# Appendix H

Noise Analysis Attachments

## **APPENDIX H-1**

Field Noise Data Sheets

DUDEK

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FIELD NOISE MEASUREMENT DATA

SITE ID SITE ADDRESS START DATE 4/23/1 START TIME	ηEND DATE_ <u>4/22/19</u> END TIME	OBSERVER <u>(S)</u>	ETE VITAR
METEOROLOGICAL CO TEMP 62 WINDSPD SKY SUNNY	NDITIONS F HUMIDITY 6.5 % R.H. MPH DIR. N NE S SE S SW CLEAR OVRCAST PRTLY CLDY	WIND CALM W NW VARIABLE FOG RAIN	LIGHT MODERATE STEADY GUSTY
ACOUSTIC MEASUREM MEAS. INSTRUMENT CALIBRATØR CALIBRATION CHECK	PICCULO SCM - 3 <u>ISSWA</u> CA 114 PRE-TEST dBA SPL	POST-TEST	SERIAL # 140377004 SERIAL # 480757 dba spl WINDSCRN YES
SETTINGS REC. # BEGIN <u>1-2</u> 10:38	A-WTD SLOW FAST FRONTA END Leg Lmax Lmin 19:53 71.6 83.5 60.0	L RANDOM ANSI OTHER:	OTHER (SPECIFY METRIC
READING TATIE WAS LOCATO PAULANG CIME ( DAIL AUADE C SOURCE INFO AND TRAI	IN WESTER- AUE: TM		1. BALL NUAD. METER 200 ADL 20' FAM 15 MAJERIC QU 15 MAJERIC QU
ROADWAY TRAFFIC COUNT DURATIO		DIST. TO RDWY C/L OF EOP.	OTHER: 31 TO CALL NUAD MIN SPEED
T AUTOS MED TRKS HVY TRKS OUNDO OUNDO OUNDO OUNDO	NB/EB SB/WB NB/EB SB/WB	IF COUNTING NB/EB	SB/WB NB/EB SB/WB
MOTRCLS SPEEDS ESTIMATED BY: RAI POSTED SPEED LIMIT SIGNS	DAR / DRIVING THE PACE SAY: 40 MDH ON BALL NUR CKGROLINDI: DIST AIRCRAFT PUSTING LE	(TRAFOL CONTIS	FUN BALL ROOD
o men noise sources (bA	CKGROUND): DIST. AIRCRAFT RUSTLING LE/ AYING DIST. CONVRSTNS / YELLING DIST. T	IVES DIST. BARKING DOGS BIRDS	DIST. INDUSTRIAL
DESCRIPTION / SKETCH TERRAIN HARD	SOFT MIXED FLAT OTHER:		

DUDEK

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### FIELD NOISE MEASUREMENT DATA

SITE D    OBSERVERIS    PETER DATE 4/23/17    END DATE 4/23/19      STRAT DATE 4/23/17    END DATE 4/23/19    END TOME      STRAT DATE 4/23/17    END DATE 4/23/19    END TOME      STRAT DATE 4/23/17    END DATE 4/23/19    END TOME      STRAT DATE 4/23/17    END TOME    END TOME      METCORLOGICAL CONDITION    MUNDOTY (2 % R.H.    WIND (2 MORE)      WINDSON    D    F    HUMDOTY (2 % R.H.    WIND (2 MORE)      ACOUSTIC MEASUREMENTS    MUNDOTY (2 % R.H.    WIND (2 MORE)    SERIAL # 4/03/70004      ACOUSTIC MEASUREMENTS    MEASING CAT II-1    GBA SPL    POST-TEST    GBA SPL      CALIBRATER    PARTEST    GBA SPL    POST-TEST    GBA SPL    POST-TEST      CALIBRATER    FRO HAT    FRONTAL RANDOM ANSI    OTHER (SPÉCIPY METRIC    ID      PACH    HIOD    List    TO -S    SST.2    SST.3    OTHER (SPÉCIPY METRIC      PACH    THE ALVE ALVE ALL STATULE    TO -S    SST.2    SST.3    OTHER (SPÉCIPY METRIC      PACH    THE ALVE ALVE ALVE ALVE ALVE ALVE ALVE ALV		PROJECT	3175	BALL	RUAD 1	APANT	MENT	5	PROJECT #	928	9.000	3	
START DATE $\frac{4}{22}/19$ START DATE $\frac{4}{22}/19$ START DATE $\frac{4}{22}/19$ START TIME      METEOROLOGICAL CONDITIONS      MUNIDATE $\frac{1}{2}$ METEOROLOGICAL CONDITIONS      WINDSPD    MEH    WINDSPD    MEH    OUR SET    MIND WIND WIND WIND WIND WIND WIND WIND W	1								OPEEDVEE	PE PE	YE VI	TAR	
START TIME      END TIME      TO TIME      METEOROLOGICAL CONDITIONS      TENP      METEOROLOGICAL CONDITIONS      TO THE TOTAL PLACE OF TO THE TOTAL RANDOM ANN TO THER:      SERIAL # 14:03,770,44      SERIAL # 16:07 METER      COLSPAN= Colspan="2">SERIAL # 16:07 METER      SERIAL # 16:07 METER      SERIAL # 16:07 METER      SECTION SECTION FORE TO F 92						1100	Lic.		UBSERVER			<u>//IX</u>	
METEOROLOGICAL CONDITIONS TEMP    HUMIDITY    (2    % R.H.    WIND    (AIM)    LIGHT    MODERATE WARABLE STEADY      SKY    WINDSPD   MH    DIR. N. NE S.S.S. SW. W. NW    RAIN    SERIAL H. 14(0.3) 700/H      ACOUSTIC MEASUREMENTS   MHO    OURCAST    PRILOLO (200 - 2   TYPE 1    2    SERIAL H. 14(30)7100/H      ACOUSTIC MEASUREMENTS				1		4/04	19		-				
TEMP    10    F    HUMIDITY    62    % R.H.    WIND    VARIABLE STEADY    MODERATE      WINDSPD    WIND    VARIABLE STEADY    OVERAST    PRTLY CLDY    FOG    RAIN      ACOUSTIC MEASUREMENTS    DIC. N. NE S SE S S W NW    SERIAL # 140.31702/4    SERIAL # 140.31702/4      MEAS.INSTRUMENT    DIC. V. O. A. M.Y.    SERIAL # 140.31702/4    SERIAL # 140.31702/4      CALIBRATION CHECK    150/4    CA MYT    GBA SPL    POST-TEST    dBA SPL    WINDSCRN    YEI      CALIBRATION CHECK    150/4    CA MYT    GLOW    FAST    FRONTAL RANDOM ANSI    OTHER    SERIAL # 140.017.7      CALIBRATION CHECK    IND    Leg    Lmax    Lmin    190    L50    L10    OTHER (SPECIFY METRIC      SETTINGS    A-WTD    END    Leg    Lmax    Lmin    190    L50    L10    OTHER (SPECIFY METRIC      2    3    SS.2.2    SS.2.3    SS.2.4	L	START TIM	E , ,		END HIVE								
TEMP    10    F    HUMIDITY    62    % R.H.    WIND    VARIABLE STEADY    MODERATE      WINDSPD    WIND    VARIABLE STEADY    OVERAST    PRTLY CLDY    FOG    RAIN      ACOUSTIC MEASUREMENTS    DEC. N. NE S SE S S W NW    SERIAL # 1403/7004    SERIAL # 1403/7004      MEAS.INSTRUMENT    DEC. CA    Iff    TYPE    1    2    SERIAL # 1403/71      CALIBRATION CHECK    ISWA    CA    Iff    PRE-TEST    dBA SPL    POST-TEST    dBA SPL    WINDSCRN    YES      CALIBRATION CHECK    ISWA    CA    Iff    PRE-TEST    dBA SPL    POST-TEST    dBA SPL    WINDSCRN    YES      CALIBRATION CHECK    ISWA    CA    IFF    PROTATION CHECK    ISWA    SERIAL # 1400/71    GBA SPL    WINDSCRN    YES      SETTINGS    A-WTD    ELOW    FAST    FRONTAL RANDOM ANSI    OTHER:    GBA SPL    WINDSCRN    YES      SETTINGS    A-WTD    SECON    FAST    FRONTAL RANDOM ANSI    OTHER:    GBA SPL    GIA    GIA    GIA    GIA    GIA    GIA    GIA    G	[	METEOROL	OGICAL CON	DITIONS						m			
WINDSPUT    Ministry    OVACAST    PRTLY CLDY    FOG    RAIN      ACOUSTIC MEASURENETIS    OVACAST    PRTLY CLDY    FOG    RAIN      MEAS. INSTRUMENT    DIFCUENCY    FOG    TYPE    1    2    SERIAL # 14/3/1702/4      CALIBRATION    CHEMATION    CHEMATION    FRONTAL RANDOM ANSI    OTHER:    SERIAL # 14/3/1702/4      CALIBRATION    CHEMATION    FRONTAL RANDOM ANSI    OTHER:    GBA SPL    WINDSCRN_TCS      SETTINGS    A-WITD    GLOW    FAST    FRONTAL RANDOM ANSI    OTHER:    GBA SPL    WINDSCRN_TCS      REC.#    BEGIN    END    Leq    Lmix    Lmin    L90    L50    L10    OTHER (SPECIFY METRIC      2    J    J    J    J    SSTED    J									WIND				
ACOUSTIC MEASUREMENTS MEAS, INSTRUMENT MEAS, INSTRUMENT DESCRIPTION / SKETCH ACUISTIC MEASUREMENTS PRE-TEST		WINDSPD		MPH	DIR. N	NE S SE	S SW V	W NW		VARIABLE	STEADY	GUSTY	
MEAS. INSTRUMENT $DICLOLOCCAP_3$ TYPE    1    2    SERIAL # 4% 01/51      CALIBRATION CHECK    PREFETS    dBA SPL    POST-TEST    dBA SPL    WINDSCRN    YES      SETTINGS    A-WYD    SLOW    FAST    FRONTAL RANDOM ANSI    OTHER:	1	SKY	SUNNY	PETEAR	OVRCAST	PRTLY	CLDY	FOG	RAIN			.2	
MEAS. INSTRUMENT $DICLOLOCCAP_3$ TYPE    1    2    SERIAL # 4% 01/51      CALIBRATION CHECK    PREFETS    dBA SPL    POST-TEST    dBA SPL    WINDSCRN    YES      SETTINGS    A-WYD    SLOW    FAST    FRONTAL RANDOM ANSI    OTHER:			$\smile$	$\smile$							5		
INDUST INSTRUMENT    ISCUS SCI IT    SERIAL # 480/51      CALIBRATION CHECK    PRE-TEST    dBA SPL    POST-TEST    dBA SPL    WINDSCRN YES      SETTINGS    A-WTD    SLOW    FAST    FRONTAL RANDOM ANSI    OTHER:		ACOUSTIC	MEASUREM	ENTS		2			-	2		SEDIAL # 1	103171814
CALIBRATION CHECK    PRE-TEST    dBA SPL    POST-TEST    dBA SPL    WINDSCRN    YES      SETTINGS    A-WTD    SLOW    FAST    FRONTAL RANDOM ANSI    OTHER:					ULU SLA	n - 1			- TYPE I	2			
SETTINGS    A-WTD    SLOW    FAST    FRONTAL RANDOM ANSI    OTHER:      REC.#    BEGIN    END    Leq    Lmax    Lmin    L90    L50    L10    OTHER (SPÉCIFY METRIC						// //1			POSTATES	т	dBA SPL		
REC.#    BEGIN    END    Leq    Lmax    Lmin    190    L50    L10    OTHER (SPECIPY METRIC      3-4    11:02    11:13    70.5    35.2    55.3    35.3    35.3    35.4    3		CALIBRATIC	JN CHECK		PRE-IESI		UDA SPL		, ,		_		
REC.#    BEGIN    END    Leq    Lmax    Lmin    190    L50    L10    OTHER (SPECIPY METRIC      3-4    11:02    11:13    70.5    35.2    55.3    35.3    35.3    35.4    3		SETTINGS		A-WTD	SIOW	FAST	FRONTAL	RANDOM	ANSI	OTHER:			
2)    3-4    11:103    11:118    TU-S    \$5:2    \$5:3      COMMENTS    11218    TU-S    \$5:2    \$5:3	1	JET MILES			Con						."		
2) <u>3-4</u> <u>11:03</u> <u>11:13</u> <u>10.5</u> <u>35.2</u> <u>35.3</u> COMMENTS <u>12:00,04: TAHE! IN FAUT DF 920</u> <u>5: WESTOW AVE (AESIDEUTIAL)</u> <u>PNMAAL WISE SURCE TAFE</u> <u>13: TO REVISE OUNTS</u> PRIMARY NOISE SOURCE TRAFFIC AIRCRAFT BAIL INDUSTRIAL DIST. TO RDWY C/LOREOP <u>13: TRAFFIC COUNT DURATION: 15</u> <u>MIN</u> <u>SPEED</u> DIRECTION NAFEE SB/WB NB/EB SB/WB <u>13: MIN</u> <u>SPEED</u> <u>DIRECTION NAFEE</u> <u>58/WB NB/EB SB/WB</u> <u>13: MIN</u> <u>SPEED</u> <u>13: MIN</u> <u>SPEED</u> <u>14: MIN</u> <u>SPEED</u> <u>13: MIN</u> <u>SPEED</u> <u>13: MIN</u> <u>SPEED</u> <u>13: MIN</u> <u>SPEED</u> <u>13:</u>	L	REC. #	BEGIN	END	Leq	Lmax	Lmin	190	L50	~ L10	OTHER (	SPECIFY METI	RIC
Ilenaul: TAHE, IN FAUT OF 920 S. WESTEN AVE (NESIDEUTIAL)      PMMAN: MISE SOURCE IS TARFIC ON INESTENCE      PRIMARY NOISE SOURCE INFO AND TRAFFIC COUNTS      DIRECTION NUMBER SERVER      DIRECTION NUMBER SERVER      DIRECTION NUMBER SERVER      MED TRKS      OW	2)	3-4	11:03	11:18	20.5	85.2	55.3				-		
Ilenand Taher IN FAWE OF 920 S. WESTEN AVE (DESIDENTIAL)      PMMAN MUSE SOURCE      PRIMARY NOISE SOURCE      RADWAY TYPE:      PRIMARY NOISE SOURCE      RADWAY TYPE:      AUTOS      DIRECTION NUMBER      SBOURCE      MIN      SPEED      DIRECTION NUMBER      SBOURCE      MUTOS      12      MIN      SPEED      DIRECTION NUMBER      SB/WB      NB/EB      SB/WB      MED TRKS      O      MED TRKS      O      MED TRKS      O      MED TRKS      O      BOTH      NEWED TRKS      O      BOTH      MED TRKS      O      BOTH      SB/WB      NB/EB      SB/WB      NB/EB      SB/WB      NB/EB      SB/WB      SB/WB      NB/EB      SB/WB      SBOTH      SB/WB	P								·		-		
Ilenand Taher IN FAWE OF 920 S. WESTEN AVE (DESIDENTIAL)      PMMAN MUSE SOURCE      PRIMARY NOISE SOURCE      RADWAY TYPE:      PRIMARY NOISE SOURCE      RADWAY TYPE:      AUTOS      DIRECTION NUMBER      SBOURCE      MIN      SPEED      DIRECTION NUMBER      SBOURCE      MUTOS      12      MIN      SPEED      DIRECTION NUMBER      SB/WB      NB/EB      SB/WB      MED TRKS      O      MED TRKS      O      MED TRKS      O      MED TRKS      O      BOTH      NEWED TRKS      O      BOTH      MED TRKS      O      BOTH      SB/WB      NB/EB      SB/WB      NB/EB      SB/WB      NB/EB      SB/WB      SB/WB      NB/EB      SB/WB      SBOTH      SB/WB													
Ilenand Taher IN FAWE OF 920 S. WESTEN AVE (DESIDENTIAL)      PMMAN MUSE SOURCE      PRIMARY NOISE SOURCE      RADWAY TYPE:      PRIMARY NOISE SOURCE      RADWAY TYPE:      AUTOS      DIRECTION NUMBER      SBOURCE      MIN      SPEED      DIRECTION NUMBER      SBOURCE      MUTOS      12      MIN      SPEED      DIRECTION NUMBER      SB/WB      NB/EB      SB/WB      MED TRKS      O      MED TRKS      O      MED TRKS      O      MED TRKS      O      BOTH      NEWED TRKS      O      BOTH      MED TRKS      O      BOTH      SB/WB      NB/EB      SB/WB      NB/EB      SB/WB      NB/EB      SB/WB      SB/WB      NB/EB      SB/WB      SBOTH      SB/WB	1						·				-		
Ilenand Taher IN FAWE OF 920 S. WESTEN AVE (DESIDENTIAL)      PMMAN MUSE SOURCE      PRIMARY NOISE SOURCE      RADWAY TYPE:      PRIMARY NOISE SOURCE      RADWAY TYPE:      AUTOS      DIRECTION NUMBER      SBOURCE      MIN      SPEED      DIRECTION NUMBER      SBOURCE      MUTOS      12      MIN      SPEED      DIRECTION NUMBER      SB/WB      NB/EB      SB/WB      MED TRKS      O      MED TRKS      O      MED TRKS      O      MED TRKS      O      BOTH      NEWED TRKS      O      BOTH      MED TRKS      O      BOTH      SB/WB      NB/EB      SB/WB      NB/EB      SB/WB      NB/EB      SB/WB      SB/WB      NB/EB      SB/WB      SBOTH      SB/WB				<del></del>						-			
SOURCE INFO AND TRAFFIC COUNTS PRIMARY NOISE SOURCE ROADWAY TYPE: A S / PWAC TRAFFIC COUNT DURATION: IS MIN SPEED DIRECTION NB/EB SB/WB NB/EB SB/WB IF COUNTING AUTOS 193 MIN SPEED DIRECTION NB/EB SB/WB NB/EB SB/WB IF COUNTING DIRECTIONS DO BUSES I MOTRCLS O BUSES I MOTRCLS O DURCTION / SKETCH TERRAIN HARD SOFT MIXED FLAT OTHER: PHOTOS 1265; 1266; 1267; 1268				- 101	·	- 0 0	6.2.	010	~~~~	1000	COL	CACT	- [ 14
SOURCE INFO AND TRAFFIC COUNTS PRIMARY NOISE SOURCE ROADWAY TYPE: A S / PWAC TRAFFIC COUNT DURATION: IS MIN SPEED DIRECTION NB/EB SB/WB NB/EB SB/WB IF COUNTING AUTOS 193 MIN SPEED DIRECTION NB/EB SB/WB NB/EB SB/WB IF COUNTING DIRECTIONS DO BUSES I MOTRCLS O BUSES I MOTRCLS O DURCTION / SKETCH TERRAIN HARD SOFT MIXED FLAT OTHER: PHOTOS 1265; 1266; 1267; 1268		ICEDOW	12 JAN	er in	FAUT	0F	920	S. W	ESTER	N MUL	IK	511011	TY -
PRIMARY NOISE SOURCE    TRAFFIC    AIRCRAFT    RAIL    INDUSTRIAL    OTHER:      ROADWAY TYPE:    AS OPKIC    DIST. TO RDWY C/L OP EOP    18"    18"      TRAFFIC COUNT DURATION:    15    MIN    SPEED    MIN    SPEED      DIRECTION    NB/EB    SB/WB    NB/EB    SB/WB    NB/EB    SB/WB      MED TRKS    193    If 3    If 20    If 20    If 20    If 20      MED TRKS    193    If 20    If 20    If 20    If 20    If 20      MED TRKS    193    If 20    If 20    If 20    If 20    If 20      MED TRKS    193    If 20    If 20    If 20    If 20    If 20    If 20      Of BUSES    If 20    If 20<		MMA	Nr NOI	SE SO	UNU IS	7/1~)/	FIC 0	~ [~:	ESIZA	~ NO	1		
TERRAIN HARD SOFT MIXED FLAT OTHER: PHOTOS 4265; 4266; 4267; 4268		COUNT 1 COURT 1 SPEEDS ESTIN	UNT DURAT DIRECTION AUTOS MED TRKS HVY TRKS BUSES MOTRCLS MATED BY: R ED LIMIT SIGN E SOURCES (B DIST. KIDS I	ION: 15 NB/EB 193 3 0 1 0 ADAR / DRI IS SAY:	MIN SB/WB VING THE PA	NB/EB	SB/WB	IF COUNTIN BOTH DIRECTION AS ONE, CHECK HER	G (2 KUNA C)			SPE NB/EB	SB/WB
		TERRAIN PHOTOS	4265;	50FT			-						
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PROJECT 3175 (A	IL PUAD ADANTMENTS	PROJECT # 9289.0003	
SITE ID		OBSERVER(S) PETE VITAR	
SITE ADDRESS		OBSERVER(S) YETE VITAIL	
START DATE 4/23/19	END DATE 4/22/19		
START TIME	END TIME		
METEOROLOGICAL CONDITIO	NS	$\sim$	
TEMP 70 F	HUMIDITY 62 % R.H.	WIND CALM LIGHT MODERATE	
WINDSPD MPH	DIR. N NE S SE S SW W N	W VARIABLE STEADY GUSTY	
SKY (SUNNY CLEAR	OVRCAST PRTLY CLDY FOG	RAIN	
ACOUSTIC MEASUREMENTS	COLO SCM-3	TYPE 1 2 SERIAL # 14031	700
	SWA CA IIY	SERIAL # 4801.	51
CALIBRATØR	PRE-TEST dBA SPL	POST-TESTdBA SPL WINDSCRN YE	=S
SETTINGS A-WT	D SLOW FAST FRONTAL RAN	DOM ANSI OTHER:	
]			
REC. # BEGIN EN	D Leq Lmax Lmin I S2 71.S <u>84.7</u> 54.0	190 L50 L10 OTHER (SPECIFY METRIC	
<u>1) 6-7 11:37 11:</u>	<u>52 11.3 89.7 34.0</u>		
COMMENTS		ROUDADD (ACCIDE TAL).	
READING TAKES	IN FAUND OF SIGI W	· BALL ROAD ( NESIDENTIAL); ~ BALL ROAD;	
MUMANT NOISE	Source 13 THARA O	~ DALLICONT	
		,	
SOURCE INFO AND TRAFFIC C	SOUNTS SOURCE TRAFFIC AIRCRAFT	RAIL INDUSTRIAL OTHER:	
SOURCE INFO AND TRAFFIC C PRIMARY NOISE ROADWAY TYPE	SOURCE TRAFFIC AIRCRAFT	RAIL INDUSTRIAL OTHER:	
SOURCE INFO AND TRAFFIC C PRIMARY NOISE ROADWAY TYPE TRAFFIC COUNT DURATION:	SOUNTS SOURCE ASPHACE SMIN SPEED	RAIL INDUSTRIAL OTHER:	
SOURCE INFO AND TRAFFIC C PRIMARY NOISE ROADWAY TYPE TRAFFIC COUNT DURATION: 1 DIRECTION NB	SOURCE SOURCE ASPHA SPEED JEB SB/WB NB/EB SB/WB	RAIL INDUSTRIAL OTHER: T. TO RDWY C/L OR OP	, s/wb
SOURCE INFO AND TRAFFIC C PRIMARY NOISE ROADWAY TYPE TRAFFIC COUNT DURATION: 1 DIRECTION NB	SOUNTS SOURCE ASPHACE SMIN SPEED VEB SB/WB NB/EB SB/WB 1FC	RAIL INDUSTRIAL OTHER: T. TO RDWY C/L OR OP	J/WB
SOURCE INFO AND TRAFFIC C PRIMARY NOISE ROADWAY TYPE TRAFFIC COUNT DURATION: 1 DIRECTION NB	COUNTS SOURCE ASPHA SMIN SPEED VEB SB/WB NB/EB SB/WB NB/EB SB/WB IF C DIS SB/WB IF C DIS SB/WB	RAIL INDUSTRIAL OTHER: T. TO RDWY C/L OR OP	)/WB
SOURCE INFO AND TRAFFIC C PRIMARY NOISE ROADWAY TYPE TRAFFIC COUNT DURATION: 1 DIRECTION NB	COUNTS SOURCE TRAFFIC AIRCRAFT DIS S MIN SPEED /EB SB/WB NB/EB SB/WB S2 DIF DIF C2 DIF	RAIL INDUSTRIAL OTHER:	)/WB
SOURCE INFO AND TRAFFIC C PRIMARY NOISE ROADWAY TYPE TRAFFIC COUNT DURATION: DIRECTION NB T AUTOS MED TRKS HVY TRKS O BUSES	COUNTS SOURCE TRAFFIC AIRCRAFT A S PHA ( DIS S MIN SPEED /EB SB/WB NB/EB SB/WB IF C DIF C DIF C CH	RAIL INDUSTRIAL OTHER:	/WB
SOURCE INFO AND TRAFFIC C PRIMARY NOISE ROADWAY TYPE TRAFFIC COUNT DURATION: DIRECTION NB T AUTOS DIRECTION NB HVY TRKS D BUSES MOTRCLS	SOUNTS  TRAFFIC  AIRCRAFT    SOURCE  TRAFFIC  AIRCRAFT    S  MIN  SPEED    /EB  SB/WB  NB/EB    S2	RAIL INDUSTRIAL OTHER:	, р/wв
SOURCE INFO AND TRAFFIC C PRIMARY NOISE ROADWAY TYPE TRAFFIC COUNT DURATION: / DIRECTION NB T AUTOS 2 MED TRKS O HVY TRKS BUSES MOTRCLS SPEEDS ESTIMATED BY: RADAR,	COUNTS    SOURCE    TRAFFIC    AIRCRAFT      SOURCE    TRAFFIC    AIRCRAFT      S    MIN    SPEED      Z    MIN    SPEED	RAIL INDUSTRIAL OTHER:	, Э/WВ
SOURCE INFO AND TRAFFIC C PRIMARY NOISE ROADWAY TYPE TRAFFIC COUNT DURATION: DIRECTION NB T AUTOS DIRECTION NB HVY TRKS D BUSES MOTRCLS	COUNTS    SOURCE    TRAFFIC    AIRCRAFT      SOURCE    TRAFFIC    AIRCRAFT      S    MIN    SPEED      Z    MIN    SPEED      Z    SB/WB    NB/EB    SB/WB      S    MIN    SPEED      C    MIN    SPEED	RAIL INDUSTRIAL OTHER:	s/wb
SOURCE INFO AND TRAFFIC C PRIMARY NOISE ROADWAY TYPE TRAFFIC COUNT DURATION: I DIRECTION NB AUTOS DIRECTION NB AUTOS DIRECTION NB AUTOS DIRECTION NB AUTOS DIRECTION NB MED TRKS DIRECTION NB MOTRCLS SPEEDS ESTIMATED BY: RADAR POSTED SPEED LIMIT SIGNS SAY: OTHER NOISE SOURCES (BACKGE	COUNTS SOURCE A S PHA-( A S PHA-( A S PHA-( A S PEED SPEED SPEED SB/WB NB/EB SB/WB IF C DIS SB/WB NB/EB SB/WB IF C DIS C C C C C C C C C C C C C	RAIL INDUSTRIAL OTHER:	
SOURCE INFO AND TRAFFIC C PRIMARY NOISE ROADWAY TYPE TRAFFIC COUNT DURATION: I DIRECTION NB AUTOS DIRECTION NB AUTOS DIRECTION NB AUTOS DIRECTION NB AUTOS DIRECTION NB MED TRKS DIRECTION NB MOTRCLS SPEEDS ESTIMATED BY: RADAR POSTED SPEED LIMIT SIGNS SAY: OTHER NOISE SOURCES (BACKGE	COUNTS SOURCE A S PHA-( A S PHA-( A S PHA-( A S PEED SPEED SPEED SB/WB NB/EB SB/WB IF C DIS SB/WB NB/EB SB/WB IF C DIS C C C C C C C C C C C C C	RAIL INDUSTRIAL OTHER:	/
SOURCE INFO AND TRAFFIC C PRIMARY NOISE ROADWAY TYPE TRAFFIC COUNT DURATION: I DIRECTION NB AUTOS DIRECTION NB AUTOS DIRECTION NB AUTOS DIRECTION NB AUTOS DIRECTION NB MED TRKS DIRECTION NB MOTRCLS SPEEDS ESTIMATED BY: RADAR POSTED SPEED LIMIT SIGNS SAY: OTHER NOISE SOURCES (BACKGE	COUNTS SOURCE A S PHA-( A S PHA-( A S PHA-( A S PEED SPEED SPEED SB/WB NB/EB SB/WB IF C DIS SB/WB NB/EB SB/WB IF C DIS C C C C C C C C C C C C C	RAIL INDUSTRIAL OTHER:	
SOURCE INFO AND TRAFFIC C PRIMARY NOISE ROADWAY TYPE TRAFFIC COUNT DURATION: DIRECTION NB T AUTOS MED TRKS D AUTOS D AUTOS D BUSES MOTRCLS SPEEDS ESTIMATED BY: RADAR POSTED SPEED LIMIT SIGNS SAY: OTHER NOISE SOURCES (BACKGE DIST. KIDS PLAYIN	COUNTS SOURCE A S PHA-( A S PHA-( A S PHA-( A S PEED SPEED SPEED SB/WB NB/EB SB/WB IF C DIS SB/WB NB/EB SB/WB IF C DIS C C C C C C C C C C C C C	RAIL INDUSTRIAL OTHER:	

D	U	D	E	K

FIELD NOISE MEASUR	EMENT DATA
	PROJECT # 9289.0003
PROJECT 3175 BAIL RUAD APANTMENTS	OBSERVER(S) PETE VITAR
SITE ADDRESS START DATE 4/23/19 START TIME END TIME	-
METEOROLOGICAL CONDITIONS TEMP 73 F HUMIDITY 56 % R.H. WINDSPD MPH DIR. N NE S SE S SW W NW SKY SUNNY CLEAR OVRCAST PRTLY CLDY FOG	WIND CALLY LIGHT MODERATE VARIABLE STEADY GUSTY RAIN
ACOUSTIC MEASUREMENTS MEAS. INSTRUMENT <u>PICCULO SCM - 3</u> CALIBRATØR <u>ISWA CA 114</u> CALIBRATION CHECK PRE-TEST dBA SPL	_TYPE 1 2 SERIAL # 14037700 SERIAL # 1403770 SERIAL # 1400770 SERIAL # 14007700 SERIAL # 14007700 SERIAL # 14007700 SERIAL # 14007700 SERIAL # 140070
SETTINGS A-WTD SLOW FAST FRONTAL RANDOM	OTHER (SPECIFY METRIC
1) <u>8-9</u> <u>12:02</u> <u>12:17</u> <u>70.6</u> <u>81.7</u> <u>56.6</u> 	BAIL ROAD (RESIDENTIAL);
TRAFFIC COUNT DURATION: IS MIN SPEED	INDUSTRIAL OTHER:
DIRECTION NB/EB SB/WB NB/EB SB/WB IF COUNTIN AUTOS 289 BOTH MED TRKS DIRECTION HOW TRKS DIRECTION AS ONE	s 5 Å
BUSES 2 MOTRCLS 2 MOTRCLS 2	0 "
SPEEDS ESTIMATED BY: RADAR / DRIVING THE PACE POSTED SPEED LIMIT SIGNS SAY:	
OTHER NOISE SOURCES (BACKGROUND): DIST. AIRCRAFT RUSTLING LEAVES DIST. DIST. KIDS PLAYING DIST. CONVRSTNS / YELLING DIST. TRAFFIC (LIST OTHER:	

DESCRIPTION / SKET TERRAIN H PHOTOS <u>47</u> OTHER COMMENT	ARD SOFT MIXED	FLAT OTHER: 4277; 427	8; 4279;		 	
			<u>·</u>	*****		

### **APPENDIX H-2**

Construction Noise Modeling Input and Output

#### Roadway Construction Noise Model (RCNM), Version 1.1

Report date: Case Description:

#### 6/10/2019 3175 Ball Road Apartments - Demolition

				Rece	eptor #1		
		Baselines	(dBA)	neoc			
Description	Land Use	Daytime		Night			
Nearest Residences - N	Residential	65		-	55		
				Equipmo	ent		
				Spec	Actual	Receptor	Estimated
		Impact		Lmax	Lmax	Distance	Shielding
Description		Device	Usage(%)	(dBA)	(dBA)	(feet)	(dBA)
Concrete Saw		No	20		89.6	5 20	0
Dozer		No	40		81.7	25	0
Backhoe		No	40		77.6	5 30	0
Tractor		No	40		84	25	0
				Results			
		Calculated	d (dBA)	Results	Noise Lim	its (dBA)	
				Day		Evening	
Equipment		*Lmax	Leg	Lmax	Leq	Lmax	Leq
Concrete Saw		97.5	•	N/A	N/A	N/A	N/A
Dozer		87.7		N/A	N/A	N/A	N/A
Backhoe		82		N/A	N/A	N/A	N/A
Tractor		90		N/A	N/A	N/A	N/A
	Total	97.5		N/A	N/A	N/A	N/A
			ed Lmax is t		-	,	,
				Rece	eptor #2		
		Baselines	(dBA)		eptor #2		
Description	Land Use	Daytime	Evening	Night	eptor #2		
Description Nearest Residences - N typically	Land Use Residential		Evening	Night	eptor #2 55		
•		Daytime	Evening	Night	55		
•		Daytime	Evening	Night Equipm	55 ent	Receptor	Estimated
•		Daytime 65	Evening	Night Equipmo Spec	55 ent Actual		Estimated Shielding
Nearest Residences - N typically		Daytime 65 Impact	Evening 60	Night Equipmo Spec Lmax	55 ent Actual Lmax	Distance	Shielding
Nearest Residences - N typically Description		Daytime 65 Impact Device	Evening 60 Usage(%)	Night Equipmo Spec Lmax (dBA)	55 ent Actual Lmax (dBA)	Distance (feet)	Shielding (dBA)
Nearest Residences - N typically Description Concrete Saw		Daytime 65 Impact Device No	Evening 60 Usage(%) 20	Night Equipmo Spec Lmax (dBA)	55 ent Actual Lmax (dBA) 89.6	Distance (feet) 5 50	Shielding (dBA) 0 0
Nearest Residences - N typically Description Concrete Saw Dozer		Daytime 65 Impact Device No No	Evening 60 Usage(%) 20 40	Night Equipmo Spec Lmax (dBA)	55 ent Actual Lmax (dBA) 89.6 81.7	Distance (feet) 5 50 7 50	Shielding (dBA) 0 0 0 0
Nearest Residences - N typically Description Concrete Saw		Daytime 65 Impact Device No	Evening 60 Usage(%) 20	Night Equipmo Spec Lmax (dBA)	55 ent Actual Lmax (dBA) 89.6	Distance (feet) 5 50 7 50	Shielding (dBA) 0 0 0 0 0 0
Nearest Residences - N typically Description Concrete Saw Dozer Backhoe		Daytime 65 Impact Device No No No	Evening 60 Usage(%) 20 40 40	Night Equipmo Spec Lmax (dBA)	55 ent Actual Lmax (dBA) 89.6 81.7 77.6	Distance (feet) 5 50 7 50 5 50	Shielding (dBA) 0 0 0 0 0 0
Nearest Residences - N typically Description Concrete Saw Dozer Backhoe		Daytime 65 Impact Device No No No No	Evening 60 Usage(%) 20 40 40 40	Night Equipmo Spec Lmax (dBA)	55 ent Actual Lmax (dBA) 89.6 81.7 77.6	Distance (feet) 5 50 7 50 5 50 5 50	Shielding (dBA) 0 0 0 0 0 0
Nearest Residences - N typically Description Concrete Saw Dozer Backhoe		Daytime 65 Impact Device No No No	Evening 60 Usage(%) 20 40 40 40	Night Equipmo Spec Lmax (dBA) Results	55 ent Actual Lmax (dBA) 89.6 81.7 77.6	Distance (feet) 5 50 5 50 5 50 50 50 50 50	Shielding (dBA) 0 0 0 0 0 0
Nearest Residences - N typically Description Concrete Saw Dozer Backhoe Tractor		Daytime 65 Impact Device No No No No Calculated	Evening 60 Usage(%) 20 40 40 40 40 40	Night Equipme Spec Lmax (dBA) Results Day	55 ent Actual Lmax (dBA) 89.6 81.7 77.6 84	Distance (feet) 5 50 5 50 5 50 50 50 50 50 50 50 50 50 50 50 50 50 5	Shielding (dBA) 0 0 0 0 0 0
Nearest Residences - N typically Description Concrete Saw Dozer Backhoe Tractor Equipment		Daytime 65 Impact Device No No No Calculated	Evening 60 Usage(%) 20 40 40 40 40 40 40 40 40 40 40 40 40 40	Night Equipmo Spec Lmax (dBA) Results Day Lmax	55 ent Actual Lmax (dBA) 89.6 81.7 77.6 84 Noise Lim Leq	Distance (feet) 5 50 5 50 5 50 50 50 50 50 50 50 50 50 50 50 50 50 5	Shielding (dBA) 0 0 0 0 0 0 0 0
Nearest Residences - N typically Description Concrete Saw Dozer Backhoe Tractor Equipment Concrete Saw		Daytime 65 Impact Device No No No Calculated *Lmax 89.6	Evening 60 Usage(%) 20 40 40 40 40 40 40 40 40 40 40 40 40 40	Night Equipmo Spec Lmax (dBA) Results Day Lmax N/A	55 ent Actual Lmax (dBA) 89.6 81.7 77.6 84 Noise Lim Leq N/A	Distance (feet) 5 50 5 50 5 50 50 50 50 50 50 50 50 50 50 50 50 50 5	Shielding (dBA) 0 0 0 0 0 0 0 0 0 0 0 0
Nearest Residences - N typically Description Concrete Saw Dozer Backhoe Tractor Equipment Concrete Saw Dozer		Daytime 65 Impact Device No No No Calculated *Lmax 89.6 81.7	Evening 600 Usage(%) 200 400 400 400 400 400 400 400 400 400	Night Equipmo Spec Lmax (dBA) Results Day Lmax N/A N/A	55 ent Actual Lmax (dBA) 89.6 81.7 77.6 84 Noise Lim Leq N/A N/A	Distance (feet) 5 50 5 50 5 50 50 50 50 50 50 50 50 50 50 50 50 50 5	Shielding (dBA) 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
Nearest Residences - N typically Description Concrete Saw Dozer Backhoe Tractor Equipment Concrete Saw Dozer Backhoe		Daytime 65 Impact Device No No No Calculated *Lmax 89.6 81.7 77.6	Evening 600 000 000 000 000 000 000 000 000 00	Night Equipmo Spec Lmax (dBA) Results Day Lmax N/A N/A N/A	55 ent Actual Lmax (dBA) 89.6 81.7 77.6 84 Noise Lim Leq N/A N/A N/A	Distance (feet) 5 50 5 50 5 50 5 50 50 50 50 50 50 50 50 50 50 50 50 50 5	Shielding (dBA) 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
Nearest Residences - N typically Description Concrete Saw Dozer Backhoe Tractor Equipment Concrete Saw Dozer		Daytime 65 Impact Device No No No Calculated *Lmax 89.6 81.7	Evening Evening 60 Usage(%) 20 40 40 40 40 40 40 40 40 40 4	Night Equipmo Spec Lmax (dBA) Results Day Lmax N/A N/A	55 ent Actual Lmax (dBA) 89.6 81.7 77.6 84 Noise Lim Leq N/A N/A	Distance (feet) 5 50 5 50 5 50 50 50 50 50 50 50 50 50 50 50 50 50 5	Shielding (dBA) 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0

\*Calculated Lmax is the Loudest value.

Roadway Construction Noise Model (RCNM), Version 1.1

Case Description:

#### 3175 Ball Road Apartments - Site Preparation

					F	Recept	tor #1			
		Baselin	es (	dBA)						
Description	Land Use	Daytim		Evening	Nigh					
Nearest Residences - N	Residential		65	60	)	55				
					•	pmen				
					Spec		Actual	Receptor		
		Impact			Lma		Lmax	Distance	Shieldin	g
Description		Device		Usage(%)			(dBA)	(feet)	(dBA)	
Grader		No		40		85		20		0
Tractor		No		40	)	84		25		0
					Resu	ılts				
		Calcula	ted	(dBA)			Noise Lim	its (dBA)		
					Day			Evening		
Equipment		*Lmax		Leq	Lma	x	Leq	Lmax	Leq	
Grader			93	89	N/A		N/A	N/A	N/A	
Tractor			90	86	5 N/A		N/A	N/A	N/A	
	Total		93	90.8	8 N/A		N/A	N/A	N/A	
		*Calcu	ate	d Lmax is t	he Lo	udest	value.			
					F	Recept	tor #2			
		Baselin	es (	dBA)	F	Recept	tor #2			
Description	Land Use	Baselin Daytim		dBA) Evening	F Nigh	•	tor #2			
Description Nearest Residences - N typically	Land Use Residential				Nigh	•				
•			e	Evening	Nigh )	t 55				
•			e	Evening	Nigh ) Equi	it 55 pmen	t	Receptor	Estimate	ed
•		Daytim	e 65	Evening	Nigh ) Equi Spec	t 55 pmen	t Actual	Receptor		
Nearest Residences - N typically		Daytim Impact	e 65	Evening 60	Nigh Equi Spec Lma:	t 55 pmen ; x	t Actual Lmax	Distance	Shieldin	
Nearest Residences - N typically Description		Daytim Impact Device	e 65	Evening 60 Usage(%)	Nigh Equi Spec Lma: (dBA	t 55 pmen : x	t Actual Lmax (dBA)	Distance (feet)	Shieldin (dBA)	g
Nearest Residences - N typically		Daytim Impact	e 65	Evening 60	Nigh Equi Spec Lma: (dBA	t 55 pmen ; x	t Actual Lmax (dBA)	Distance	Shieldin (dBA)	
Nearest Residences - N typically Description Grader		Daytim Impact Device No	e 65	Evening 60 Usage(%) 40	Nigh Equi Spec Lma: (dBA	t 55 pmen x x 85	t Actual Lmax (dBA)	Distance (feet) 50	Shieldin (dBA)	g O
Nearest Residences - N typically Description Grader		Daytim Impact Device No	e 65	Evening 60 Usage(%) 40	Nigh Equi Spec Lma: (dBA	t 55 pmen x x 85 84	t Actual Lmax (dBA)	Distance (feet) 50	Shieldin (dBA)	g O
Nearest Residences - N typically Description Grader		Daytim Impact Device No	e 65	Evening 60 Usage(%) 40 40	Nigh Equi Spec Lma: (dBA	t 55 pmen x x 85 84	t Actual Lmax (dBA)	Distance (feet) 50 50	Shieldin (dBA)	g O
Nearest Residences - N typically Description Grader		Daytim Impact Device No No Calcula	e 65	Evening 60 Usage(%) 40 40	Nigh Equi Spec Lma: (dBA	t 55 pmen x x 85 84	t Actual Lmax (dBA)	Distance (feet) 50 50	Shieldin (dBA)	g O
Nearest Residences - N typically Description Grader		Daytim Impact Device No No	e 65	Evening 60 Usage(%) 40 40 (dBA) Leq	Nigh Equi Spec Lma: (dBA) Resu Day Lma:	t 55 pmen x () 85 84 Ilts	t Actual Lmax (dBA) Noise Lim Leq	Distance (feet) 50 50 its (dBA) Evening Lmax	Shieldin (dBA) ) Leq	g O
Nearest Residences - N typically Description Grader Tractor		Daytim Impact Device No No Calcula	e 65	Evening 60 Usage(%) 40 40 (dBA) Leq	Nigh Equi Spec Lma: (dBA ) Resu Day	t 55 pmen x () 85 84 Ilts	t Actual Lmax (dBA) Noise Lim Leq N/A	Distance (feet) 50 50 its (dBA) Evening	Shieldin (dBA) ) Leq N/A	g O
Nearest Residences - N typically Description Grader Tractor Equipment		Daytim Impact Device No No Calcula	e 65 65 ted 85 84	Evening 60 Usage(%) 40 (dBA) Leq 81	Nigh Equi Spec Lma: (dBA) Resu Day Lma:	t 55 pmen x () 85 84 Ilts	t Actual Lmax (dBA) Noise Lim Leq N/A N/A	Distance (feet) 50 50 its (dBA) Evening Lmax	Shieldin (dBA) ) Leq	g O
Nearest Residences - N typically Description Grader Tractor Equipment Grader		Daytim Impact Device No No Calcula	e 65 ted	Evening 60 00000000000000000000000000000000000	Nigh Equi Spec (dBA ) Resu Day Lma:	t 55 pmen x () 85 84 Ilts	t Actual Lmax (dBA) Noise Lim Leq N/A	Distance (feet) 50 50 its (dBA) Evening Lmax N/A	Shieldin (dBA) ) Leq N/A	g O

#### Roadway Construction Noise Model (RCNM), Version 1.1

Report date: Case Description: 6/10/2019 3175 Ball Road Apartments - Grade Prep

		Receptor #1					
		Baselines	(dBA)				
Description	Land Use	Daytime	Evening	Night			
Nearest Residences - N	Residential	6	5 60	)	55		
				Equipm	ent		
				Spec	Actual	Receptor	Estimated
		Impact		Lmax	Lmax	Distance	Shielding
Description		Device	Usage(%)	(dBA)	(dBA)	(feet)	(dBA)
Concrete Saw		No	20	)	89.6	5 20	0
Dozer		No	40	)	81.7	25	0
Front End Loader		No	40	)	79.1	. 30	0

Backhoe		No	40	77.6	30	0
			Results			
		Calculated (dl		Noise Limit	s (dBA)	
		,	, Day		Evening	
Equipment		*Lmax Le	q Lmax	Leq	Lmax	Leq
Concrete Saw		97.5	90.5 N/A	N/A	N/A	N/A
Dozer		87.7	83.7 N/A	N/A	N/A	N/A
Front End Loader		83.5	79.6 N/A	-	N/A	N/A
Backhoe		82	78 N/A	-	N/A	N/A
	Total	97.5	91.8 N/A		N/A	N/A
		*Calculated L	max is the Loude	st value.		
			Rece	eptor #2		
		Baselines (dB	A)			
Description	Land Use	Daytime Ev	ening Night			
Nearest Residences - N typically	Residential	65	60	55		
			Equipm	- <b>n</b> t		
			Spec		Pocontor	Estimated
		Impact	Lmax		Distance	Shielding
Description		•	age(%) (dBA)		(feet)	(dBA)
Concrete Saw		No	20	89.6	50	
Dozer		No	40	81.7	50	
Front End Loader		No	40	79.1	50	
Backhoe		No	40	77.6	50	0
			Results			
		Calculated (dl		Noise Limit	s (dBA)	
			Day		Evening	
Equipment		*Lmax Le	q Lmax	Leq	Lmax	Leq
Concrete Saw		89.6	82.6 N/A	N/A	N/A	N/A
Dozer		81.7	77.7 N/A	N/A	N/A	N/A
Front End Loader		79.1	75.1 N/A	N/A	N/A	N/A
Backhoe		77.6	73.6 N/A	N/A	N/A	N/A
	Total	89.6	84.7 N/A	N/A	N/A	N/A
		*Calculated L	max is the Loude	st value.		

#### Roadway Construction Noise Model (RCNM), Version 1.1

Case Description:	3175 Ball Road Ap	artments - Builc	ling Constru	ction			
				Re	ceptor #1		
		Baselines	(dBA)				
Description	Land Use	Daytime	Evening	Night			
Nearest Residences - N	Residential	65	5 60	)	55		
				Equipr	ment		
				Spec	Actual	Receptor	Estimated
		Impact		Lmax	Lmax	Distance	Shielding
Description		Device	Usage(%)	(dBA)	(dBA)	(feet)	(dBA)
Crane		No	16		80.	5 20	) 0
Man Lift		No	20	1	74.	7 25	5 0
Man Lift		No	20	1	74.	7 30	) 0
Tractor		No	40	1	84	25	5 0
Backhoe		No	40	)	77.	5 30	0 0
				Result	S		

6/10/2019

Report date:

Calculated (dBA)

Noise Limits (dBA)

			Day		Evening	
Equipment		*Lmax Leq	Lmax	Leq	Lmax	Leq
Crane		88.5	80.6 N/A	N/A	N/A	N/A
Man Lift		80.7	73.7 N/A	N/A	N/A	N/A
Man Lift		79.1	72.1 N/A	N/A	N/A	N/A
Tractor		90	86 N/A	N/A	N/A	N/A
Backhoe		82	78 N/A	N/A	N/A	N/A
	Total	90	87.9 N/A	N/A	N/A	N/A
		*Calculated Lm	nax is the Loude	st value.		
			Rece	ptor #2	-	
		Baselines (dBA	.)			
Description	Land Use	Daytime Eve	ning Night			
Nearest Residences - N typically	Residential	65	60 5	55		

			Equipn	nent			
	Impact		Spec Lmax		Actual Lmax	Receptor Distance	Estimated Shielding
Description	Device	Usage(%)	(dBA)		(dBA)	(feet)	(dBA)
Crane	No	16			80.6	50	0
Man Lift	No	20			74.7	50	0
Man Lift	No	20			74.7	50	0
Tractor	No	40		84		50	0
Backhoe	No	40			77.6	50	0

			Results			
		Calculated (dB	A)	Noise L	imits (dBA)	
			Day		Evening	
Equipment		*Lmax Leq	Lmax	Leq	Lmax	Leq
Crane		80.6	72.6 N/A	N/A	N/A	N/A
Man Lift		74.7	67.7 N/A	N/A	N/A	N/A
Man Lift		74.7	67.7 N/A	N/A	N/A	N/A
Tractor		84	80 N/A	N/A	N/A	N/A
Backhoe		77.6	73.6 N/A	N/A	N/A	N/A
	Total	84	81.9 N/A	N/A	N/A	N/A
		*Calculated I m	av is the Louder	et value		

\*Calculated Lmax is the Loudest value.

Day

#### Roadway Construction Noise Model (RCNM), Version 1.1

Evening

Report date:	6/10/	2019					
Case Description:	3175 Ball Road Apa	artments - Pavir	ng				
				Rec	eptor #1		
		Baselines	(dBA)				
Description	Land Use		Evening	Night			
Nearest Residences - N	Residential	65		-	55		
				Equipm	ent		
				Spec	Actual	Receptor	Estimated
		Impact		Lmax	Lmax	Distance	Shielding
Description		Device	Usage(%)	(dBA)	(dBA)	(feet)	(dBA)
Concrete Mixer Truck		No	40		78.8	20	0 0
Paver		No	50		77.2	25	5 0
Roller		No	20		80	30	0 0
Backhoe		No	40		77.6	30	0 0
				Results			
		Calculated	d (dBA)		Noise Limi	ts (dBA)	

Equipment Concrete Mixer Truck Paver Roller Backhoe	Total	*Lmax 86.8 83.2 84.4 82 86.8 *Calculate	2 1 2 3	86.2	N/A N/A N/A N/A	Leq N/A N/A N/A N/A N/A est value.	Lmax N/A N/A N/A N/A N/A	Leq N/A N/A N/A N/A
					Rec	eptor #2		
		Baselines	(dBA)					
Description	Land Use	Daytime	• •	ing	Night			
Nearest Residences - N typically	Residential	65	5	60		55		
					Equipm	nent		
					Spec	Actual	Receptor	Estimated
		Impact			Lmax	Lmax	Distance	Shielding
Description		Device	Usag	e(%)	(dBA)	(dBA)	(feet)	(dBA)
Concrete Mixer Truck		No		40		78.	8 50	) 0
Paver		No		50		77.	2 50	) 0
Roller		No		20		8	0 50	) 0
Backhoe		No		40		77.	6 50	0 0
					Results			
		Calculate	d (dBA)	)		Noise Lim	nits (dBA)	
		carculate		,	Day		Evening	
Equipment		*Lmax	Leg		Lmax	Leq	Lmax	Leq
Concrete Mixer Truck		78.8	•	74.8		N/A	N/A	N/A
Paver		77.2		74.2		N/A	N/A	N/A
Roller		80			N/A	N/A	N/A	N/A
Backhoe		77.6		73.6		N/A	N/A	N/A
Buckhoe	Total	80			N/A	N/A	N/A	N/A
	10101	*Calculate						

Calculated Lmax is the Loudest value.

Roadway Construction Noise Model (RCNM), Version 1.1

Report date: 6/10/2019 Case Description: 3175 Ball Road Apartments - Architectural Coatings ---- Receptor #1 ----Baselines (dBA) Land Use Description Daytime Evening Night Residential Nearest Residences - N 60 65 55 Equipment Spec Actual Receptor Estimated Impact Lmax Lmax Distance Shielding Description Device Usage(%) (dBA) (dBA) (feet) (dBA) Compressor (air) No 40 77.7 20 0 Results Calculated (dBA) Noise Limits (dBA) Day Evening Equipment \*Lmax Leq Lmax Lmax Leq Leq Compressor (air) 81.6 N/A N/A 85.6 N/A N/A Total 85.6 81.6 N/A N/A N/A N/A \*Calculated Lmax is the Loudest value. ---- Receptor #2 ----Baselines (dBA) Land Use Daytime Evening Night Description

Nearest Residences - N typically	Residential	65	60	) !	55		
				Faulama	t		
				Equipme			
				Spec	Actual	Receptor	Estimated
		Impact		Lmax	Lmax	Distance	Shielding
Description		Device	Usage(%)	(dBA)	(dBA)	(feet)	(dBA)
Compressor (air)		No	40	)	77.7	7 50	) 0
				Results			
		Calculated	l (dBA)		Noise Lim	its (dBA)	
				Day		Evening	
Equipment		*Lmax	Leq	Lmax	Leq	Lmax	Leq
Compressor (air)		77.7	73.7	′ N/A	N/A	N/A	N/A
	Total	77.7	73.7	′ N/A	N/A	N/A	N/A
		*Calculate	ed Lmax is t	he Loude:	st value.		

### **APPENDIX H-3**

Traffic Noise Modeling Input and Output

INPUT: ROADWAYS					1		9289.	0003			-
Dudek					3 April 2020						
MG					TNM 2.5						
INPUT: ROADWAYS							Average	pavement typ	e shall be ι	used unless	5;
PROJECT/CONTRACT:	9289.0003	3			1		a State h	ghway agenc	y substant	iates the us	3e
RUN:	Ball Road	l Apartme	nts Proje	ct - Existing			of a diffe	rent type with	the approv	al of FHW	4
Roadway		Points					-		_		
Name	Width	Name	No.	Coordinates	(pavement)		Flow Cor	itrol		Segment	
				X	Y	Z	Control	Speed	Percent	Pvmt	On
							Device	Constraint	Vehicles	Туре	Struct?
									Affected		
	ft			ft	ft	ft		mph	%		
Western Avenue -south of Ball Road	55.0	point3	3	1,000.0	100.0	100.00				Average	
		point4	4	1,000.0	1,000.0	100.00					
Western Avenue -north of Ball Road	55.0	point5	5	1,000.0	1,010.0	100.00				Average	
		point6	6	1,000.0	2,000.0	100.00					
Ball Road - west of Western Ave	80.0	point7	7	10.0	1,000.0	100.00				Average	
		point8	8	990.0	1,000.0	100.00					
Ball Road - east of Western Ave	80.0	point9	9	1,010.0	1,000.0	0 100.00				Average	
		point10	10	2,000.0	1,000.0	100.00					

INPUT: TRAFFIC FOR LAeq1h Percent	ages							928	9.0003				
Dudek							3 April :	2020					
MG							TNM 2.	5					
INPUT: TRAFFIC FOR LAeq1h Percent	ages												
PROJECT/CONTRACT:	9289.0003												
RUN:	Ball Road A	Apartment	s Project - E	Existin	ng								
Roadway	Points									_	_		
Name	Name	No.	Segment										
			Total	Autos	5	MTru	cks	HTru	cks	Buse	es	Moto	rcycles
			Volume	Р	S	Ρ	S	Ρ	S	Ρ	S	Ρ	S
			veh/hr	%	mph	%	mph	%	mph	%	mph	%	mph
Western Avenue -south of Ball Road	point3	3	2305	97	40	2	40	1	4	0 0	) (	) (	) C
	point4	4											
Western Avenue -north of Ball Road	point5	5	2565	97	40	2	40	1	4	0 (	) (	) (	) C
	point6	6											
Ball Road - west of Western Ave	point7	7	2269	97	40	2	40	1	4	0 0	) (	) (	) C
	point8	8											
Ball Road - east of Western Ave	point9	9	2003	97	40	2	40	1	4	0 0	) (	) (	) C
	point10	10											

INPUT: RECEIVERS			1			9	289.0003			
Dudek					3 April 202	20				
MG					TNM 2.5					
INPUT: RECEIVERS										
PROJECT/CONTRACT:	9289.0003	I	I	1						
RUN:	Ball Road Ap	partments Pro	ject - Existing	g						
Receiver										
Name	No. #DUs	Coordinates	(ground)		Height	Input Sou	nd Levels a	and Criteria	a	Active
		X	Y	Z	above	Existing	Impact Cr	iteria	NR	in
					Ground	LAeq1h	LAeq1h	Sub'l	Goal	Calc.
		ft	ft	ft	ft	dBA	dBA	dB	dB	-
ST1	2 1	1,070.7	1,081.8	100.00	5.00	0.00	66	10.0	8.0	) Y
ST2	3 1	1,054.9	1,226.7	100.00	5.00	0.00	66	10.0	8.0	) Y
ST3	6 1	1,304.1	1,070.2	100.00	5.00	0.00	66	10.0	8.0	) Y
ST4	9 1	775.0	1,083.6	100.00	5.00	0.00	66	10.0	8.0	) Y
M1	11 1	1,074.5	852.6	100.00	5.00	0.00	66	10.0	8.0	) Y

<b>_</b>																		
Dudek					3 April													
MG					TNM 2.	5												
INPUT: BARRIERS																		-
PROJECT/CONTRACT:	9289.0	0003																
RUN:	Ball R	oad Ap	artment	s Project	- Existir	ng												
Barrier									Points									
Name	Туре	Heigh	t	lf Wall	If Berm	1		Add'tnl	Name	No.	Coordinates	(bottom)		Height	Segment			
		Min	Max	\$ per	\$ per	Тор	Run:Rise	\$ per			x	Y	z		Seg Ht Per			Importan
				Unit	Unit	Width		Unit						Point	Incre- #Up	#Dn	Struct?	Reflec-
				Area	Vol.			Length							ment			tions?
		ft	ft	\$/sq ft	\$/cu yd	ft	ft:ft	\$/ft			ft	ft	ft	ft	ft			
Barrier1	W	0.0	99.9	9 0.00				0.00	point1		l 1,378.5	1,074.1	100.00			0 0		
									point2	2	2 1,140.9	1,075.5				0 0		
									point7	7	7 1,140.2	1,212.2				0 0		
									point8	8	3 1,063.3	1,210.4				0 0		
									point3	3	3 1,063.7	1,429.0						
Barrier2	W	0.0	99.9	9 0.00	)			0.00		4	4 652.9	1,086.9				0 0		
									point5	5	5 936.3	1,086.9				0 0		
									point6	e	936.3	1,433.3						
Barrier3	W	0.0	99.9	9 0.00	)			0.00	point9	ę	657.2	935.2	100.00	20.00	0.00	0 0		
									point10	10	909.1	935.2	100.00			0 0		
									point11	11	907.6	613.2	100.00	20.00				
Barrier4	W	0.0	99.9	9 0.00	)			0.00	point12	12	2 1,082.3	613.2	100.00			0 0		
									point13	13	3 1,082.3	941.0	100.00	20.00	0.00	0 0		
									point14	14	1,425.8	941.0	100.00	20.00				

RESULTS: SOUND LEVELS	Ì	-	1	]	- [	9	289.0003	1		1		
Dudek							3 April 20	20				
MG							TNM 2.5					
							Calculated	d with TNM	2.5			
RESULTS: SOUND LEVELS												
PROJECT/CONTRACT:		9289.00	03									
RUN:		Ball Ro	ad Apartm	ents Project -	Existing							
BARRIER DESIGN:		INPUT	HEIGHTS					Average p	avement type	e shall be use	d unless	
		]						a State hig	ghway agency	y substantiate	s the use	
ATMOSPHERICS:		68 deg	F, 50% RH					of a differ	ent type with	approval of F	HWA.	
Receiver					_							
Name	No.	#DUs	Existing	No Barrier					With Barrier			
		İ	LAeq1h	LAeq1h		Increase over	existing	Туре	Calculated	Noise Reduc	tion	
		İ		Calculated	Crit'n	Calculated	Crit'n	Impact	LAeq1h	Calculated	Goal	Calculated
							Sub'l Inc					minus
												Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
ST1	2	2 1	0.0	70.4	66	70.4	10	Snd Lv	70.4	0.0	8	-8.
ST2	3	3 1	0.0	69.6	66	69.6	10	Snd Lv	69.6	0.0	8	-8.
ST3	6	6 1	0.0	67.3	66	67.3	10	Snd LvI	67.3	0.0	8	-8.
ST4	ç	) 1	0.0	67.4	66	67.4	10	Snd LvI	67.4	0.0	8	-8.
M1	11	1	0.0	68.3	66	68.3	10	Snd Lv	68.3	0.0	8	-8.
Dwelling Units		# DUs	Noise Ree	duction								
		ĺ	Min	Avg	Max							
			dB	dB	dB							
All Selected		5	0.0	0.0	0.0	)						
All Impacted		5	0.0	0.0	0.0	)						
All that meet NR Goal		0	0.0	0.0	0.0	)						

NPUT: ROADWAYS							9289.	0003			
Dudek					3 April 2020						
MG					TNM 2.5						
INPUT: ROADWAYS							Average	pavement typ	e shall be ι	used unless	5
PROJECT/CONTRACT:	9289.000	3			I		a State h	ighway agend	y substant	iates the us	se
RUN:	Ball Road	l Apartme	nts Proje	ct - Exis w Pr	j		of a diffe	rent type with	the approv	al of FHW	4
Roadway		Points							_		
Name	Width	Name	No.	Coordinates	(pavement)		Flow Cor	ntrol		Segment	
				X	Y	Z	Control	Speed	Percent	Pvmt	On
							Device	Constraint	Vehicles	Туре	Struct?
									Affected		
	ft			ft	ft	ft		mph	%		
Western Avenue -south of Ball Road	55.0	point3	3	1,000.0	100.0	100.00	D			Average	
		point4	4	1,000.0	1,000.0	100.00	)				
Western Avenue -north of Ball Road	55.0	point5	5	1,000.0	1,010.0	100.00	)			Average	
		point6	6	1,000.0	2,000.0	100.00	)				
Ball Road - west of Western Ave	80.0	point7	7	10.0	1,000.0	100.00	)			Average	
		point8	8	990.0	1,000.0	100.00	)				
Ball Road - east of Western Ave	80.0	point9	9	1,010.0	1,000.0	100.00	)			Average	
		point10	10	2,000.0	1,000.0	100.00	)				

INPUT: TRAFFIC FOR LAeq1h Percent	ages		[					928	9.0003				
Dudek							3 April 2	2020					
MG							TNM 2.	5					
INPUT: TRAFFIC FOR LAeq1h Percent	ages												
PROJECT/CONTRACT:	9289.0003												
RUN:	Ball Road A	Apartment	s Project - I	Exis w	Prj								
Roadway	Points								_	-			
Name	Name	No.	Segment										
			Total	Autos	5	MTru	cks	HTru	icks	Buse	s	Moto	orcycles
			Volume	Р	S	Ρ	S	Ρ	S	Ρ	S	Ρ	S
			veh/hr	%	mph	%	mph	%	mph	%	mph	%	mph
Western Avenue -south of Ball Road	point3	3	2321	97	40	2	40	1	4	) C	) C	C	0 0
	point4	4											
Western Avenue -north of Ball Road	point5	5	2581	97	40	2	40	1	4	) C	) C	0 0	0 0
	point6	6											
Ball Road - west of Western Ave	point7	7	2291	97	40	2	40	1	I 40	D C	) C	0 0	0 0
	point8	8											
Ball Road - east of Western Ave	point9	9	2052	97	40	2	40	1	4	D C	) C	) C	0 0
	point10	10											

INPUT: RECEIVERS	1						ę	289.0003			
Dudek						3 April 202	:0				
MG						TNM 2.5					
INPUT: RECEIVERS											
PROJECT/CONTRACT:	9289.0	003	1		I						
RUN:	Ball R	oad Ap	oartments Pro	ject - Exis w l	Prj						
Receiver											
Name	No.	#DUs	Coordinates	(ground)		Height	Input Sou	nd Levels a	and Criteria	a	Active
		ĺ	X	Y	Z	above	Existing	Impact Cr	iteria	NR	in
						Ground	LAeq1h	LAeq1h	Sub'l	Goal	Calc.
			ft	ft	ft	ft	dBA	dBA	dB	dB	
ST1	2	1	1,070.7	1,081.8	100.00	5.00	0.00	66	10.0	8.0	Y
ST2	3	1	1,054.9	1,226.7	100.00	5.00	0.00	66	10.0	8.0	Y
ST3	6	1	1,304.1	1,070.2	100.00	5.00	0.00	66	10.0	8.0	Y
ST4	9	1	775.0	1,083.6	100.00	5.00	0.00	66	10.0	8.0	Y
M1	11	1	1,074.5	852.6	100.00	5.00	0.00	66	10.0	8.0	Y
M2a - Prpsd Resi Unit - west side 1st flr	13	1	1,059.7	1,112.5	100.00	10.00	0.00	66	10.0	8.0	Y
M2b - Prpsd Resi Unit - west side 2nd flr	· 14	1	1,059.7	1,112.5	100.00	20.00	0.00	66	10.0	8.0	Y
M3a - Prpsd Resi Unit - south side 1st fl	r 17	1	1,097.3	1,074.0	100.00	10.00	0.00	66	10.0	8.0	Y
M3b - Prpsd Resi Unit - south side 2nd f			1,097.3	1,074.0	100.00	20.00	0.00			8.0	
M4 - Interior courtyard	20	1	1,093.4	1,124.3	100.00	5.00	0.00	66	10.0	8.0	Y

									9209.000										
Dudek					3 April	2020													
MG					TNM 2.														
INPUT: BARRIERS																			
PROJECT/CONTRACT:	9289.0																		
RUN:	Ball R	oad Apa	rtments	Project	- Exis w	Prj													
Barrier									Points										
Name	Туре	Height		lf Wall	If Berm			Add'tnl	Name	No.	Coordinates	(bottom)		Height	Segme	_			
		Min	Max	\$ per		Тор	Run:Rise	\$ per			x	Y	z	at	Seg H				Importar
				Unit	Unit	Width		Unit						Point	Incre-	#Up	#Dn	Struct?	Reflec-
				Area	Vol.			Length							ment				tions?
		ft	ft	\$/sq ft	\$/cu yd	ft	ft:ft	\$/ft	ll		ft	ft	ft	ft	ft				
Barrier1	W	0.00	99.99	0.00				0.00	point1	1	l 1,378.5		100.00						
									point2	2	,	1,075.5				0	0		
									point7	7	.,	1,212.2				0			
									point8	8	.,	1,210.4				0	0		
									point3	3	,	1,429.0							
Barrier2	W	0.00	99.99	0.00				0.00	point4		4 652.9	1,086.9		20.00		0			
									point5	5	936.3	1,086.9				0	0		
									point6	6		1,433.3							
Barrier3	W	0.00	99.99	0.00	1			0.00	point9	9		935.2	100.00	20.00		0			
									point10	10		935.2				0	C		
									point11	11		613.2							
Barrier4	W	0.00	99.99	0.00				0.00	1	12	,	613.2				0			
									point13	13	,	941.0	100.00			0	0		
									point14	14	,	941.0				-			
Proposed Project	W	0.00	99.99	0.00				0.00		15		1,190.5 1,096.6		35.00 35.00		0			
									point16 point17	16		1,096.6				_			
									point17	17		1,074.9				0	0		
Barrier6	w	0.00	99.99	0.00				0.00	•	19		1,074.9				0	C		
Damero	~~~~	0.00	38.89	0.00				0.00	point20	20		1,074.9				-			
L									point20	21		1,190.5					0		
Barrier7	w	0.00	99.99	0.00				0.00		22		1,159.4				0	0		
		0.00	00.00	0.00				0.00	point22	23	,	1,106.5				0			
									point24	24		1,106.5				-			
									point25	25		1,161.2		35.00		0			
									point26	26	,	1,161.3							

RESULTS: SOUND LEVELS	,		-		· ·	9	289.0003	·	- 1	;		·
Dudek							3 April 20	20				
MG							TNM 2.5					
					-		-	d with TNM	2.5			_
RESULTS: SOUND LEVELS												
PROJECT/CONTRACT:		9289.00	03	1								
RUN:		Ball Ro	ad Apartm	ents Project -	Exis w Pr	i						
BARRIER DESIGN:			HEIGHTS	-	-			Average p	avement type	shall be use	d unless	1
		1								substantiate		
ATMOSPHERICS:		68 deg	F, 50% RH							approval of F		
Receiver												
Name	No.	#DUs	Existing	No Barrier					With Barrier	-		
		ĺ	LAeq1h	LAeq1h	. <u>.</u>	Increase over	existing	Туре	Calculated	Noise Reduc	tion	
		ĺ		Calculated	Crit'n	Calculated	Crit'n	Impact	LAeq1h	Calculated	Goal	Calculated
							Sub'l Inc					minus
												Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
ST1	2	1	0.0	69.9	66	69.9	) 1C	Snd Lv	69.9	0.0	8	-8.0
ST2	3	1	0.0	69.6	66	69.6	5 1C	Snd LvI	69.6	0.0	3	-8.0
ST3	6	1	0.0	67.4	66	67.4	10	Snd LvI	67.4	0.0	8	-8.0
ST4	9	1	0.0	67.4	66	67.4	10	Snd LvI	67.4	0.0	8	-8.0
M1	11	1	0.0	68.3	66	68.3	3 1C	Snd Lv	68.3	0.0	8	-8.0
M2a - Prpsd Resi Unit - west side 1st flr	13	1	0.0	70.1	66	5 70 <u>.</u> 1	10		70.1	0.0	8	-8.0
M2b - Prpsd Resi Unit - west side 2nd flr	14		0.0				) 1C		69.9		6	
M3a - Prpsd Resi Unit - south side 1st flr	17		0.0	68.9	66	68.9	) 1C	Snd LvI	68.9	0.0	6	
M3b - Prpsd Resi Unit - south side 2nd flr	18		0.0	68.9	66	68.9	) 1C	Snd Lv	68.9	0.0	8	-8.0
M4 - Interior courtyard	20	1	0.0	40.1	66	5 40 <u>.</u> 1	10		40.1	0.0	8	-8.0
Dwelling Units		# DUs	Noise Red	duction								
			Min	Avg	Max							
			dB	dB	dB							
All Selected		10	0.0	0.0	0.0	)						
All Impacted		9	0.0	0.0	0.0	)						
All that meet NR Goal		0	0.0	0.0	0.0	)						

INPUT: ROADWAYS							9289.	0003		1	
Dudek					3 April 2020						
MG					TNM 2.5						
INPUT: ROADWAYS							Average	pavement typ	e shall be u	used unles	Si
PROJECT/CONTRACT:	9289.000	3			I		a State h	ighway ageno	y substant	iates the us	se
RUN:	Ball Road	Apts - Fu	ture wo	Proj			of a diffe	rent type with	the approv	al of FHW	A
Roadway		Points									-
Name	Width	Name	No.	Coordinates	(pavement)		Flow Cor	ntrol		Segment	-
				X	Y	Z	Control	Speed	Percent	Pvmt	On
							Device	Constraint	Vehicles	Туре	Struct?
									Affected		
	ft			ft	ft	ft		mph	%		
Western Avenue -south of Ball Road	55.0	point3	3	1,000.0	100.0	0 100.	00			Average	1
		point4	4	1,000.0	1,000.0	) 100.	00				
Western Avenue -north of Ball Road	55.0	point5	5	1,000.0	1,010.0	) 100.	00			Average	
		point6	6	1,000.0	2,000.0	0 100.	00				
Ball Road - west of Western Ave	80.0	point7	7	10.0	1,000.0	0 100.	00			Average	
		point8	8	990.0	1,000.0	0 100.	00				
Ball Road - east of Western Ave	80.0	point9	ç	1,010.0	1,000.0	0 100.	00			Average	
		point10	10	2,000.0	1,000.0	) 100.	00				

INPUT: TRAFFIC FOR LAeq1h Percent	ages		1					928	9.0003				
Dudek							3 April :	2020					
MG							TNM 2.	5					
INPUT: TRAFFIC FOR LAeq1h Percent	tages												
PROJECT/CONTRACT:	9289.0003												
RUN:	Ball Road A	Apts - Futu	ure wo Proj										
Roadway	Points												
Name	Name	No.	Segment										
			Total	Autos	5	MTru	cks	HTru	cks	Buse	s	Moto	rcycles
			Volume	Ρ	S	Ρ	S	Ρ	S	Ρ	S	Ρ	S
			veh/hr	%	mph	%	mph	%	mph	%	mph	%	mph
Western Avenue -south of Ball Road	point3	3	2830	97	40	2	40	1	4	0 0	) C	0 0	) C
	point4	4											
Western Avenue -north of Ball Road	point5	5	2640	97	40	2	40	1	4	0 0	) C	) C	C
	point6	6											
Ball Road - west of Western Ave	point7	7	2210	97	40	2	40	1	4	0 0	) C	) C	C
	point8	8											
Ball Road - east of Western Ave	point9	9	2500	97	40	2	40	1	4	0 0	) C	) C	0
	point10	10											

INPUT: RECEIVERS							9	289.0003			
Dudek						3 April 202	0				
MG						TNM 2.5					
INPUT: RECEIVERS											
PROJECT/CONTRACT:	9289.0	003	1	,							
RUN:	Ball R	oad Ap	ots - Future w	o Proj							
Receiver											
Name	No.	#DUs	Coordinates	(ground)		Height	Input Sou	nd Levels a	and Criteria	a	Active
			X	Y	Z	above	Existing	Impact Cr	iteria	NR	in
						Ground	LAeq1h	LAeq1h	Sub'l	Goal	Calc.
			ft	ft	ft	ft	dBA	dBA	dB	dB	
ST1	2	1	1,070.7	1,081.8	100.00	5.00	0.00	66	10.0	8.0	Y
ST2	3	1	1,054.9	1,226.7	100.00	5.00	0.00	66	6 10.0	8.0	Y
ST3	6	1	1,304.1	1,070.2	100.00	5.00	0.00	66	10.0	8.0	Y
ST4	9	1	775.0	1,083.6	100.00	5.00	0.00	66	6 10.0	8.0	Y
M1	11	1	1,074.5	852.6	100.00	5.00	0.00	66	10.0	8.0	Y

		1	-		1		1	1			-	[		1	·	-	-	1
Dudek					3 April	2020												
MG					TNM 2.													
MG					11111112.	5												
INPUT: BARRIERS																		
PROJECT/CONTRACT:	9289.0	0003																
RUN:	Ball R	load Apt	ts - Futu	re wo Pro	oj													
Barrier			_						Points									
Name	Туре	Height		If Wall	If Berm			Add'tnl	Name	No.	Coordinates	(bottom)		Height	Segment			
		Min	Мах	\$ per	\$ per	Тор	Run:Rise	\$ per			x	Y	z	at	Seg Ht P			Importan
				Unit	Unit	Width		Unit						Point	Incre- #L	p #Dn	Struct?	Reflec-
				Area	Vol.			Length							ment			tions?
		ft	ft	\$/sq ft	\$/cu yd	ft	ft:ft	\$/ft			ft	ft	ft	ft	ft			
Barrier1	W	0.00	99.99	0.00				0.00	point1	1	l 1,378.5	1,074.1	100.00	20.00	0.00	0	כ	
									point2	2	2 1,140.9	1,075.5	100.00	20.00		0	כ	
									point7	7	7 1,140.2	1,212.2				0	כ	
									point8	8	3 1,063.3	1,210.4	100.00	20.00	0.00	0	כ	
									point3	3	3 1,063.7	1,429.0						
Barrier2	W	0.00	99.99	0.00	)			0.00	point4	4	652.9	1,086.9	100.00			0	כ	
									point5	5	5 936.3	1,086.9				0	כ	
									point6	e	936.3	1,433.3						
Barrier3	W	0.00	99.99	0.00	)			0.00	point9	9	657.2	935.2	100.00			0	כ	
									point10	10		935.2				0	כ	
									point11	11		613.2						
Barrier4	W	0.00	99.99	0.00	)			0.00		12		613.2				0	כ	
									point13	13	.,	941.0				0	כ	
									point14	14	1,425.8	941.0	100.00	20.00	0			

RESULTS: SOUND LEVELS		1		1		9	289.0003					
Dudek							3 April 20	20				
MG							TNM 2.5					
							Calculated	d with TNM	2.5			
RESULTS: SOUND LEVELS												
PROJECT/CONTRACT:		9289.00	03									
RUN:		Ball Ro	ad Apts - F	uture wo Pro	j							
BARRIER DESIGN:		INPUT	HEIGHTS					Average p	avement type	e shall be use	d unless	
		]						a State hig	ghway agency	y substantiate	s the use	
ATMOSPHERICS:		68 deg	F, 50% RH					of a differ	ent type with	approval of F	HWA.	
Receiver					_							
Name	No.	#DUs	Existing	No Barrier					With Barrier			
		İ	LAeq1h	LAeq1h	-	Increase over	existing	Туре	Calculated	Noise Reduc	tion	
		İ		Calculated	Crit'n	Calculated	Crit'n	Impact	LAeq1h	Calculated	Goal	Calculated
							Sub'l Inc					minus
												Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
ST1	2	2 1	0.0	70.9	66	70.9	10	Snd LvI	70.9	0.0	8	-8.
ST2	3	3 1	0.0	69.8	66	69.8	10	Snd LvI	69.8	0.0	8	-8.
ST3	6	6 1	0.0	68.3	66	68.3	10	Snd LvI	68.3	0.0	8	-8.
ST4	ç	) 1	0.0	67.4	66	67.4	10	Snd LvI	67.4	0.0	8	-8.
M1	11	1	0.0	69.0	66	69.0	10	Snd LvI	69.0	0.0	8	-8.
Dwelling Units		# DUs	Noise Ree	duction								
		ĺ	Min	Avg	Max							
			dB	dB	dB							
All Selected		5	0.0	0.0	0.0	)						
All Impacted		5	0.0	0.0	0.0	)						
All that meet NR Goal		0	0.0	0.0	0.0	)						

INPUT: ROADWAYS		1		1		[	9289.	0003		1	
Dudek					3 April 2020						
MG					TNM 2.5						
INPUT: ROADWAYS							Average	pavement typ	e shall be ι	used unless	5
PROJECT/CONTRACT:	9289.0003	3			I		a State h	ighway agenc	y substant	iates the us	se
RUN:	Ball Road	Apts - Fu	t w Prj				of a diffe	rent type with	the approv	al of FHW	4
Roadway		Points									-
Name	Width	Name	No.	Coordinates	(pavement)		Flow Cor	ntrol		Segment	
				X	Y	Z	Control	Speed	Percent	Pvmt	On
							Device	Constraint	Vehicles	Туре	Struct?
									Affected		
	ft			ft	ft	ft		mph	%		
Western Avenue -south of Ball Road	55.0	point3	3	1,000.0	100.0	100.00				Average	
		point4	4	1,000.0	1,000.0	100.00					
Western Avenue -north of Ball Road	55.0	point5	5	5 1,000.0	1,010.0	100.00				Average	
		point6	6	1,000.0	2,000.0	100.00					
Ball Road - west of Western Ave	80.0	point7	7	/ 10.0	1,000.0	100.00				Average	
		point8	8	990.0	1,000.0	100.00					
Ball Road - east of Western Ave	80.0	point9	g	1,010.0	1,000.0	100.00				Average	
		point10	10	2,000.0	1,000.0	100.00					

INPUT: TRAFFIC FOR LAeq1h Percent	ages		[					928	9.0003	_			
Dudek							3 April :	2020					
MG							TNM 2.	5					
INPUT: TRAFFIC FOR LAeq1h Percent	tages												
PROJECT/CONTRACT:	9289.0003												
RUN:	Ball Road A	Apts - Fut	w Prj										
Roadway	Points												
Name	Name	No.	Segment										
			Total	Autos	5	MTru	cks	HTru	icks	Buse	s	Moto	rcycles
			Volume	Ρ	S	Ρ	S	Ρ	S	Ρ	S	Ρ	S
			veh/hr	%	mph	%	mph	%	mph	%	mph	%	mph
Western Avenue -south of Ball Road	point3	3	2832	97	40	2	40	1	4	o c	0 0	) (	) C
	point4	4											
Western Avenue -north of Ball Road	point5	5	2642	97	40	2	40	1	4	) C	) (	0 0	) C
	point6	6											
Ball Road - west of Western Ave	point7	7	2212	97	40	2	40	1	4	) c	) (	) (	) C
	point8	8											
Ball Road - east of Western Ave	point9	9	2502	97	40	2	40	1	4	) c	) (	) (	) C
	point10	10											

INPUT: RECEIVERS								9289.0003			1
Dudek						3 April 202	20				
MG						TNM 2.5					
INPUT: RECEIVERS											
PROJECT/CONTRACT:	9289.	0003	1	,	'						
RUN:	Ball F	Road Ap	ots - Fut w Prj								
Receiver											
Name	No.	#DUs	Coordinates	(ground)		Height	Input Sou	nd Levels a	and Criteria	a	Active
	1		X	Y	Z	above	Existing	Impact Cr	iteria	NR	in
						Ground	LAeq1h	LAeq1h	Sub'l	Goal	Calc.
			ft	ft	ft	ft	dBA	dBA	dB	dB	
ST1	2	2 1	1,070.7	1,081.8	100.00	5.00	0.00	66	5 10.0	8.0	Y
ST2	3	3 1	1,054.9	1,226.7	100.00	5.00	0.00	66	5 10.0	8.0	Y
ST3	6	6 1	1,304.1	1,070.2	100.00	5.00	0.00	66	5 10.0	8.0	Y
ST4	9	9 1	775.0	1,083.6	100.00	5.00	0.00	66	6 10.0	8.0	Y
M1	11	1 1	1,074.5	852.6	100.00	5.00	0.00	66	5 10.0	8.0	Y
M2a - Prpsd Resi Unit - west side 1st flr	13	3 1	1,059.7	1,112.5	100.00	10.00	0.00	66	6 10.0	8.0	Y
M2b - Prpsd Resi Unit - west side 2nd flr	· 14	1 1	1,059.7	1,112.5	100.00	20.00	0.00	66	6 10.0	8.0	
M3a - Prpsd Resi Unit - south side 1st fl			1,097.3	1,074.0	100.00	10.00	0.00	66	6 10.0	8.0	Y
M3b - Prpsd Resi Unit - south side 2nd f			1,097.3	1,074.0	100.00	20.00				8.0	
M4a - Prpsd Resi Unit - north side 1st flr			.,		100.00						
M4b - Prpsd Resi Unit - north side 2nd fl			.,		100.00						
M5a - Prpsd Resi Unit - south side 1st fl			.,								
M5b - Prpsd Resi Unit - south side 2nd f			.,	,		20.00	0.00				
M6 - Interior courtyard	22	2 1	1,093.4	1,124.3	100.00	5.00	0.00	66	6 10.0	8.0	Y

INPUT: DARKIERS		-				1			9209.00									
Dudek					3 April	2020												-
MG					TNM 2.				11									
INPUT: BARRIERS																		
PROJECT/CONTRACT:	9289.	0003			1													_
RUN:	Ball R	load Apt	s - Fut w	Prj														
Barrier				-					Points									
Name	Туре	Height		lf Wall	If Berm			Add'tnl	Name	No.	Coordinates	(bottom)	-	Height	Segm	ent		
		Min	Max	\$ per	\$ per	Тор	Run:Rise	\$ per			x	Y	Z	at	Seg H	t Perturbs	On	Importan
				Unit	Unit	Width		Unit						Point	Incre-	#Up #Dn	Struct	? Reflec-
				Area	Vol.			Length							ment			tions?
		ft	ft	\$/sq ft	\$/cu yd	ft	ft:ft	\$/ft			ft	ft	ft	ft	ft		ļ	
Barrier1	W	0.00	99.99	0.00				0.00	point1	1	1,378.5	1,074.1					)	
									point2	2	1,140.9	1,075.5					)	
									point7	7	1,140.2	1,212.2					)	
									point8	8	1,063.3	1,210.4				0 0	)	
									point3	3	1,063.7	1,429.0						
Barrier2	W	0.00	99.99	0.00	)			0.00	H •	4	652.9	1,086.9					)	
									point5	5		1,086.9				0 0	)	
									point6	6		1,433.3						
Barrier3	W	0.00	99.99	0.00				0.00	H '	9		935.2						
									point10	10		935.2				0 0	)	
									point11	11	907.6	613.2						
Barrier4	W	0.00	99.99	0.00				0.00		12		613.2						_
									point13	13		941.0				0 0	)	
									point14	14		941.0						
Proposed Project	W	0.00	99.99	0.00				0.00		15	,	1,190.5						
									point16	16		1,096.6						
									point17	17		1,074.9				0 0	2	
									point18	18	-	1,074.9						
Barrier6	W	0.00	99.99	0.00	/			0.00		19		1,074.9						+
									point20	20		1,190.8				0 0	1	
Demien7	w	0.00	00.00	0.00	<u> </u>			0.00	point21	21		1,190.5						+
Barrier7	VV	0.00	99.99	0.00	1			0.00	1	22	,	1,159.4						+
									point23	23		1,106.5						+
									point24	24		1,106.5						+
									point25	25		1,161.2				0 0	1	+
									point26	26	1,086.0	1,161.3	100.00	35.00	'			

RESULTS: SOUND LEVELS	-		.,		·	9	289.0003					
Dudek							3 April 202	20				
MG							TNM 2.5 Calculated	d with TNN	2.5			
RESULTS: SOUND LEVELS												
PROJECT/CONTRACT:		9289.00	03	I								
RUN:		Ball Road Apts - Fut w Prj										
BARRIER DESIGN:		INPUT	HEIGHTS					Average p	avement type	e shall be use	d unless	
		]						a State hi	ghway agenc	y substantiate	es the use	
ATMOSPHERICS:		68 deg	F, 50% RH					of a differ	ent type with	approval of F	HWA.	
Receiver												
Name	No.	#DUs	Existing	No Barrier					With Barrier			
	Ì	İ	LAeq1h	LAeq1h	·	Increase over	existing	Туре	Calculated	Noise Reduc	tion	
	1		1	Calculated	Crit'n	Calculated	Crit'n	Impact	LAeq1h	Calculated	Goal	Calculated
							Sub'l Inc					minus
												Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
ST1	2	2 1	0.0	70.3	66	70.3	10	Snd Lv	70.3	0.0	8	-8.0
ST2	3	3 1	0.0	69.7	66	69.7	10	Snd LvI	69.7	0.0	6	-8.0
ST3	6	6 1	0.0	68.3	66	68.3	10	Snd Lv	68.3	3 0.0	8	-8.0
ST4	g	) 1	0.0	67.4	66	67.4	10		67.4	0.0	8	-8.0
M1	11	1	0.0	69.1	66	69.1	10		69.1	0.0	8	3 -8.0
M2a - Prpsd Resi Unit - west side 1st flr	13	3 1	0.0	70.3	66	5 70.3	10		70.3	0.0	8	-8.0
M2b - Prpsd Resi Unit - west side 2nd flr	14		0.0	70.2			10		70.2	2 0.0	8	-8.0
M3a - Prpsd Resi Unit - south side 1st flr	15		0.0						69.5			-8.0
M3b - Prpsd Resi Unit - south side 2nd flr			0.0	69.6	66	69.6	10	Snd Lv	69.6	0.0	8	-8.0
M4a - Prpsd Resi Unit - north side 1st flr	17		0.0				10		64.3	0.0	6	-8.0
M4b - Prpsd Resi Unit - north side 2nd flr			0.0				10		64.1			3 -8.0
M5a - Prpsd Resi Unit - south side 1st flr	20		0.0						63.8			3 -8.0
M5b - Prpsd Resi Unit - south side 2nd flr			0.0						64.0			3 -8.0
M6 - Interior courtyard	22	2 1	0.0	35.4	66	35.4	10		35.4	0.0	8	-8.0
Dwelling Units		# DUs	Noise Re	duction								
			Min	Avg	Мах							
			dB	dB	dB							
All Selected		14	0.0	0.0	0.0	)						
All Impacted		9	0.0	0.0	0.0	)						
All that meet NR Goal		0	0.0	0.0	0.0	)						