEASUREMENT DATA SHEET

PROJECT: Rolling Road Phase 2 Design Study

JOB NO.: 309820.002

MEASUREMENT SITE NO.: M5 PERSONNEL: HTJ/JMR

ADDRESS/DESCRIPTION: 8300 Greeley Blvd DATE: 10/3/18

File #004

#	30 Minute Period Starting	Meas'd Leq (dBA)	√ or X	Autos	Medium Trucks	Heavy Trucks	Other Noise Sources	COMMENTS (Include Calibration Data)
1	11:20	58.1		1				Aircraft Distant
2	21	58.8	✓	1				
3	22	58.5	✓					Distant lawnmower
4	23	56.7	✓			1	Brake Squeel,	Backup Alarm
5	24	61.2		1	11			
6	25	58.6						Lawnmower
7	26	60.7						
8	27	59.3						
9	28	59.2						
10	29	60.8						
11	30	61.8						
12	31	57.0						
13	32	57.7						
14	33	58.2	✓					Distant Aircraft
15	34	60.3		1				
16	35	59.9		1			Garbage Truck / Brakes	
17	36	59.7						
18	37	57.4						
19	38	60.7		1				
20	39	60.0		1	1	1	School Bus	+ Fedex Truck
21	40	58.3						
22	41	59.0						
23	42	59.4						Lawnmower stopped
24	43	56.3						
25	44	61.7						
26	45	58.7						
27	46	60.5						
28	47	58.4	✓				Birds	Distant Siren (West)
29	48	58.4	✓	1				
30	49	56.9						

Cal Check 113.

Cal Check 114.0

TOTAL Leq = SUBSET Leq =

√ = Other sources contributed to Leq X = Exclude period - contaminated by non-characteristic sources

>> ADD SKETCH AND WEATHER CONDITIONS TO REVERSE OR OTHER SHEET <<

HARRIS MILLER MILLER & HANSON INC.

PROJECT: Rolling Road Phase 2 Design Study

JOB NO.: 309820.002

SHORT-TERM NOISE MEASUREMENT SITE LOG

ASSESSMENT AREA: W. Springfield MEASUREMENT SITE NO.: _____

ADDRESS: 8300 Greeley Blvd

OWNER: —

DESCRIPTION:

NOISE SOURCES: Rolling Road, Insects, B, , ogs

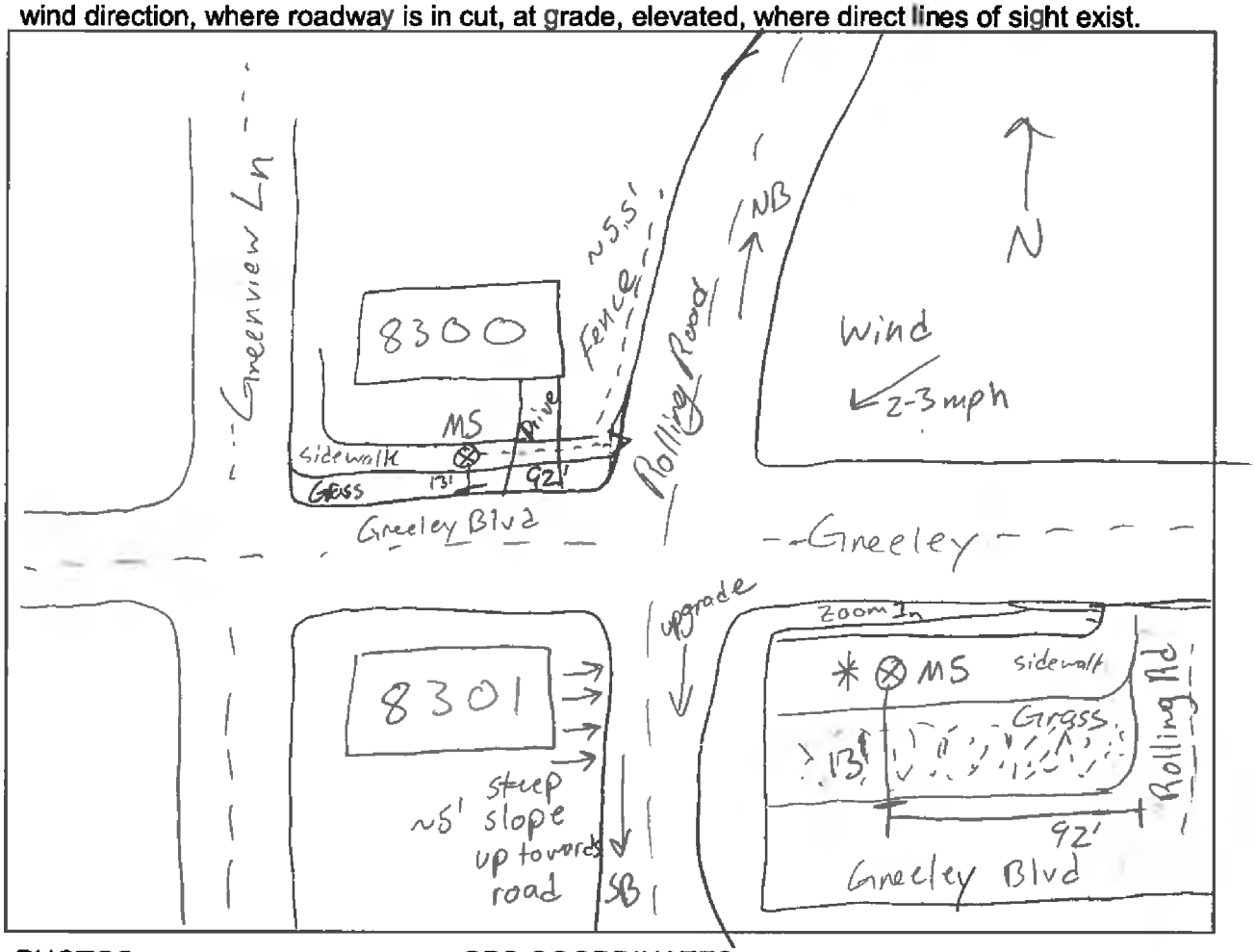
NOISE MONITOR: LD 824 S/N: _____

MICROPHONE: _____ S/N: _____

CALIBRATOR: _____ S/N: _____

TEMP. RANGE (°F): 81-82°F WEATHER CONDITIONS: Cloudy, Breezy (2-3mph)

SITE SKETCH: Show roadway, homes, local roads, reference distances, arrows for North & wind direction, where roadway is in cut, at grade, elevated, where direct lines of sight exist.



PHOTOS: _____ GPS COORDINATES: _____

HARRIS MILLER MILLER & HANSON INC.

Measurement Site M5

PROJECT: Rolling Road Phase 2 Design Study
JOB NO.: 309820.002

TRAFFIC VOLUME COUNT DATA SHEET

ASSESSMENT AREA:	West Springfield	START TIME:	1120
MEASUREMENT SITE NO.:	M5	END TIME:	
ADDRESS/DESCRIPTION:	8300 Greeley Blvd	DATE:	10/3/18
		PERSONNEL:	HTJ/JMR

ROADWAY:		DIRECTION 1: North	DIRECTION 2: South
First Sample: 5 **minutes** **Start Time:** 1120			
	Automobiles	34	
	Medium Trucks (6 Tires)	0	
	Heavy Trucks (>6 Tires)	0	
	Average speed (mph)	~~30, 37, 40, 46,~~ 37, 46	
Second Sample: 5 **minutes** **Start Time:** 1126			
	Automobiles		47
	Medium Trucks (6 Tires)		2
	Heavy Trucks (>6 Tires)		1
	Average speed (mph)		~~38, 36, 40, 40,~~ 34
Third Sample: 5 **minutes** **Start Time:** 1132			
	Automobiles	35	
	Medium Trucks (6 Tires)	2	
	Heavy Trucks (>6 Tires)	1	
	Average speed (mph)	~~45, 41, 35, 36,~~ 38	
Fourth Sample: 5 **minutes** **Start Time:** 1137			
	Automobiles		52
	Medium Trucks (6 Tires)		1
	Heavy Trucks (>6 Tires)		0
	Average speed (mph)		41, 41, 37, 38, 42

SHORT-TERM NOISE MEASUREMENT DATA SHEET

PROJECT: Rolling Road Phase 2 Design Study

JOB NO.: 309820.002

MEASUREMENT SITE NO.: M6 PERSONNEL: HTJ/JMR

ADDRESS/DESCRIPTION: 8237 Smithfield Ave DATE: 10/3/18

File #006

#	30 Minute Period Starting	Meas'd Leq (dBA)	√ or X	Autos	Medium Trucks	Heavy Trucks	Other Noise Sources	COMMENTS (include Calibration Data)
1	1:43	62.2		III				Quite a few
2	44	61.4						School Busses
3	45	58.8						Throughout Msmt
4	46	63.0		I				
5	47	59.8		I				
6	48	63.2		II				
7	49	61.3						
8	50	63.9						
9	51	61.0						
10	52	63.4	✓	I			Car Radio	
11	53	60.1						
12	54	63.6		I				
13	55	63.8						
14	56	63.1						
15	57	60.6		I				
16	58	65.2	X	II	I		Truck w/Trailer Idling	
17	59	68.6	X	II			Truck Peeling Out	
18	2:00	64.0		II			Sprinklers Kicked on down the	
19	01	64.0						
20	02	64.7		III				
21	03	60.4		I				
22	04	61.9						
23	05	62.6						
24	06	66.9		I			Car Horn,	Motorcycle
25	07	59.8		I				
26	08	61.5						
27	09	61.5						
28	10	63.4						
29	11	62.5						
30	12	64.7		IIII			Motorcycle	

Cal Chec 113.8

end 3:58 :50 block

Cal Chec 113.8

TOTAL Leq = SUBSET Leq =

√ = Other sources contributed to Leq X = Exclude period - contaminated by non-characteristic sources

>> ADD SKETCH AND WEATHER CONDITIONS TO REVERSE OR OTHER SHEET <<

PROJECT: Rolling Road Phase 2 Design Study

JOB NO.: 309820.002

SHORT-TERM NOISE MEASUREMENT SITE LOG

ASSESSMENT AREA: W. Springfield MEASUREMENT SITE NO.: ML6

ADDRESS: 8237 Smithfield Ave

OWNER: —

DESCRIPTION: Sidewalk

NOISE SOURCES: Rolling Rd, Local traffic, Birds, Insects, Distant Aircraft

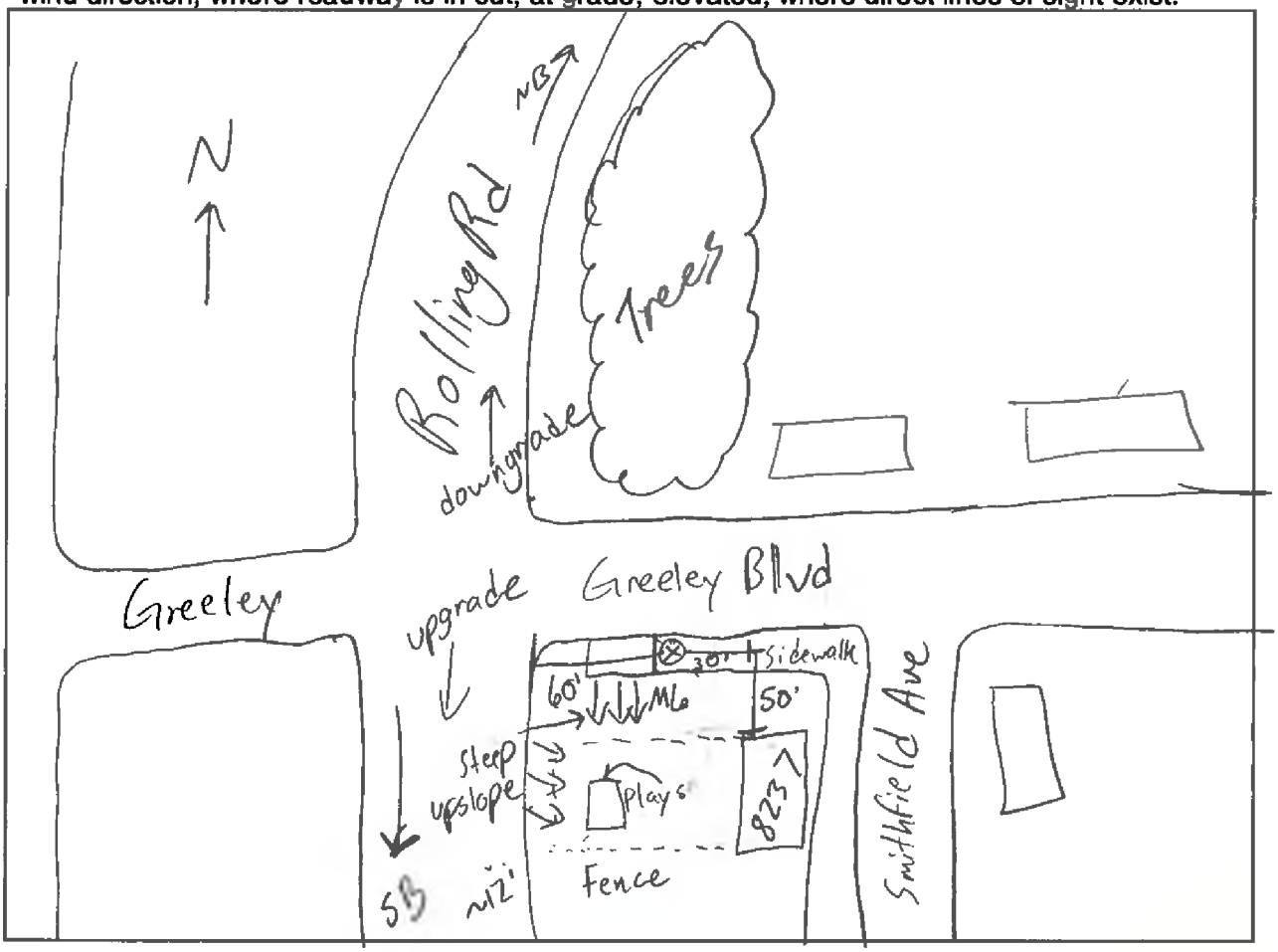
NOISE MONITOR: LD 824 #1 S/N: _____

MICROPHONE: _____ S/N: _____

CALIBRATOR: _____ S/N: _____

TEMP. RANGE (°F): 82 - 83°F WEATHER CONDITIONS: Cloudy, calm, light breeze (1-2mph)

SITE SKETCH: Show roadway, homes, local roads, reference distances, arrows for North & wind direction, where roadway is in cut, at grade, elevated, where direct lines of sight exist.



PHOTOS: _____ GPS COORDINATES: _____

HARRIS MILLER MILLER & HANSON INC.

Measurement Site M6

PROJECT: Rolling Road Phase 2 Design Study
JOB NO.: 309820.002

TRAFFIC VOLUME COUNT DATA SHEET

ASSESSMENT AREA: West Springfield
MEASUREMENT SITE NO.: M6
ADDRESS/DESCRIPTION: 8237 Smithfield Ave

START TIME: 1343
END TIME: 1413
DATE: 1/8
PERSONNEL: HTJ/JMR

ROADWAY:		DIRECTION 1:	DIRECTION 2: South
First Sample: 5 **minutes** **Start Time:** 1343			
	Automobiles	54	
	Medium Trucks (6 Tires)	1	
	Heavy Trucks (>6 Tires)	0	
	Average speed (mph)	34, 33, 32, 35, 32	
Second Sample: 5 **minutes** **Start Time:** 1349			
	Automobiles		48
	Medium Trucks (6 Tires)		1
	Heavy Trucks (>6 Tires)		0
	Average speed (mph)		43, 38, 35, 33, 35
Third Sample: 5 **minutes** **Start Time:** 1355			
	Automobiles	59	
	Medium Trucks (6 Tires)	2	
	Heavy Trucks (>6 Tires)	5	
	Average speed (mph)	29, ~~34~~, 34, ~~32~~, 32	
Fourth Sample: 5 **minutes** **Start Time:** 1401			
	Automobiles		40
	Medium Trucks (6 Tires)		1
	Heavy Trucks (>6 Tires)		0
	Average speed (mph)		36, 34, 32, 32, 32

SHORT-TERM NOISE MEASUREMENT DATA SHEET

PROJECT: Rolling Road Phase 2 Design Study

JOB NO.: 309820.002

MEASUREMENT SITE NO.: M7 PERSONNEL: HTJ/JMR

ADDRESS/DESCRIPTION: 8215 Smithfield Ave DATE: 10/3/18

File #007

#	30 Minute Period Starting	Meas'd Leq (dBA)	√ or X	Autos	Medium Trucks	Heavy Trucks	Other Noise Sources	COMMENTS (Include Calibration Data)
1	2:27	55.0		1			Car Starting	
2	28	61.2	X	1			Birds	
3	29	61.2	✓				Talking	
4	30	56.7		✓			Talking	
5	31	59.5	✓	1			School Bus, Distant saw noise	
6	32	59.1		11			Car Radio, Saw,	
7	33	56.8						
8	34	57.8						
9	35	56.6						
10	36	57.3						
11	37	62.0					Large Trucks	
12	38	56.5						
13	39	58.1						
14	40	59.5						
15	41	62.5	✓				School Bus Idling/Accelerating	
16	42	58.7						
17	43	56.5						
18	44	56.0					Distant Aircraft	
19	45	59.1						
20	46	57.6		✓				
21	47	59.3	✓				Garbage Truck Brakes, on Smithfield	
22	48	58.0		1				
23	49	57.1						
24	50	57.2						
25	51	56.7						
26	52	58.6		1				
27	53	59.3					*Battery Level Low!!	
28	54	66.6	X				Saw, very loud truck	
29	55	57.6						
30	56							

Cal Chec 113.

Cal Chec 113.8

TOTAL Leq = SUBSET Leq =

√ = Other sources contributed to Leq X = Exclude period - contaminated by non-characteristic sources

>> ADD SKETCH AND WEATHER CONDITIONS TO REVERSE OR OTHER SHEET <<

HARRIS MILLER MILLER & HANSON INC.

PROJECT: Rolling Road Phase 2 Design Study

JOB NO.: 309820.002

SHORT-TERM NOISE MEASUREMENT SITE LOG

ASSESSMENT AREA: _____ MEASUREMENT SITE NO.: M7

ADDRESS: 8215 Smithfield Ave

OWNER: ——

DESCRIPTION: Sidewalk

NOISE SOURCES: Rolling Road, Taft/Smithfield, Distant Sawing, Birds, Insects

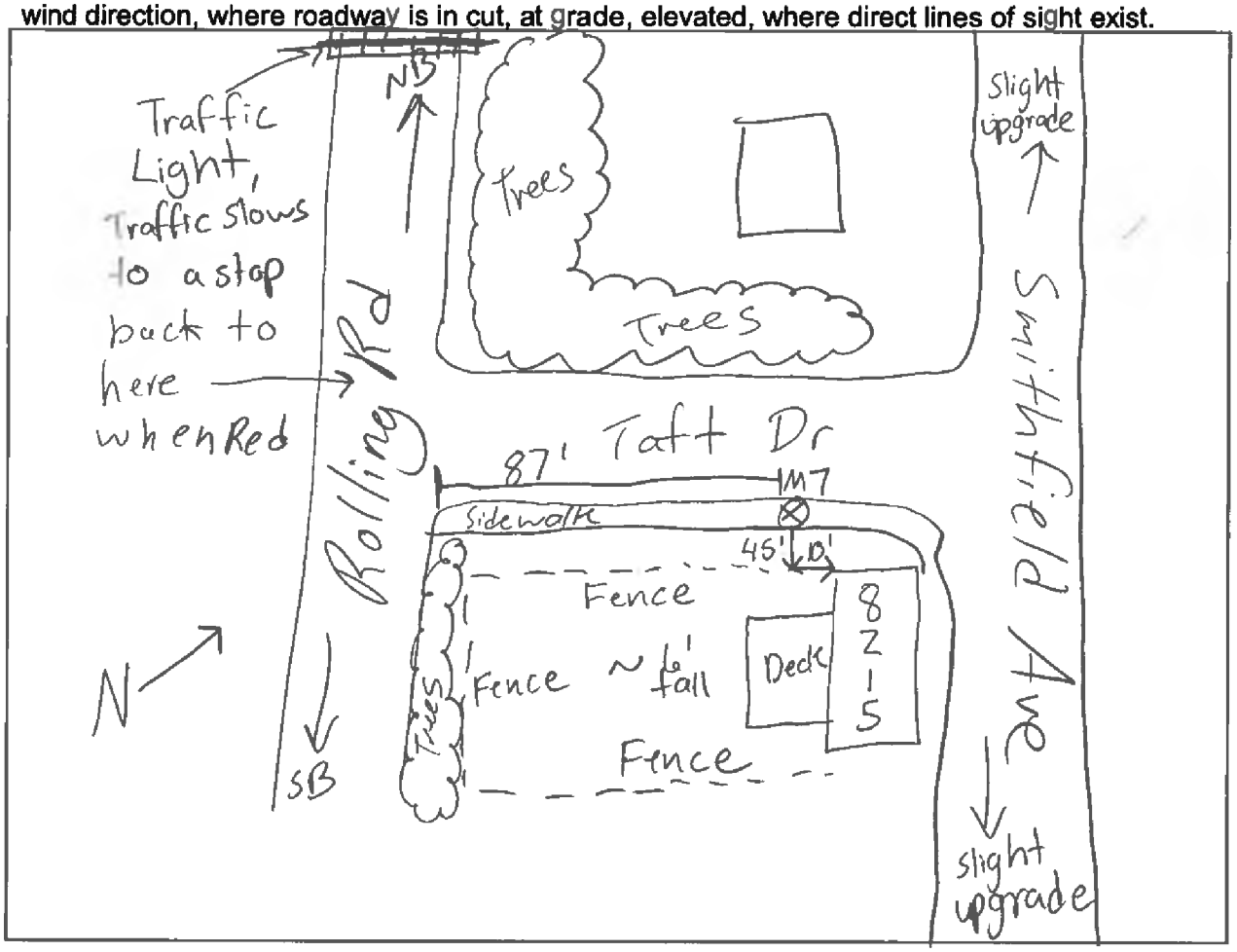
NOISE MONITOR: LD 824 #1 S/N: _____

MICROPHONE: _____ S/N: _____

CALIBRATOR: _____ S/N: _____

TEMP. RANGE (°F): 87-88°F WEATHER CONDITIONS: Calm, Clear,

SITE SKETCH: Show roadway, homes, local roads, reference distances, arrows for North & wind direction, where roadway is in cut, at grade, elevated, where direct lines of sight exist.



PHOTOS: _____ GPS COORDINATES: _____

HARRIS MILLER MILLER & HANSON INC.

Measurement Site M7

S ←
→ N

PROJECT: Rolling Road Phase 2 Design Study
JOB NO.: 309820.002

TRAFFIC VOLUME COUNT DATA SHEET

ASSESSMENT AREA: West Springfield
MEASUREMENT SITE NO.: M7
ADDRESS/DESCRIPTION: 8215 Smithfield Ave

START TIME: 1427
END TIME:
DATE: 10/3/18
PERSONNEL: HTJ/JMR

ROADWAY:		DIRECTION 1: North	DIRECTION 2: South
First Sample: 5 **minutes** **Start Time:** 1427			
	Automobiles	45	
	Medium Trucks (6 Tires)	0	
	Heavy Trucks (>6 Tires)	3	
	Average speed (mph)	27, 31, 33, 32, 34	
Second Sample: 5 **minutes** **Start Time:** 1433			
	Automobiles		29
	Medium Trucks (6 Tires)		2
	Heavy Trucks (>6 Tires)		1
	Average speed (mph)		30, 28, 27, 28, 31
Third Sample: 5 **minutes** **Start Time:** 1439			
	Automobiles	51	
	Medium Trucks (6 Tires)	0	
	Heavy Trucks (>6 Tires)	2	
	Average speed (mph)	28, 24, 26, 33, 30	
Fourth Sample: 5 **minutes** **Start Time:** 1445			
	Automobiles		50
	Medium Trucks (6 Tires)		0
	Heavy Trucks (>6 Tires)		0
	Average speed (mph)		28, 27, 28, 28, 29

SHORT-TERM NOISE MEASUREMENT DATA SHEET

PROJECT: Rolling Road Phase 2 Design Study

JOB NO.: 309820.002

MEASUREMENT SITE NO.: M8

PERSONNEL: HTJ/JMR

ADDRESS/DESCRIPTION: 8110 Birmingham Lane

DATE: 10/3/18

#	30 Minute Period Starting	Meas'd Leq (dBA)	√ or X	Autos	Medium Trucks	Heavy Trucks	Other Noise Sources	COMMENTS (Include Calibration Data)
1	3:18	61.1		|	|			
2	19	61.4		|				
3	20	59.9						
4	21	58.8						
5	22	61.6					Pedestrian	
6	23	54.9						
7	24	60.0						
8	25	60.3						
9	26	57.7		||			Pedestrian	
10	27	62.9		|			Car Radio, Motorcycle	
11	28	61.8						
12	29	57.4		|				
13	30	57.9						
14	31	60.6		||				
15	32	57.6						
16	33	59.1	✓				Aircraft (Distant)	
17	34	61.8		|				
18	35	57.4		||			Acorn landing on car roof	
19	36	58.3						
20	37	61.1						
21	38	61.4					Heavy Truck Passby	
22	39	53.0						
23	40	62.5		|				
24	41	62.5		|				
25	42	59.7		|			Distant Hedge Trimmers	
26	43	62.0					Loud Engine, Radio,	
27	44	59.8		|			Radio	
28	45	68.8		|			Coughing	
29	46	61.8						
30	47	61.6					Pedestrian	

Chec Cal: 113.

TOTAL Leq =

SUBSET Leq =

√ = Other sources contributed to Leq

X = Exclude period - contaminated by non-characteristic sources

>> ADD SKETCH AND WEATHER CONDITIONS TO REVERSE OR OTHER SHEET <<

HARRIS MILLER MILLER & HANSON INC.

PROJECT: Rolling Road Phase 2 Design Study

JOB NO.: 309820.002

SHORT-TERM NOISE MEASUREMENT SITE LOG

ASSESSMENT AREA: W. Springfield MEASUREMENT SITE NO.: _____

ADDRESS: 8110 Birmingham Lane

OWNER: ——

DESCRIPTION: Sidewalk

NOISE SOURCES: Rolling Road, Birds, Insects, Talking (Distant)

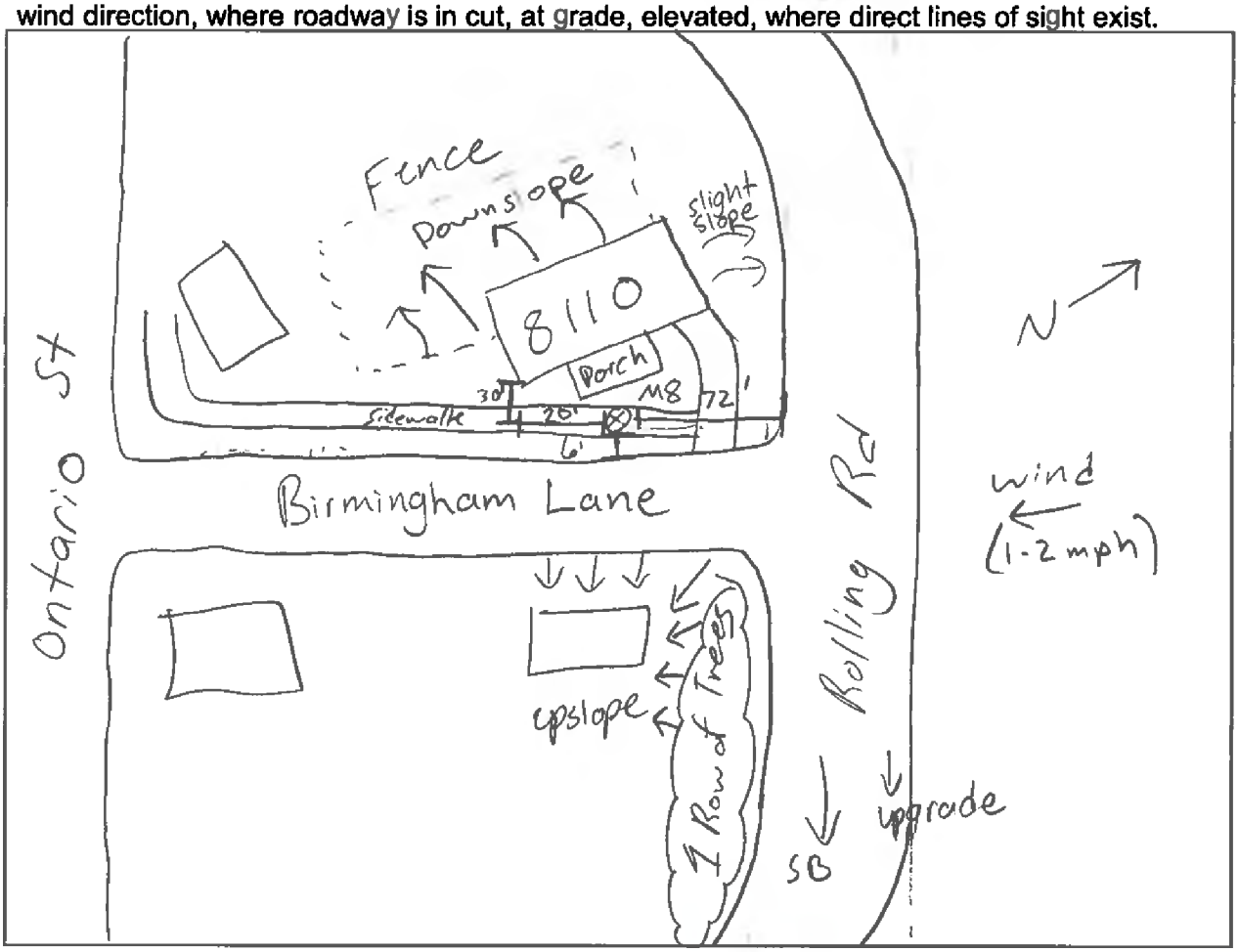
NOISE MONITOR: LD 824 #1 S/N: _____

MICROPHONE: _____ S/N: _____

CALIBRATOR: S/N: _____

TEMP. RANGE (°F): 84-85°F WEATHER CONDITIONS: Cloudy, Light Breeze (1-2' mph

SITE SKETCH: Show roadway, homes, local roads, reference distances, arrows for North & wind direction, where roadway is in cut, at grade, elevated, where direct lines of sight exist.



PHOTOS: _____ GPS COORDINATES: _____

Measurement Site M8

N ←
S →

PROJECT: Rolling Road Phase 2 Design Study
JOB NO.: 309820.002

TRAFFIC VOLUME COUNT DATA SHEET

ASSESSMENT AREA: West Springfield
MEASUREMENT SITE NO.: M8
ADDRESS/DESCRIPTION: 8110 Birmingham Lane

START TIME: 1518
END TIME:
DATE: 10/3/18
PERSONNEL: HTJ/JMR

ROADWAY:		DIRECTION 1: North	DIRECTION 2: South
First Sample: 5 **minutes** **Start Time:** 1518			
	Automobiles	55	
	Medium Trucks (6 Tires)	0	
	Heavy Trucks (>6 Tires)	0	
	Average speed (mph)	32, 27, 28, 31, 30	
Second Sample: 5 **minutes** **Start Time:** 1518			
	Automobiles		43
	Medium Trucks (6 Tires)		1
	Heavy Trucks (>6 Tires)		0
	Average speed (mph)		32, 36, 36, 28, 32
Third Sample: 5 **minutes** **Start Time:** 1518			
	Automobiles	62	
	Medium Trucks (6 Tires)	0	
	Heavy Trucks (>6 Tires)	0	
	Average speed (mph)	29, 27, 30, 30, 27	
Fourth Sample: 5 **minutes** **Start Time:** 1518			
	Automobiles		33
	Medium Trucks (6 Tires)		2
	Heavy Trucks (>6 Tires)		0
	Average speed (mph)		32, 32, 29, 32, 29

SHORT-TERM NOISE MEASUREMENT DATA SHEET

PROJECT: Rolling Road Phase 2 Design Study

JOB NO.: 309820.002

MEASUREMENT SITE NO.: M9

PERSONNEL: HTJ/JMR

ADDRESS/DESCRIPTION: 6907 Rolling Road on Springfield Village Dr

DATE: 10/4/18

File #009

#	30 Minute Period Starting	Meas'd Leq (dBA)	√ or X	Autos	Medium Trucks	Heavy Trucks	Other Noise Sources	COMMENTS (Include Calibration Data)
1	8:58	61.8					Lots of School Buses	Cal Check 114.1
2	59	59.2						
3	9:00	58.0		1				
4	01	57.2						
5	02	60.3		1				
6	03	58.3						
7	04	62.1	✓	1			School Bus	Accelerating, Radio
8	05	57.5		1				
9	06	60.6						
10	07	58.6						
11	08	55.9		1				
12	09	59.4					Distant Conversation	
13	10	60.0	✓					
14	11	59.7						
15	12	57.8					Car Door,	Starting, Pulling Away
16	13	64.2	X					, Garbage Truck
17	14	60.1		1111				
18	15	60.8						
19	16	58.3						
20	17	59.3						
21	18	60.5						
22	19	56.5		1				
23	20	60.8					Bird very close	
24	21	58.4						
25	22	59.6						
26	23	60.4						
27	24	59.9						
28	25	58.9	✓				Car Door	
29	26	59.8						Cal Check 114.1
30	27	59.2						

TOTAL Leq =

SUBSET Leq =

√ = Other sources contributed to Leq

X = Exclude period - contaminated by non-characteristic sources

>> ADD SKETCH AND WEATHER CONDITIONS TO REVERSE OR OTHER SHEET <<

HARRIS MILLER MILLER & HANSON INC.

PROJECT: Rolling Road Phase 2 Design Study

JOB NO.: 309820.002

SHORT-TERM NOISE MEASUREMENT SITE LOG

ASSESSMENT AREA: W. Springfield MEASUREMENT SITE NO.: M9

ADDRESS: 6907 Rolling Road

OWNER:

DESCRIPTION: Sidewalk

NOISE SOURCES: Rolling Rd, Birds, Insects, Springfield Village Traffic, School Buses

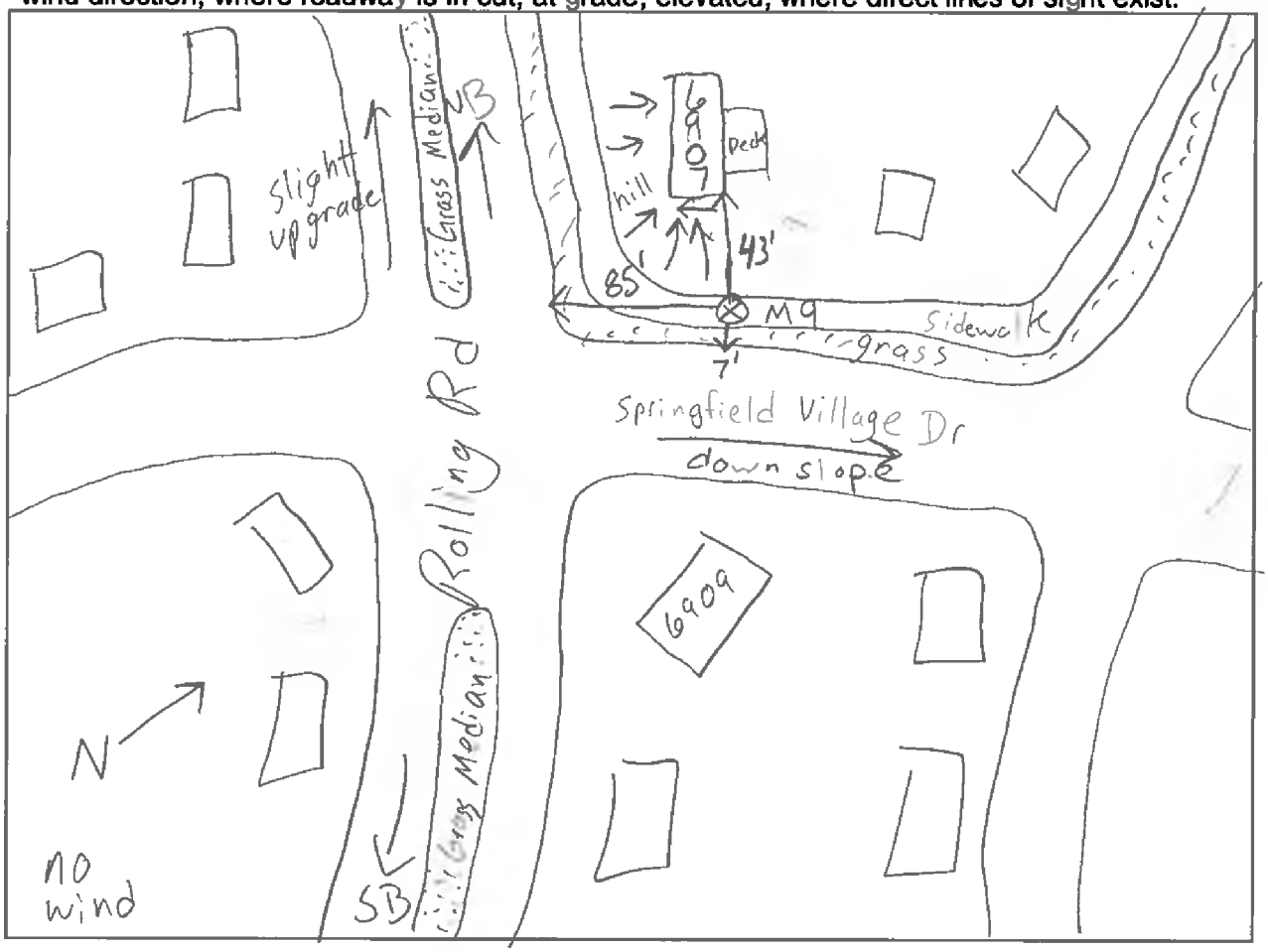
NOISE MONITOR: LD 824 #1 S/N:

MICROPHONE: S/N:

CALIBRATOR: S/N:

TEMP. RANGE (°F): 70°F WEATHER CONDITIONS: Foggy, Cool, Calm, no breeze

SITE SKETCH: Show roadway, homes, local roads, reference distances, arrows for North & wind direction, where roadway is in cut, at grade, elevated, where direct lines of sight exist.



PHOTOS: GPS COORDINATES:

HARRIS MILLER MILLER & HANSON INC.

Measurement Site M9

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PROJECT: Rolling Road Phase 2 Design Study
JOB NO.: 309820.002

TRAFFIC VOLUME COUNT DATA SHEET

ASSESSMENT AREA: West Springfield
MEASUREMENT SITE NO.: M9
ADDRESS/DESCRIPTION: 6907 Rolling Rd

START TIME: 0858
END TIME:
DATE: ~~10/4/18~~ 10/4/18
PERSONNEL: HTJ/JMR

ROADWAY:		DIRECTION 1: North	DIRECTION 2: South
First Sample: 5 **minutes** **Start Time:** 0858			
	Automobiles	53	
	Medium Trucks (6 Tires)	2	
	Heavy Trucks (>6 Tires)	2	
	Average speed (mph)	43, 41, 34, 35, 39	
Second Sample: 5 **minutes** **Start Time:** 0904			
	Automobiles		58
	Medium Trucks (6 Tires)		2
	Heavy Trucks (>6 Tires)		1
	Average speed (mph)		25, 30, 33, 33, 32
Third Sample: 5 **minutes** **Start Time:** 0910			
	Automobiles	61	
	Medium Trucks (6 Tires)	1	
	Heavy Trucks (>6 Tires)	2	
	Average speed (mph)	26, 36, 29, 35, 34	
Fourth Sample: 5 **minutes** **Start Time:** 0916			
	Automobiles		58
	Medium Trucks (6 Tires)		0
	Heavy Trucks (>6 Tires)		4
	Average speed (mph)		30, 32, 32, 31, 32

SHORT-TERM NOISE MEASUREMENT DATA SHEET

PROJECT: Rolling Road Phase 2 Design Study

JOB NO.: 309820.002

MEASUREMENT SITE NO.: M10

PERSONNEL: HTJ/JMR

ADDRESS/DESCRIPTION: 8101 Viola St

DATE: 10/4/18

File #010

#	30 Minute Period Starting	Meas'd Leq (dBA)	√ or X	Autos	Medium Trucks	Heavy Trucks	Other Noise Sources	COMMENTS (Include Calibration Data)
1	0944	65.8						Dump truck ~~turning~~ Cal Ch
2	45	65.2		1				Fast car overpassing 114.1
3	46	63.7		1				
4	47	63.1		1				
5	48	64.9			1			
6	49	65.0						
7	50	63.8		1	1			Fedex truck
8	51	66.3						School Buses
9	52	63.3		1				Distant Car Door
10	53	66.1						
11	54	65.8						Low neighborhood muscle car
12	55	64.3		1				
13	56	65.6						Garbage Truck
14	57	69.2	X	1				Lawn Mower, Garbage Tru
15	58	61.8						
16	59	66.7						
17	1000	64.1						
18	01	64.8						
19	02	64.4						
20	03	65.3						
21	04	67.4	X					Large Truck
22	05	65.4						
23	06	66.2						
24	07	66.2						
25	08	65.3						
26	09	65.1						
27	10	64.2						
28	11	64.7						
29	12	64.1		1				
30	13	65.1		1				

TOTAL Leq =

SUBSET Leq =

√ = Other sources contributed to Leq

X = Exclude period - contaminated by non-characteristic sources

>> ADD SKETCH AND WEATHER CONDITIONS TO REVERSE OR OTHER SHEET <<

HARRIS MILLER MILLER & HANSON INC.

SHORT-TERM NOISE MEASUREMENT DATA SHEET

PROJECT: Rolling Road Phase 2 Design Study

JOB NO.: 309820.002

MEASUREMENT SITE NO.: PERSONNEL: HTJ/JMR

ADDRESS/DESCRIPTION: DATE:

#	30 Minute Period Starting	Meas'd Leq (dBA)	√ or X	Autos	Medium Trucks	Heavy Trucks	Other Noise Sources	COMMENTS (Include Calibration Data)
31	1014	63.5						Landscaping, School Bus
32	15	66.2		11				Distant Landscaping, Screechy
33	16	63.7						Landscaping
34	17	62.1		1				Car door, car starting
35	18	61.3		11				
36	19	62.5		1	1			Landscape truck leaving
37	20	61.6		1				
38	21	63.3						Cal Che 114.1
39								
10								
11								
12								
13								
14								
15								
16								
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21								
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23								
24								
25								
26								
27								
28								
29								
30								

TOTAL Leq = SUBSET Leq =

√ = Other sources contributed to Leq X = Exclude period - contaminated by non-characteristic sources

>> ADD SKETCH AND WEATHER CONDITIONS TO REVERSE OR OTHER SHEET <<

HARRIS MILLER MILLER & HANSON INC.

PROJECT: Rolling Road Phase 2 Design Study

JOB NO.: 309820.002

SHORT-TERM NOISE MEASUREMENT SITE LOG

ASSESSMENT AREA: West Springfield MEASUREMENT SITE NO.: M10

ADDRESS: 8101 Viola St

OWNER:

DESCRIPTION: SF Suburban Home

NOISE SOURCES: Insects, Rolling Road, Viola St

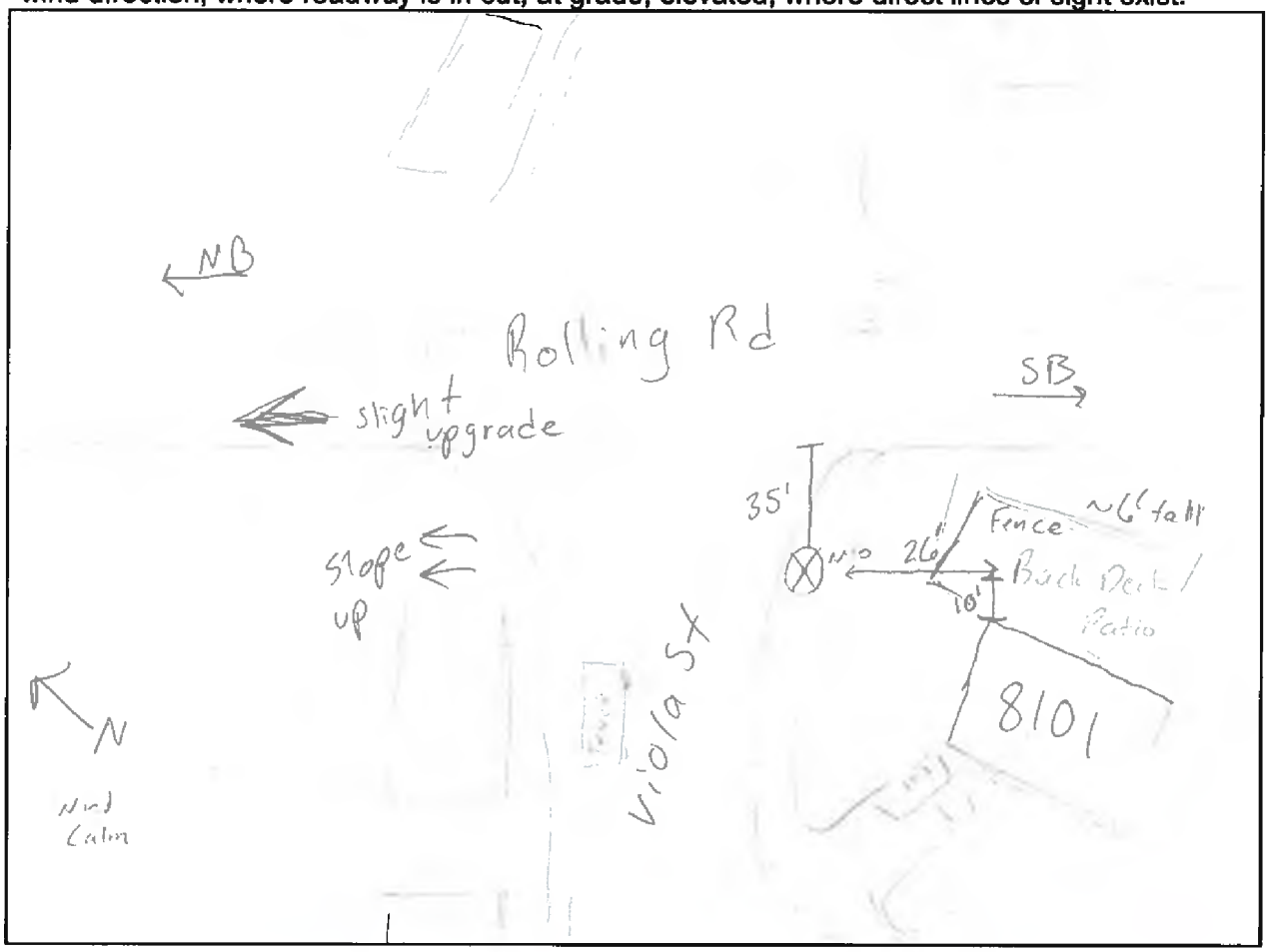
NOISE MONITOR: LD 824 S/N:

MICROPHONE: S/N:

CALIBRATOR: S/N:

TEMP. RANGE (°F): 71.4 WEATHER CONDITIONS: calm wind, low humidity, clear skys

SITE SKETCH: Show roadway, homes, local roads, reference distances, arrows for North & wind direction, where roadway is in cut, at grade, elevated, where direct lines of sight exist.



PHOTOS: GPS COORDINATES:

Measurement Site M10

PROJECT: Rolling Road Phase 2 Design Study
JOB NO.: 309820.002

TRAFFIC VOLUME COUNT DATA SHEET

ASSESSMENT AREA: W. Springfield
MEASUREMENT SITE NO.: M10
ADDRESS/DESCRIPTION: 8101 Viola St

START TIME: 9:45 AM
END TIME: 10:07 AM
DATE: 10/4/18
PERSONNEL: HTJ/JMR

ROADWAY: Rolling Road

	DIRECTION 1: NB	DIRECTION 2: SB
First Sample: 5 minutes, **Start Time:** 9:45		
Automobiles	48	
Medium Trucks (6 Tires)	1	
Heavy Trucks (>6 Tires)	1	
Average speed (mph)	36, 30, 33, 34, 35, 32, 33, 37, 34	
Second Sample: 5 minutes, **Start Time:** 9:50		
Automobiles		45
Medium Trucks (6 Tires)		2
Heavy Trucks (>6 Tires)		0
Average speed (mph)		34, 35, 35, 31, 37, 38, 39, 30, 34
Third Sample: 5 minutes, **Start Time:** 9:56		
Automobiles	38	
Medium Trucks (6 Tires)	0	
Heavy Trucks (>6 Tires)	2	
Average speed (mph)	37, 34, 35, 32, 34,	36, 35, 34
Fourth Sample: 5 minutes, **Start Time:** 10:02		
Automobiles		62
Medium Trucks (6 Tires)		0
Heavy Trucks (>6 Tires)		1
Average speed (mph)	32, 36, 35, 34,	30, 30, 35, 35, 34

SHORT-TERM NOISE MEASUREMENT DATA SHEET

PROJECT: Rolling Road Phase 2 Design Study

JOB NO.: 309820.002

MEASUREMENT SITE NO.: M11 PERSONNEL: HTJ/JMR

ADDRESS/DESCRIPTION: 8015 Daffodil Court DATE: 10/4/18

File #012

#	30 Minute Period Starting	Meas'd Leq (dBA)	√ or X	Autos	Medium Trucks	Heavy Trucks	Other Noise Sources	COMMENTS (Include Calibration Data)
1	11:22	48.4	X					Distant Aircraft
2	123	52.7	X					↓ ↓ ↓ ↓
3	24	53.6	X					Aircraft
4	25	50.6	✓				Car Starting,	Pulling Away
5	26	55.2	X				Mail Truck,	Idling
6	27	50.8	✓				Mail Truck	Backing Up
7	28	51.3						
8	29	51.7						
9	30	49.1					Aircraft	
10	31	56.5	X				↑	↑ ↑
11	32	52.1					Mail Truck	Starting, Pulling Away
12	33	54.2	X				Aircraft	
13	34	51.4	✓				↓	↓
14	35	49.8						
15	36	47.6						
16	37	47.4						
17	38	50.0						
18	39	48.7						
19	40	47.9						
20	41	47.5	✓				Garage Door	Opens, Mail Box Slam
21	42	46.2						
22	43	51.0					Car Door,	Pulling Away, Aircraft
23	44	51.1						
24	45	52.0					Car Starting,	Idling, Dog Barking
25	46	50.1					Dog Still Barking (Indoors, Faint),	
26	47	46.6						
27	48	50.0						
28	49	49.4					Distant Aircraft	
29	50	49.6						
30	51	50.5	X				Aircraft (x2),	Car Door

Cal Chec

Cal Chec

113.

TOTAL Leq = SUBSET Leq =

√ = Other sources contributed to Leq X = Exclude period - contaminated by non-characteristic sources

>> ADD SKETCH AND WEATHER CONDITIONS TO REVERSE OR OTHER SHEET <<

HARRIS MILLER MILLER & HANSON INC.

PROJECT: Rolling Road Phase 2 Design Study

JOB NO.: 309820.002

SHORT-TERM NOISE MEASUREMENT SITE LOG

ASSESSMENT AREA: W. Springfield MEASUREMENT SITE NO.: M11

ADDRESS: 8015 Daffodil Court

OWNER: ——

DESCRIPTION: Cul-de-sac sidewalk

NOISE SOURCES: Rolling Road, Birds, Insects, Distant Aircraft

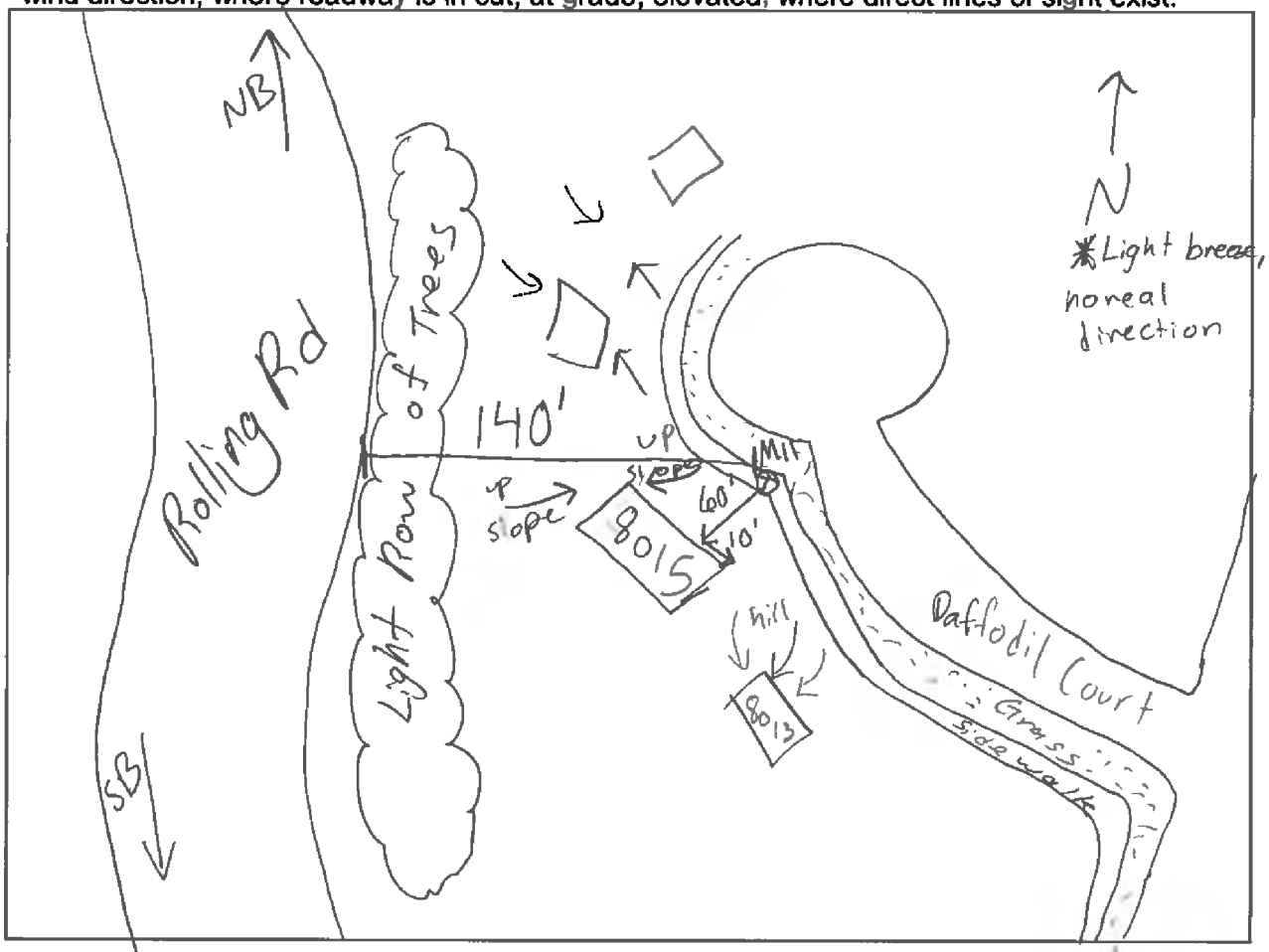
NOISE MONITOR: LD 824 #1 S/N:

MICROPHONE: S/N:

CALIBRATOR: S/N:

TEMP. RANGE (°F): 81°F WEATHER CONDITIONS: Sunny, Clear, Light Breeze (1-2mph)

SITE SKETCH: Show roadway, homes, local roads, reference distances, arrows for North & wind direction, where roadway is in cut, at grade, elevated, where direct lines of sight exist.



PHOTOS: _____ GPS COORDINATES: _____

Measurement Site M11

PROJECT: Rolling Road Phase 2 Design Study
JOB NO.: 309820.002

TRAFFIC VOLUME COUNT DATA SHEET

ASSESSMENT AREA: West Springfield
MEASUREMENT SITE NO.: M11
ADDRESS/DESCRIPTION: 8015 Daffodil Ct

START TIME: 1122
END TIME: 1152
DATE: 10/4/18
PERSONNEL: HTJ/JMR

ROADWAY:		DIRECTION 1: North	DIRECTION 2: South
First Sample: 5 **minutes** **Start Time:** 1122			
	Automobiles	49	
	Medium Trucks (6 Tires)	4	
	Heavy Trucks (>6 Tires)	0	
	Average speed (mph)	29, 32, 32, 30, 29	
Second Sample: 5 **minutes** **Start Time:** 1129			
	Automobiles		55
	Medium Trucks (6 Tires)		7
	Heavy Trucks (>6 Tires)		1
	Average speed (mph)		35, 34, 29, 27, 27
Third Sample: 5 **minutes** **Start Time:** 1136			
	Automobiles	32	
	Medium Trucks (6 Tires)	0	
	Heavy Trucks (>6 Tires)	0	
	Average speed (mph)	28, 30, 28, 28, 27	
Fourth Sample: 5 **minutes** **Start Time:** 1143			
	Automobiles		47
	Medium Trucks (6 Tires)		3
	Heavy Trucks (>6 Tires)		1
	Average speed (mph)		35, 34, 33, 32, 32

SHORT-TERM NOISE MEASUREMENT DATA SHEET

PROJECT: Rolling Road Phase 2 Design Study

JOB NO.: 309820.002

MEASUREMENT SITE NO.: M12

PERSONNEL: HTJ/JMR

ADDRESS/DESCRIPTION: 7115 Tamworth Drive

DATE: 10/4/18

File #011

#	30 Minute Period Starting	Meas'd Leq (dBA)	√ or X	Autos	Medium Trucks	Heavy Trucks	Other Noise Sources	COMMENTS (Include Calibration Data)
1	1040	54.8						
2	41	51.4						
3	42	51.1						
4	43	52.1						Birds, plane, distant sneeze
5	44	52.4						
6	45	53.4						Loud truck
7	46	54.5						
8	47	52.7						
9	48	50.9						
10	49	54.1						
11	50	55.3						
12	51	53.1						
13	52	52.9						Distant talking, Car door
14	53	53.3		1				Car starting, Distant talking
15	54	53.6						Car door
16	55	52.6						
17	56	50.6						
18	57	50.4						
19	58	53.4						
20	59	51.3						
21	1100	52.4			1			Large Ryder truck in Dista
22	01	53.6						
23	02	54.5						
24	03	52.8						
25	04	52.0						
26	05	52.5						
27	06	51.7						Phonecall of denizen
28	07	54.0						Car door
29	08	53.7		1				Car start & leave
30	09	51.1						

Cal Ch 114.1

Cal Ch 114.0

TOTAL Leq =

SUBSET Leq =

√ = Other sources contributed to Leq

X = Exclude period - contaminated by non-characteristic sources

>> ADD SKETCH AND WEATHER CONDITIONS TO REVERSE OR OTHER SHEET <<

HARRIS MILLER MILLER & HANSON INC.

PROJECT: Rolling Road Phase 2 Design Study

JOB NO.: 309820.002

SHORT-TERM NOISE MEASUREMENT SITE LOG

ASSESSMENT AREA: West Springfield MEASUREMENT SITE NO.: M12

ADDRESS: 7115 Tanworth Drive

OWNER:

DESCRIPTION:

NOISE SOURCES: Rolling Road, Tanworth Drive, Tributaries

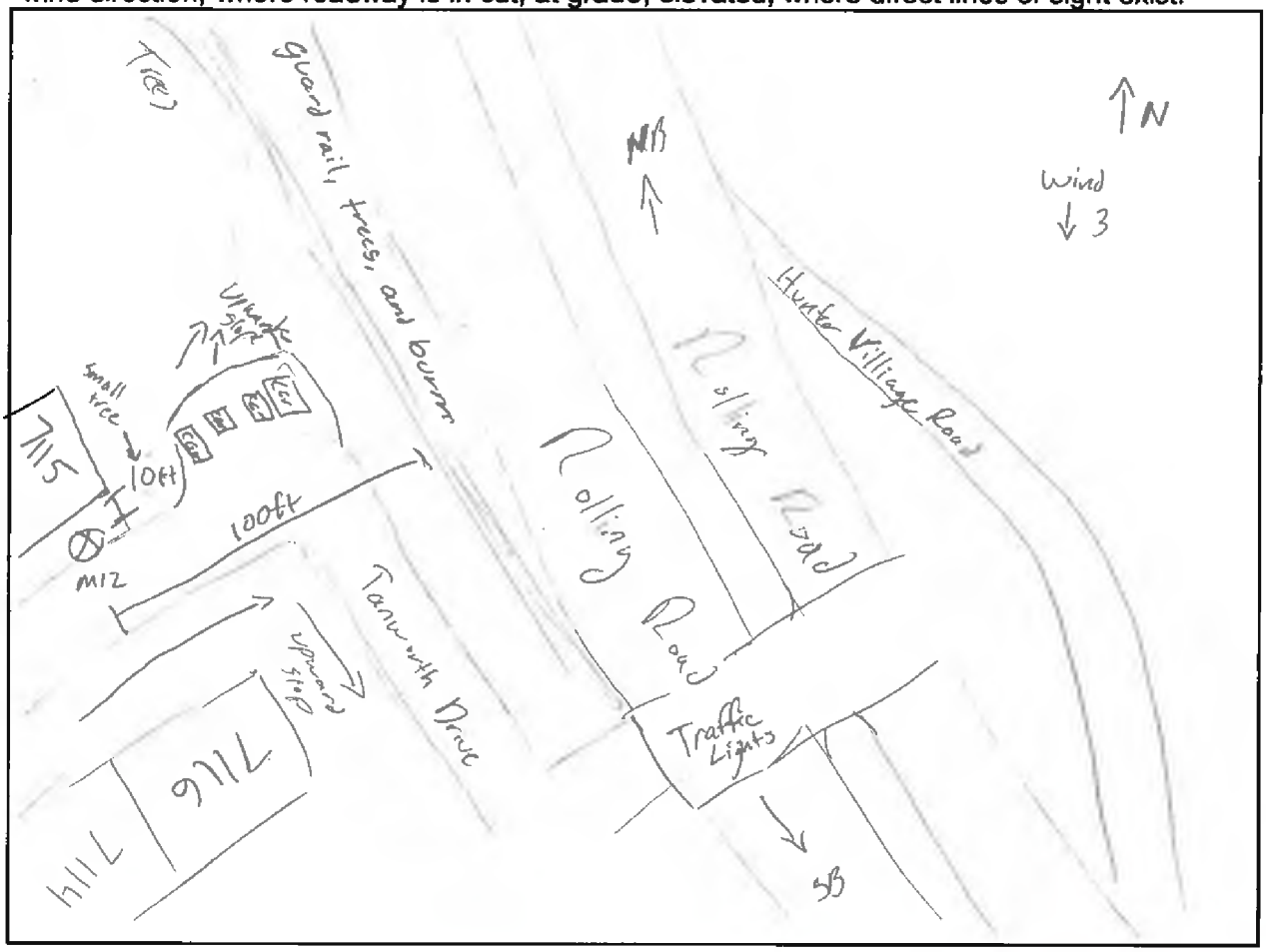
NOISE MONITOR: LD 824 S/N:

MICROPHONE: S/N:

CALIBRATOR: S/N:

TEMP. RANGE (°F): 78 - 84 WEATHER CONDITIONS: Wind calm, low humidity, clear skies

SITE SKETCH: Show roadway, homes, local roads, reference distances, arrows for North & wind direction, where roadway is in cut, at grade, elevated, where direct lines of sight exist.



PHOTOS: GPS COORDINATES:

HARRIS MILLER MILLER & HANSON INC.

Measurement Site M12

PROJECT: Rolling Road Phase 2 Design Study
JOB NO.: 309820.002

TRAFFIC VOLUME COUNT DATA SHEET

ASSESSMENT AREA: W. Springfield
MEASUREMENT SITE NO.: M12
ADDRESS/DESCRIPTION: 7115 Tamworth Dr Townhouses

START TIME: 10:40 AM
END TIME:
DATE: 10/4/18
PERSONNEL: HTJ/JMR

ROADWAY: Rolling Rd

	DIRECTION 1: NB	DIRECTION 2: SB
First Sample: 5 minutes, **Start Time:** 10:40		
Automobiles	42	
Medium Trucks (6 Tires)	1	
Heavy Trucks (>6 Tires)	0	
Average speed (mph)	37, 36, 28, 22, 24, 34, 35, 35	
Second Sample: 5 minutes, **Start Time:** 10:47		
Automobiles		50
Medium Trucks (6 Tires)		0
Heavy Trucks (>6 Tires)		0
Average speed (mph)	47, 46, 48, 47, 41, 35, 35, 40, 4	41, 42
Intersection		
Third Sample: 5 minutes, **Start Time:** 10:54		
Automobiles	33	
Medium Trucks (6 Tires)	1	
Heavy Trucks (>6 Tires)	0	
Average speed (mph)	41, 40, 44, 30, 42, 41, 43, 44, 44, 4	
Fourth Sample: 5 minutes, **Start Time:** 11:00		
Automobiles		37
Medium Trucks (6 Tires)		0
Heavy Trucks (>6 Tires)		0
Average speed (mph)	48, 47, 41, 43, 35, 37, 39, 43	

Site Number	M1
Location:	8301 Kenwood Ave
Date:	10/3/2018
Start Time:	9:05
Duration (min):	30

VALIDATION SOUND LEVEL

Time	Overall Leq	Traffic-only Leq	Seconds Excluded	Comment
9:05	62.1	62.1		
9:06	59.3	59.3		
9:07	69.3	69.3		
9:08	57.8	57.8		
9:09	62.2	62.2		
9:10	65.2	65.2		
9:11	59.1	59.1		
9:12	62.7	62.7		
9:13	73.7	63.5	12	0
9:14	65.5	63.6	6	0
9:15	63.4	63.4		
9:16	62.8	62.8		
9:17	59.0	59.0		
9:18	63.8	63.8		
9:19	62.8	62.8		
9:20	57.7	57.7		
9:21	65.8	65.8		
9:22	62.0	62.0		
9:23	60.9	60.9		
9:24	65.4	65.4		
9:25	61.4	61.4		
9:26	62.2	62.2		
9:27	64.4	64.4		
9:28	60.7	60.7		
9:29	62.6	62.6		
9:30	63.3	63.3		
9:31	62.7	62.7		
9:32	59.8	59.8		
9:33	64.5	64.5		
9:34	62.8	62.8		
30 Minute Leq	**64.5**	**63.2**	**18**	
		Percentage Excluded	**1.0%**	

TRAFFIC INPUT

Data Entry Table

Roadway	Direction	VehicleType	Total_Lookup	VehType_Lookup	Start_Time	Duration	Count	Speed
Rolling_Rd	NB	A	Rolling_Rd_NB	Rolling_Rd_NB_A	9:05	5	68	28
Rolling_Rd	NB	MT	Rolling_Rd_NB	Rolling_Rd_NB_MT	9:05	5	7	28
Rolling_Rd	NB	HT	Rolling_Rd_NB	Rolling_Rd_NB_HT	9:05	5	3	28
Rolling_Rd	SB	A	Rolling_Rd_SB	Rolling_Rd_SB_A	9:11	5	45	33
Rolling_Rd	SB	MT	Rolling_Rd_SB	Rolling_Rd_SB_MT	9:11	5	2	33
Rolling_Rd	SB	HT	Rolling_Rd_SB	Rolling_Rd_SB_HT	9:11	5	5	33
Old_Keene_Mill_Rd	EB	A	Old_Keene_Mill_Rd_EB	Old_Keene_Mill_Rd_EB_A	9:17	5	99	33
Old_Keene_Mill_Rd	EB	MT	Old_Keene_Mill_Rd_EB	Old_Keene_Mill_Rd_EB_MT	9:17	5	4	33
Old_Keene_Mill_Rd	EB	HT	Old_Keene_Mill_Rd_EB	Old_Keene_Mill_Rd_EB_HT	9:17	5	1	33
Old_Keene_Mill_Rd	WB	A	Old_Keene_Mill_Rd_WB	Old_Keene_Mill_Rd_WB_A	9:24	5	70	37
Old_Keene_Mill_Rd	WB	MT	Old_Keene_Mill_Rd_WB	Old_Keene_Mill_Rd_WB_MT	9:24	5	5	37
Old_Keene_Mill_Rd	WB	HT	Old_Keene_Mill_Rd_WB	Old_Keene_Mill_Rd_WB_HT	9:24	5	3	37
Kenwood_Ave	NB-SB	A	Kenwood_Ave_NB-SB	Kenwood_Ave_NB-SB_A	9:05	30	27	25
Kenwood_Ave	NB-SB	MT	Kenwood_Ave_NB-SB	Kenwood_Ave_NB-SB_MT	9:05	30	2	25
Kenwood_Ave	NB-SB	HT	Kenwood_Ave_NB-SB	Kenwood_Ave_NB-SB_HT	9:05	30	0	25

Site Number	M2
Location:	6401 Rivington Road
Date:	10/3/2018
Start Time:	9:51
Duration (min):	30

VALIDATION SOUND LEVEL

Time	Overall Leq	Traffic-only Leq	Seconds Excluded	Comment
9:51	58.8	58.8		
9:52	60.7	60.7		
9:53	56.6	56.6		
9:54	56.3	56.3		
9:55	56.9	56.9		
9:56	55.6	55.6		
9:57	57.3	57.3		
9:58	56.3	56.3		
9:59	59.8	59.8		
10:00	56.7	56.7		
10:01	57.3	57.3		
10:02	54.7	54.7		
10:03	57.7	57.7		
10:04	55.4	55.4		
10:05	57.8	57.8		
10:06	54.8	54.8		
10:07	58.5	58.5		
10:08	54.8	54.8		
10:09	57.1	57.1		
10:10	55.5	55.5		
10:11	57.0	57.0		
10:12	56.9	56.9		
10:13	57.0	57.0		
10:14	54.5	54.5		
10:15	56.4	56.4		
10:16	55.7	55.7		
10:17	57.1	57.1		
10:18	56.5	56.5		
10:19	58.1	58.1		
10:20	55.1	55.1		
30 Minute Leq	**57.0**	**57.0**	**0**	
		Percentage Excluded	**0.0%**	

TRAFFIC INPUT

Data Entry Table

Roadway	Direction	VehicleType	Total_Lookup	VehType_Lookup	Start_Time	Duration	Count	Speed
Rolling_Rd	NB	A	Rolling_Rd_NB	Rolling_Rd_NB_A	9:51	5	56	28
Rolling_Rd	NB	MT	Rolling_Rd_NB	Rolling_Rd_NB_MT	9:51	5	4	28
Rolling_Rd	NB	HT	Rolling_Rd_NB	Rolling_Rd_NB_HT	9:51	5	2	28
Rolling_Rd	SB	A	Rolling_Rd_SB	Rolling_Rd_SB_A	9:57	5	31	33
Rolling_Rd	SB	MT	Rolling_Rd_SB	Rolling_Rd_SB_MT	9:57	5	1	33
Rolling_Rd	SB	HT	Rolling_Rd_SB	Rolling_Rd_SB_HT	9:57	5	3	33
Rolling_Rd	NB	A	Rolling_Rd_NB	Rolling_Rd_NB_A	10:03	5	31	33
Rolling_Rd	NB	MT	Rolling_Rd_NB	Rolling_Rd_NB_MT	10:03	5	1	33
Rolling_Rd	NB	HT	Rolling_Rd_NB	Rolling_Rd_NB_HT	10:03	5	3	33
Rolling_Rd	SB	A	Rolling_Rd_SB	Rolling_Rd_SB_A	10:08	5	45	37
Rolling_Rd	SB	MT	Rolling_Rd_SB	Rolling_Rd_SB_MT	10:08	5	1	37
Rolling_Rd	SB	HT	Rolling_Rd_SB	Rolling_Rd_SB_HT	10:08	5	0	37
Rivington_Rd	NB-SB	A	Rivington_Rd_NB-SB	Rivington_Rd_NB-SB_A	9:51	30	14	25
Rivington_Rd	NB-SB	MT	Rivington_Rd_NB-SB	Rivington_Rd_NB-SB_MT	9:51	30	0	25
Rivington_Rd	NB-SB	HT	Rivington_Rd_NB-SB	Rivington_Rd_NB-SB_HT	9:51	30	1	25

Site Number	M3
Location:	8261 Taunton Place
Date:	10/3/2018
Start Time:	10:34
Duration (min):	30

VALIDATION SOUND LEVEL

Time	Overall Leq	Traffic-only Leq	Seconds Excluded	Comment
10:34	62.9	62.9		
10:35	65.5	65.5		
10:36	65.4	65.4		
10:37	63.7	63.7		
10:38	63.3	63.3		
10:39	65.3	65.3		
10:40	59.4	59.4		
10:41	64.3	64.3		
10:42	62.4	62.4		
10:43	65.7	65.7		
10:44	63.5	63.5		
10:45	63.0	63.0		
10:46	64.7	64.7		
10:47	63.3	63.3		
10:48	62.2	62.2		
10:49	64.3	64.3		
10:50	63.9	63.9		
10:51	63.1	63.1		
10:52	62.1	62.1		
10:53	65.9	65.9		
10:54	63.6	63.6		
10:55	63.6	63.6		
10:56	63.8	63.8		
10:57	65.4	65.4		
10:58	63.3	63.3		
10:59	63.0	63.0		
11:00	64.1	64.1		
11:01	64.0	64.0		
11:02	66.4	66.4		
11:03	64.5	64.5		
30 Minute Leq	**64.1**	**64.1**	**0**	
		Percentage Excluded	**0.0%**	

TRAFFIC INPUT

Data Entry Table

Roadway	Direction	VehicleType	Total_Lookup	VehType_Lookup	Start_Time	Duration	Count	Speed
Rolling_Rd	NB	A	Rolling_Rd_NB	Rolling_Rd_NB_A	10:34	5	44	31
Rolling_Rd	NB	MT	Rolling_Rd_NB	Rolling_Rd_NB_MT	10:34	5	1	31
Rolling_Rd	NB	HT	Rolling_Rd_NB	Rolling_Rd_NB_HT	10:34	5	0	31
Rolling_Rd	SB	A	Rolling_Rd_SB	Rolling_Rd_SB_A	10:39	5	40	33
Rolling_Rd	SB	MT	Rolling_Rd_SB	Rolling_Rd_SB_MT	10:39	5	2	33
Rolling_Rd	SB	HT	Rolling_Rd_SB	Rolling_Rd_SB_HT	10:39	5	0	33
Rolling_Rd	NB	A	Rolling_Rd_NB	Rolling_Rd_NB_A	10:45	5	49	33
Rolling_Rd	NB	MT	Rolling_Rd_NB	Rolling_Rd_NB_MT	10:45	5	4	33
Rolling_Rd	NB	HT	Rolling_Rd_NB	Rolling_Rd_NB_HT	10:45	5	0	33
Rolling_Rd	SB	A	Rolling_Rd_SB	Rolling_Rd_SB_A	10:51	5	41	29
Rolling_Rd	SB	MT	Rolling_Rd_SB	Rolling_Rd_SB_MT	10:51	5	1	29
Rolling_Rd	SB	HT	Rolling_Rd_SB	Rolling_Rd_SB_HT	10:51	5	0	29
Taunton_Place	NB-SB	A	Taunton_Place_NB-SB	Taunton_Place_NB-SB_A	10:34	30	9	25
Taunton_Place	NB-SB	MT	Taunton_Place_NB-SB	Taunton_Place_NB-SB_MT	10:34	30	1	25
Taunton_Place	NB-SB	HT	Taunton_Place_NB-SB	Taunton_Place_NB-SB_HT	10:34	30	1	25

Site Number	M4
Location:	8209 Marcey Ave
Date:	10/3/2018
Start Time:	12:02
Duration (min):	30

VALIDATION SOUND LEVEL

Time	Overall Leq	Traffic-only Leq	Seconds Excluded	Comment
12:02	51.7	51.7		
12:03	51.9	51.9		
12:04	51.7	51.7		
12:05	50.4	50.4		
12:06	53.6	53.6		
12:07	52.6	52.6		
12:08	54.8	54.8		
12:09	51.5	51.5		
12:10	50.4	50.4		
12:11	53.2	53.2		
12:12	52.4	52.4		
12:13	52.3	52.3		
12:14	51.6	51.6		
12:15	50.6	50.6		
12:16	52.5	52.5		
12:17	51.3	51.3		
12:18	53.6	53.6		
12:19	52.4	52.4		
12:20	55.2	54.6	34	0
12:21	52.2	52.2		
12:22	51.3	51.3		
12:23	50.9	50.9		
12:24	51.8	51.8		
12:25	53.2	53.2		
12:26	72.5	61.8	37	0
12:27	72.9	57.5	39	0
12:28	54.3	54.3		
12:29	51.1	51.1		
12:30	51.5	51.5		
12:31	49.7	49.7		
30 Minute Leq	**61.5**	**52.8**	**110**	
		Percentage Excluded	**6.1%**	

TRAFFIC INPUT

Data Entry Table

Roadway	Direction	VehicleType	Total_Lookup	VehType_Lookup	Start_Time	Duration	Count	Speed
Rolling_Rd	NB	A	Rolling_Rd_NB	Rolling_Rd_NB_A	10:34	5	42	28
Rolling_Rd	NB	MT	Rolling_Rd_NB	Rolling_Rd_NB_MT	10:34	5	1	28
Rolling_Rd	NB	HT	Rolling_Rd_NB	Rolling_Rd_NB_HT	10:34	5	1	28
Rolling_Rd	SB	A	Rolling_Rd_SB	Rolling_Rd_SB_A	10:39	5	46	32
Rolling_Rd	SB	MT	Rolling_Rd_SB	Rolling_Rd_SB_MT	10:39	5	0	32
Rolling_Rd	SB	HT	Rolling_Rd_SB	Rolling_Rd_SB_HT	10:39	5	0	32
Rolling_Rd	NB	A	Rolling_Rd_NB	Rolling_Rd_NB_A	10:45	5	40	40
Rolling_Rd	NB	MT	Rolling_Rd_NB	Rolling_Rd_NB_MT	10:45	5	1	40
Rolling_Rd	NB	HT	Rolling_Rd_NB	Rolling_Rd_NB_HT	10:45	5	1	40
Location:	8209 Marcey Ave							
Date:	10/3/2018							
Start Time:	12:02							
Duration (min):	30							
VALIDATION SOUND LEVEL								

Site Number	M5
Location:	8300 Greeley Blvd
Date:	10/3/2018
Start Time:	11:20
Duration (min):	30

VALIDATION SOUND LEVEL

Time	Overall Leq	Traffic-only Leq	Seconds Excluded	Comment
11:20	58.2	58.2		
11:21	58.7	58.7		
11:22	58.5	58.5		
11:23	56.8	56.8		
11:24	61.2	61.2		
11:25	57.9	57.9		
11:26	60.7	60.7		
11:27	59.4	59.4		
11:28	59.1	59.1		
11:29	60.8	60.8		
11:30	61.8	61.8		
11:31	56.9	56.9		
11:32	57.7	57.7		
11:33	58.4	58.4		
11:34	60.4	60.4		
11:35	59.6	59.6		
11:36	59.6	59.6		
11:37	57.4	57.4		
11:38	60.7	60.7		
11:39	59.9	59.9		
11:40	58.2	58.2		
11:41	59.1	59.1		
11:42	59.3	59.3		
11:43	56.2	56.2		
11:44	61.7	61.7		
11:45	58.6	58.6		
11:46	60.6	60.6		
11:47	58.5	58.5		
11:48	58.3	58.3		
11:49	57.1	57.1		
30 Minute Leq	**59.3**	**59.3**	**0**	
		Percentage Excluded	**0.0%**	

TRAFFIC INPUT

Data Entry Table

Roadway	Direction	VehicleType	Total_Lookup	VehType_Lookup	Start_Time	Duration	Count	Speed
Rolling_Rd	NB	A	Rolling_Rd_N	Rolling_Rd_NB_A	11:20	5	34	42
Rolling_Rd	NB	MT	Rolling_Rd_N	Rolling_Rd_NB_MT	11:20	5	0	42
Rolling_Rd	NB	HT	Rolling_Rd_N	Rolling_Rd_NB_HT	11:20	5	0	42
Rolling_Rd	SB	A	Rolling_Rd_S	Rolling_Rd_SB_A	11:26	5	47	38
Rolling_Rd	SB	MT	Rolling_Rd_S	Rolling_Rd_SB_MT	11:26	5	2	38
Rolling_Rd	SB	HT	Rolling_Rd_S	Rolling_Rd_SB_HT	11:26	5	1	38
Rolling_Rd	NB	A	Rolling_Rd_N	Rolling_Rd_NB_A	11:32	5	35	39
Rolling_Rd	NB	MT	Rolling_Rd_N	Rolling_Rd_NB_MT	11:32	5	2	39
Rolling_Rd	NB	HT	Rolling_Rd_N	Rolling_Rd_NB_HT	11:32	5	1	39
Rolling_Rd	SB	A	Rolling_Rd_S	Rolling_Rd_SB_A	11:37	5	52	40
Rolling_Rd	SB	MT	Rolling_Rd_S	Rolling_Rd_SB_MT	11:37	5	1	40
Rolling_Rd	SB	HT	Rolling_Rd_S	Rolling_Rd_SB_HT	11:37	5	0	40
Greeley_Blvd	NB-SB	A	Greeley_Blvd	Greeley_Blvd_NB-SB_A	11:20	30	8	25
Greeley_Blvd	NB-SB	MT	Greeley_Blvd	Greeley_Blvd_NB-SB_MT	11:20	30	3	25
Greeley_Blvd	NB-SB	HT	Greeley_Blvd	Greeley_Blvd_NB-SB_HT	11:20	30	2	25

Site Number	M6
Location:	8237 Smithfield Ave
Date:	10/3/2018
Start Time:	13:43
Duration (min):	30

VALIDATION SOUND LEVEL

Time	Overall Leq	Traffic-only Leq	Seconds Excluded	Comment
13:43	62.3	62.3		
13:44	61.3	61.3		
13:45	58.9	58.9		
13:46	63.1	63.1		
13:47	59.7	59.7		
13:48	63.0	63.0		
13:49	61.5	61.5		
13:50	63.8	63.8		
13:51	61.3	61.3		
13:52	63.2	63.2		
13:53	60.2	60.2		
13:54	63.7	63.7		
13:55	63.9	63.9		
13:56	62.8	62.8		
13:57	60.6	60.6		
13:58	65.2	65.2		
13:59	68.6	68.6		
14:00	64.0	64.0		
14:01	63.9	63.9		
14:02	64.7	64.7		
14:03	60.2	60.2		
14:04	61.8	61.8		
14:05	62.7	62.7		
14:06	66.9	66.9		
14:07	59.8	59.8		
14:08	61.6	61.6		
14:09	61.8	61.8		
14:10	63.1	63.1		
14:11	62.6	62.6		
14:12	64.7	64.7		
30 Minute Leq	**63.2**	**63.2**	**0**	
		Percentage Excluded	**0.0%**	

TRAFFIC INPUT

Data Entry Table

Roadway	Direction	VehicleType	Total_Looku	VehType_Lookup	Start_Time	Duration	Count	Speed
Rolling_Rd	NB	A	Rolling_Rd_!	Rolling_Rd_NB_A	11:20	5	54	33
Rolling_Rd	NB	MT	Rolling_Rd_!	Rolling_Rd_NB_MT	11:20	5	1	33
Rolling_Rd	NB	HT	Rolling_Rd_!	Rolling_Rd_NB_HT	11:20	5	0	33
Rolling_Rd	SB	A	Rolling_Rd_:	Rolling_Rd_SB_A	11:26	5	48	37
Rolling_Rd	SB	MT	Rolling_Rd_:	Rolling_Rd_SB_MT	11:26	5	1	37
Rolling_Rd	SB	HT	Rolling_Rd_:	Rolling_Rd_SB_HT	11:26	5	0	37
Rolling_Rd	NB	A	Rolling_Rd_!	Rolling_Rd_NB_A	11:32	5	59	32
Rolling_Rd	NB	MT	Rolling_Rd_!	Rolling_Rd_NB_MT	11:32	5	2	32
Rolling_Rd	NB	HT	Rolling_Rd_!	Rolling_Rd_NB_HT	11:32	5	5	32
Rolling_Rd	SB	A	Rolling_Rd_:	Rolling_Rd_SB_A	11:37	5	40	33
Rolling_Rd	SB	MT	Rolling_Rd_:	Rolling_Rd_SB_MT	11:37	5	1	33
Rolling_Rd	SB	HT	Rolling_Rd_:	Rolling_Rd_SB_HT	11:37	5	0	33
Smithfield_Ave	NB-SB	A	Smithfield_A	Smithfield_Ave_NB-SB_A	11:20	30	26	25
Smithfield_Ave	NB-SB	MT	Smithfield_A	Smithfield_Ave_NB-SB_MT	11:20	30	1	25
Smithfield_Ave	NB-SB	HT	Smithfield_A	Smithfield_Ave_NB-SB_HT	11:20	30	0	25

Site Number	M7
Location:	8215 Smithfield Ave
Date:	10/3/2018
Start Time:	14:27
Duration (min):	30

VALIDATION SOUND LEVEL

Time	Overall Leq	Traffic-only Leq	Seconds Excluded	Comment
14:27	54.8	54.8		
14:28	61.1	59.4	11	0
14:29	61.2	58.0	7	0
14:30	57.0	57.0		
14:31	59.3	59.3		
14:32	59.1	59.1		
14:33	56.7	56.7		
14:34	57.8	57.8		
14:35	56.6	56.6		
14:36	57.4	57.4		
14:37	62.0	62.0		
14:38	56.5	56.5		
14:39	58.1	58.1		
14:40	59.5	59.5		
14:41	62.5	62.5		
14:42	58.7	58.7		
14:43	56.4	56.4		
14:44	56.3	56.3		
14:45	59.0	59.0		
14:46	57.8	57.8		
14:47	59.2	59.2		
14:48	58.1	58.1		
14:49	57.0	57.0		
14:50	57.2	57.2		
14:51	56.7	56.7		
14:52	58.7	58.7		
14:53	59.3	59.3		
14:54	61.5	57.2	9	0
14:55	57.5	57.5		
14:56	58.4	58.4		
30 Minute Leq	**58.8**	**58.4**	**27**	
		Percentage Excluded	**1.5%**	

TRAFFIC INPUT

Data Entry Table

Roadway	Direction	VehicleType	Total_Looku	VehType_Lookup	Start_Time	Duration	Count	Speed
Rolling_Rd	NB	A	Rolling_Rd_!	Rolling_Rd_NB_A	14:27	5	45	31
Rolling_Rd	NB	MT	Rolling_Rd_!	Rolling_Rd_NB_MT	14:27	5	0	31
Rolling_Rd	NB	HT	Rolling_Rd_!	Rolling_Rd_NB_HT	14:27	5	3	31
Rolling_Rd	SB	A	Rolling_Rd_:	Rolling_Rd_SB_A	14:33	5	29	29
Rolling_Rd	SB	MT	Rolling_Rd_:	Rolling_Rd_SB_MT	14:33	5	2	29
Rolling_Rd	SB	HT	Rolling_Rd_:	Rolling_Rd_SB_HT	14:33	5	1	29
Rolling_Rd	NB	A	Rolling_Rd_!	Rolling_Rd_NB_A	14:39	5	51	28
Rolling_Rd	NB	MT	Rolling_Rd_!	Rolling_Rd_NB_MT	14:39	5	0	28
Rolling_Rd	NB	HT	Rolling_Rd_!	Rolling_Rd_NB_HT	14:39	5	2	28
Rolling_Rd	SB	A	Rolling_Rd_:	Rolling_Rd_SB_A	14:45	5	50	28
Rolling_Rd	SB	MT	Rolling_Rd_:	Rolling_Rd_SB_MT	14:45	5	0	28
Rolling_Rd	SB	HT	Rolling_Rd_:	Rolling_Rd_SB_HT	14:45	5	0	28
Smithfield_Ave	NB-SB	A	Smithfield_A	Smithfield_Ave_NB-SB_A	14:27	30	7	25
Smithfield_Ave	NB-SB	MT	Smithfield_A	Smithfield_Ave_NB-SB_MT	14:27	30	0	25
Smithfield_Ave	NB-SB	HT	Smithfield_A	Smithfield_Ave_NB-SB_HT	14:27	30	0	25

Site Number	M8
Location:	8110 Birmingham Lane
Date:	10/3/2018
Start Time:	15:18
Duration (min):	30

VALIDATION SOUND LEVEL

Time	Overall Leq	Traffic-only Leq	Seconds Excluded	Comment
15:18	61.2	61.2		
15:19	61.5	61.5		
15:20	59.9	59.9		
15:21	58.7	58.7		
15:22	61.6	61.6		
15:23	55.1	55.1		
15:24	60.0	60.0		
15:25	60.3	57.7	6	0
15:26	58.2	58.2		
15:27	62.7	59.6	6	0
15:28	62.2	62.2		
15:29	56.0	56.0		
15:30	57.9	57.9		
15:31	60.6	60.6		
15:32	57.6	57.6		
15:33	59.1	59.1		
15:34	61.9	61.9		
15:35	57.2	56.2	3	0
15:36	58.4	58.4		
15:37	61.2	61.2		
15:38	61.4	56.7	8	0
15:39	52.7	52.7		
15:40	62.5	62.5		
15:41	62.4	60.7	4	0
15:42	59.7	58.7	8	0
15:43	62.0	60.0	4	0
15:44	59.7	58.8	5	0
15:45	58.9	58.9		
15:46	61.8	61.8		
15:47	61.5	61.5		
30 Minute Leq	**60.3**	**59.8**	**44**	
		Percentage Excluded	**2.4%**	

TRAFFIC INPUT

Data Entry Table

Roadway	Direction	VehicleType	Total_Lookup	VehType_Lookup	Start_Time	Duration	Count	Speed
Rolling_Rd	NB	A	Rolling_Rd_!	Rolling_Rd_NB_A	15:18	5	55	30
Rolling_Rd	NB	MT	Rolling_Rd_!	Rolling_Rd_NB_MT	15:18	5	0	30
Rolling_Rd	NB	HT	Rolling_Rd_!	Rolling_Rd_NB_HT	15:18	5	0	30
Rolling_Rd	SB	A	Rolling_Rd_:	Rolling_Rd_SB_A	15:23	5	43	33
Rolling_Rd	SB	MT	Rolling_Rd_:	Rolling_Rd_SB_MT	15:23	5	1	33
Rolling_Rd	SB	HT	Rolling_Rd_:	Rolling_Rd_SB_HT	15:23	5	0	33
Rolling_Rd	NB	A	Rolling_Rd_!	Rolling_Rd_NB_A	15:28	5	62	29
Rolling_Rd	NB	MT	Rolling_Rd_!	Rolling_Rd_NB_MT	15:28	5	0	29
Rolling_Rd	NB	HT	Rolling_Rd_!	Rolling_Rd_NB_HT	15:28	5	0	29
Rolling_Rd	SB	A	Rolling_Rd_:	Rolling_Rd_SB_A	15:33	5	33	31
Rolling_Rd	SB	MT	Rolling_Rd_:	Rolling_Rd_SB_MT	15:33	5	2	31
Rolling_Rd	SB	HT	Rolling_Rd_:	Rolling_Rd_SB_HT	15:33	5	0	31
Birmingham_Lane	NB-SB	A	Birmingham_	Birmingham_Lane_NB-SB_	15:18	30	16	25
Birmingham_Lane	NB-SB	MT	Birmingham_	Birmingham_Lane_NB-SB_	15:18	30	1	25
Birmingham_Lane	NB-SB	HT	Birmingham_	Birmingham_Lane_NB-SB_	15:18	30	0	25

Site Number	M9
Location:	6907 Rolling Road
Date:	10/4/2018
Start Time:	8:58
Duration (min):	30

VALIDATION SOUND LEVEL

Time	Overall Leq	Traffic-only Leq	Seconds Excluded	Comment
8:58	61.8	60.7	7	0
8:59	59.1	59.1		
9:00	58.0	58.0		
9:01	57.8	57.8		
9:02	60.3	60.3		
9:03	58.2	58.2		
9:04	62.1	59.7	5	0
9:05	57.7	57.7		
9:06	60.5	60.5		
9:07	58.6	58.6		
9:08	55.8	55.8		
9:09	59.5	59.5		
9:10	60.1	60.1		
9:11	59.7	59.7		
9:12	57.9	57.9		
9:13	64.1	61.5	12	0
9:14	60.2	60.2		
9:15	60.8	60.8		
9:16	58.3	58.3		
9:17	59.2	59.2		
9:18	60.5	60.5		
9:19	56.3	56.3		
9:20	60.9	60.9		
9:21	58.4	58.4		
9:22	59.7	59.7		
9:23	60.4	60.4		
9:24	59.8	59.8		
9:25	59.0	59.0		
9:26	59.8	59.8		
9:27	59.2	59.2		
30 Minute Leq	**59.8**	**59.4**	**24**	
		Percentage Excluded	**1.3%**	

TRAFFIC INPUT

Data Entry Table

Roadway	Direction	VehicleType	Total_Looku	VehType_Lookup	Start_Time	Duration	Count	Speed
Rolling_Rd	NB	A	Rolling_Rd_!	Rolling_Rd_NB_A	8:58	5	53	37
Rolling_Rd	NB	MT	Rolling_Rd_!	Rolling_Rd_NB_MT	8:58	5	2	37
Rolling_Rd	NB	HT	Rolling_Rd_!	Rolling_Rd_NB_HT	8:58	5	2	37
Rolling_Rd	SB	A	Rolling_Rd_:	Rolling_Rd_SB_A	9:04	5	58	31
Rolling_Rd	SB	MT	Rolling_Rd_:	Rolling_Rd_SB_MT	9:04	5	2	31
Rolling_Rd	SB	HT	Rolling_Rd_:	Rolling_Rd_SB_HT	9:04	5	1	31
Rolling_Rd	NB	A	Rolling_Rd_!	Rolling_Rd_NB_A	9:10	5	61	32
Rolling_Rd	NB	MT	Rolling_Rd_!	Rolling_Rd_NB_MT	9:10	5	1	32
Rolling_Rd	NB	HT	Rolling_Rd_!	Rolling_Rd_NB_HT	9:10	5	2	32
Rolling_Rd	SB	A	Rolling_Rd_:	Rolling_Rd_SB_A	9:16	5	58	31
Rolling_Rd	SB	MT	Rolling_Rd_:	Rolling_Rd_SB_MT	9:16	5	0	31
Rolling_Rd	SB	HT	Rolling_Rd_:	Rolling_Rd_SB_HT	9:16	5	4	31
Springfield_Village	NB-SB	A	Springfield_\	Springfield_Village_NB-SB_	8:58	30	9	25
Springfield_Village	NB-SB	MT	Springfield_\	Springfield_Village_NB-SB_	8:58	30	2	25
Springfield_Village	NB-SB	HT	Springfield_\	Springfield_Village_NB-SB_	8:58	30	0	25

Site Number	M10
Location:	8101 Viola St
Date:	10/4/2018
Start Time:	9:44
Duration (min):	30

**There was a lawn mower for a signicant amount of time, there is extra n

VALIDATION SOUND LEVEL

Time	Overall Leq	Traffic-only Leq	Seconds Excluded	Comment
9:44	65.7	65.7		
9:45	65.2	65.2		
9:46	63.7	63.7		
9:47	63.2	63.2		
9:48	64.8	64.8		
9:49	65.1	65.1		
9:50	63.8	63.8		
9:51	66.2	64.6	3	0
9:52	63.4	63.4		
9:53	66.1	66.1		
9:54	65.7	65.7		
9:55	64.3	64.3		
9:56	65.6	63.7	9	0
9:57	65.5	65.5		
9:58	66.1	66.1		
9:59	66.2	66.2		
10:00	65.3	65.3		
10:01	65.1	65.1		
10:02	64.1	64.1		
10:03	64.7	64.7		
10:04	64.1	64.1		
10:05	65.2	65.2		
10:06	63.7	63.7		
10:07	66.0	66.0		
10:08	63.7	63.7		
10:09	62.1	62.1		
10:10	61.4	61.4		
10:11	62.3	62.3		
10:12	61.8	61.8		
10:13	63.2	63.2		
30 Minute Leq	**64.6**	**64.5**	**12**	
		Percentage Excluded	**0.7%**	

TRAFFIC INPUT

Data Entry Table

Roadway	Direction	VehicleType	Total_Looku	VehType_Lookup	Start_Time	Duration	Count	Speed
Rolling_Rd	NB	A	Rolling_Rd_!	Rolling_Rd_NB_A	9:45	5	48	34
Rolling_Rd	NB	MT	Rolling_Rd_!	Rolling_Rd_NB_MT	9:45	5	1	34
Rolling_Rd	NB	HT	Rolling_Rd_!	Rolling_Rd_NB_HT	9:45	5	1	34
Rolling_Rd	SB	A	Rolling_Rd_:	Rolling_Rd_SB_A	9:50	5	45	35
Rolling_Rd	SB	MT	Rolling_Rd_:	Rolling_Rd_SB_MT	9:50	5	2	35
Rolling_Rd	SB	HT	Rolling_Rd_:	Rolling_Rd_SB_HT	9:50	5	0	35
Rolling_Rd	NB	A	Rolling_Rd_!	Rolling_Rd_NB_A	9:56	5	38	35
Rolling_Rd	NB	MT	Rolling_Rd_!	Rolling_Rd_NB_MT	9:56	5	0	35
Rolling_Rd	NB	HT	Rolling_Rd_!	Rolling_Rd_NB_HT	9:56	5	2	35
Rolling_Rd	SB	A	Rolling_Rd_:	Rolling_Rd_SB_A	10:02	5	62	33
Rolling_Rd	SB	MT	Rolling_Rd_:	Rolling_Rd_SB_MT	10:02	5	0	33
Rolling_Rd	SB	HT	Rolling_Rd_:	Rolling_Rd_SB_HT	10:02	5	1	33
Viola_Rd	NB-SB	A	Viola_Rd_N	Viola_Rd_NB-SB_A	9:45	30	16	25
Viola_Rd	NB-SB	MT	Viola_Rd_N	Viola_Rd_NB-SB_MT	9:45	30	3	25
Viola_Rd	NB-SB	HT	Viola_Rd_N	Viola_Rd_NB-SB_HT	9:45	30	0	25

Site Number	M12
Location:	7115 Tanworth Drive
Date:	10/4/2018
Start Time:	10:40
Duration (min):	30

VALIDATION SOUND LEVEL

Time	Overall Leq	Traffic-only Leq	Seconds Excluded	Comment
10:40	54.7	54.7		
10:41	51.4	51.4		
10:42	51.1	51.1		
10:43	52.1	52.1		
10:44	52.4	52.4		
10:45	53.8	50.5	6	0
10:46	54.2	54.1	1	0
10:47	52.7	52.7		
10:48	50.9	50.9		
10:49	54.0	54.0		
10:50	55.3	55.3		
10:51	53.3	53.3		
10:52	52.8	52.8		
10:53	53.2	52.0	3	0
10:54	53.5	53.5		
10:55	52.7	52.7		
10:56	50.6	50.6		
10:57	50.4	50.4		
10:58	53.4	53.4		
10:59	51.4	51.4		
11:00	52.4	52.4		
11:01	53.5	53.5		
11:02	54.4	54.4		
11:03	52.9	52.9		
11:04	52.0	52.0		
11:05	52.3	52.3		
11:06	51.7	51.7		
11:07	54.0	53.1	4	0
11:08	53.7	53.7		
11:09	51.5	51.5		
30 Minute Leq	**52.9**	**52.8**	**14**	
		Percentage Excluded	**0.8%**	

TRAFFIC INPUT

Data Entry Table

Roadway	Direction	VehicleType	Total_Lookup	VehType_Lookup	Start_Time	Duration	Count	Speed
Rolling_Rd	NB	A	Rolling_Rd_N	Rolling_Rd_NB_A	8:58	5	42	31
Rolling_Rd	NB	MT	Rolling_Rd_N	Rolling_Rd_NB_MT	8:58	5	1	31
Rolling_Rd	NB	HT	Rolling_Rd_N	Rolling_Rd_NB_HT	8:58	5	0	31
Rolling_Rd	SB	A	Rolling_Rd_S	Rolling_Rd_SB_A	9:04	5	50	42
Rolling_Rd	SB	MT	Rolling_Rd_S	Rolling_Rd_SB_MT	9:04	5	0	42
Rolling_Rd	SB	HT	Rolling_Rd_S	Rolling_Rd_SB_HT	9:04	5	0	42
Rolling_Rd	NB	A	Rolling_Rd_N	Rolling_Rd_NB_A	9:10	5	33	41
Rolling_Rd	NB	MT	Rolling_Rd_N	Rolling_Rd_NB_MT	9:10	5	1	41
Rolling_Rd	NB	HT	Rolling_Rd_N	Rolling_Rd_NB_HT	9:10	5	0	41
Rolling_Rd	SB	A	Rolling_Rd_S	Rolling_Rd_SB_A	9:16	5	37	42
Rolling_Rd	SB	MT	Rolling_Rd_S	Rolling_Rd_SB_MT	9:16	5	0	42
Rolling_Rd	SB	HT	Rolling_Rd_S	Rolling_Rd_SB_HT	9:16	5	0	42
Tanworth_Dr	NB-SB	A	Tanworth_Dr	Tanworth_Dr_NB-SB_A	8:58	30	2	25
Tanworth_Dr	NB-SB	MT	Tanworth_Dr	Tanworth_Dr_NB-SB_MT	8:58	30	1	25
Tanworth_Dr	NB-SB	HT	Tanworth_Dr	Tanworth_Dr_NB-SB_HT	8:58	30	0	25

Scantek, Inc.
CALIBRATION LABORATORY

ISO 17025: 2005, ANSI/NCSL Z540:1994 Part 1
ACCREDITED by NVLAP (an ILAC MRA signatory)

NVLAP®
CALIBRATION
NVLAP Lab Code: 200625-0

Calibration Certificate No.40297

Instrument: **Sound Level Meter**
Model: **824**
Manufacturer: **Larson Davis**
Serial number: **A0795**
Tested with: **Microphone 40AQ s/n 19907**
Preamplifier PRM902 s/n 1208
Type (class): **1**
Customer: **Harris Miller Miller & Hanson Inc.**
Tel/Fax: **781-229-0707 x3119 / 781-229-7939**

Date Calibrated: **3/14/2018** *Cal Due:*

Status:	**Received**	**Sent**
In tolerance:	**X**	**X**
Out of tolerance:		
See comments:		

Contains non-accredited tests: __Yes _X_ No
Calibration service: __ Basic _X_ Standard
Address: **77 South Bedford Street**
Burlington, MA 01803

Tested in accordance with the following procedures and standards:
Calibration of Sound Level Meters, Scantek Inc., Rev. 6/26/2015
SLM & Dosimeters – Acoustical Tests, Scantek Inc., Rev. 7/6/2011

Instrumentation used for calibration: Nor-1504 Norsonic Test System:

Instrument - Manufacturer	Description	S/N	Cal. Date	Traceability evidence Cal. Lab / Accreditation	Cal. Due
483B-Norsonic	SME Cal Unit	31061	Jul 28, 2017	Scantek, Inc./ NVLAP	Jul 28, 2018
DS-360-SRS	Function Generator	88077	Sep 15, 2016	ACR Env./ A2LA	Sep 15, 2018
34401A-Agilent Technologies	Digital Voltmeter	MY47011118	Sep 20, 2017	ACR Env./ A2LA	Sep 20, 2018
HM30-Thommen	Meteo Station	1040170/39633	Oct 25, 2017	ACR Env./ A2LA	Oct 25, 2018
PC Program 1019 Norsonic	Calibration software	v.6.1T	Validated Nov 2014	Scantek, Inc.	-
1251-Norsonic	Calibrator	30878	Nov 10, 2017	Scantek, Inc./ NVLAP	Nov 10, 2018

Instrumentation and test results are traceable to SI (International System of Units) through standards maintained by NIST (USA) and NPL (UK).

Environmental conditions:

Temperature (°C)	Barometric pressure (kPa)	Relative Humidity (%)
23.5	99.25	37.2

Calibrated by:	Jeremy Gotwalt	**Authorized signatory:**	Steven E. Marshall
Signature	[signature]	Signature	[signature]
Date	3/14/18	Date	3/15/2018

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ISO 17025: 2005, ANSI/NCSL Z540:1994 Part 1
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NVLAP®
CALIBRATION
NVLAP Lab Code: 200625-0

Calibration Certificate No.40298

Instrument: **Microphone**
Model: **40AQ**
Manufacturer: **GRAS**
Serial number: **19907**
Composed of:

Date Calibrated: **3/13/2018** *Cal Due:*

Status:	**Received**	**Sent**
In tolerance:	**X**	**X**
Out of tolerance:		
See comments:		

Contains non-accredited tests: __Yes _X_ No

Customer: **Harris Miller Miller & Hanson inc.**
Tel/Fax: **781-229-0707 x3119/781-229-7939**
Address: **77 South Bedford Street**
Burlington, MA 01803

Tested in accordance with the following procedures and standards:
Calibration of Measurement Microphones, Scantek, Inc., Rev. 2/25/2015

Instrumentation used for calibration: N-1504 Norsonic Test System:

Instrument - Manufacturer	Description	S/N	Cal. Date	Traceability evidence Cal. Lab / Accreditation	Cal. Due
483B-Norsonic	SME Cal Unit	31061	Jul 28, 2017	Scantek, Inc./ NVLAP	Jul 28, 2018
DS-360-SRS	Function Generator	88077	Sep 15, 2016	ACR Env./ A2LA	Sep 15, 2018
34401A-Agilent Technologies	Digital Voltmeter	MY47011118	Sep 20, 2017	ACR Env./ A2LA	Sep 20, 2018
HM30-Thommen	Meteo Station	1040170/39633	Oct 25, 2017	ACR Env./ A2LA	Oct 25, 2018
PC Program 1017 Norsonic	Calibration software	v.6.1T	Validated Nov 2014	Scantek, Inc.	-
1253-Norsonic	Calibrator	28326	Nov 10, 2017	Scantek, Inc./ NVLAP	Nov 10, 2018
1203-Norsonic	Preamplifier	92268	Oct 18, 2017	Scantek, Inc./ NVLAP	Oct 18, 2018
4180-Brüel&Kjær	Microphone	224611S	Oct 24, 2017	DANAK / DPLA	Oct 24, 2019

Instrumentation and test results are traceable to SI - BIPM through standards maintained by NPL (UK) and NIST (USA)

Calibrated by:	Jeremy Gotwalt	**Authorized signatory:**	Steven E Marshall
Signature		Signature	
Date	3/13/18	Date	3/15/2018

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NVLAP®
CALIBRATION
NVLAP Lab Code: 200625-0

Calibration Certificate No.40299

Instrument:	**Microphone Unit**	*Date Calibrated:* **3/13/2018**	*Cal Due:*
Model:	**40AE-PRM902**	*Status:*	**Received** / **Sent**
Manufacturer:	**GRAS**	*In tolerance:*	**X** / **X**
Serial number:	**8310-3185**	*Out of tolerance:*	
Composed of:	**Microphone 40AE s/n: 8310**	*See comments:*	
	Preamplifier PRM902 s/n: 3185	*Contains non-accredited tests:*	__Yes _X_ No
Customer:	**Harris Miller Miller & Hanson Inc.**	*Address:*	**77 South Bedford Street**
Tel/Fax:	**781-229-0707 x3119/781-229-7939**		**Burlington, MA 01803**

Tested in accordance with the following procedures and standards:
Calibration of Measurement Microphones, Scantek, Inc., Rev. 2/25/2015

Instrumentation used for calibration: N-1504 Norsonic Test System:

Instrument - Manufacturer	Description	S/N	Cal. Date	Traceability evidence Cal. Lab / Accreditation	Cal. Due
483B-Norsonic	SME Cal Unit	31061	Jul 28, 2017	Scantek, Inc./ NVLAP	Jul 28, 2018
DS-360-SRS	Function Generator	88077	Sep 15, 2016	ACR Env./ A2LA	Sep 15, 2018
34401A-Agilent Technologies	Digital Voltmeter	MY47011118	Sep 20, 2017	ACR Env./ A2LA	Sep 20, 2018
HM30-Thommen	Meteo Station	1040170/39633	Oct 25, 2017	ACR Env./ A2LA	Oct 25, 2018
PC Program 1017 Norsonic	Calibration software	v.6.1T	Validated Nov 2014	Scantek, Inc.	-
1253-Norsonic	Calibrator	28326	Nov 10, 2017	Scantek, Inc./ NVLAP	Nov 10, 2018
1203-Norsonic	Preamplifier	92268	Oct 18, 2017	Scantek, Inc./ NVLAP	Oct 18, 2018
4180-Brüel&Kjær	Microphone	224611S	Oct 24, 2017	DANAK / DPLA	Oct 24, 2019

Instrumentation and test results are traceable to Si - BIPM through standards maintained by NPL (UK) and NIST (USA)

Calibrated by:	Jeremy Gotwalt	Authorized signatory:	Steven E Marshall
Signature	[signature]	Signature	[signature]
Date	3/13/18	Date	3/15/2018

Calibration Certificates or Test Reports shall not be reproduced, except in full, without written approval of the laboratory.
This Calibration Certificate or Test Reports shall not be used to claim product certification, approval or endorsement by NVLAP, NIST, or any agency of the federal government.
Document stored as: Z:\Calibration Lab\Mic 2018\GRAS40AE_8310-3185_M1.doc

Scantek, Inc.

CALIBRATION LABORATORY

ISO 17025: 2005, ANSI/NCSL Z540:1994 Part 1
ACCREDITED by NVLAP (an ILAC MRA signatory)

NVLAP®
CALIBRATION
NVLAP Lab Code: 200625-0

Calibration Certificate No.40300

Instrument:	**Acoustical Calibrator**	*Date Calibrated:* **3/12/2018** *Cal Due:*			
Model:	**CAL250**	*Status:*	**Received**	**Sent**	
Manufacturer:	**Larson Davis**	*In tolerance:*	**X**	**X**	
Serial number:	**4182**	*Out of tolerance:*			
Class (IEC 60942):	**1L**	*See comments:*			
Barometer type:		*Contains non-accredited tests:* __**Yes** _**X**_ **No**			
Barometer s/n:					
Customer:	**Harris Miiler Miller & Hanson Inc.**	*Address:*	**77 South Bedford Street**		
Tel/Fax:	**781-229-0707 x3119 / 781-229-7939**		**Burlington, MA 01803**		

Tested in accordance with the following procedures and standards:
Calibration of Acoustical Calibrators, Scantek Inc., Rev. 10/1/2010

Instrumentation used for calibration: Nor-1504 Norsonic Test System:

Instrument - Manufacturer	Description	S/N	Cal. Date	Traceability evidence Cal. Lab / Accreditation	Cal. Due
483B-Norsonic	SME Cal Unit	31061	Jul 28, 2017	Scantek, Inc./ NVLAP	Jul 28, 2018
DS-360-SRS	Function Generator	88077	Sep 15, 2016	ACR Env./ A2LA	Sep 15, 2018
34401A-Agilent Technologies	Digital Voltmeter	MY47011118	Sep 20, 2017	ACR Env./ A2LA	Sep 20, 2018
HM30-Thommen	Meteo Station	1040170/39633	Oct 25, 2017	ACR Env./ A2LA	Oct 25, 2018
140-Norsonic	Real Time Analyzer	1403978	Mar 22, 2017	Scantek, Inc. / NVLAP	Mar 22, 2018
PC Program 1018 Norsonic	Calibration software	v.6.1T	Validated Nov 2014	Scantek, Inc.	-
4192-Brüel&Kjær	Microphone	285467S	Nov 11, 2017	Scantek, Inc. / NVLAP	Nov 11, 2018
1203-Norsonic	Preamplifier	92268	Oct 18, 2017	Scantek, Inc./ NVLAP	Oct 18, 2018

Instrumentation and test results are traceable to SI (International System of Units) through standards maintained by NIST (USA) and NPL (UK)

Calibrated by:	Jeremy Gotwalt	**Authorized signatory:**	Steven E. Marshall
Signature	[signature]	Signature	[signature]
Date	3/12/18	Date	3/15/2018

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