APPENDIX 12

NOISE

Calculation of predicted worst-case construction noise levels

1. Predicted Noise at St Aengus Crescent during Embankment Construction in Tymon North.

PREDICTION OF NOISE FROM QUASI STATIONARY PLANT [ACTIVITY LAEQ METHOD]

PLANT TYPE / NOISE SOURCE	**L_{Aeq}, AT 1m, dB**	**L_{Aeq}, AT 10m, dB**	**DISTANCE, m**	**ADJUSTMENTS (dB)**				**RESULTANT L_{Aeq}, dB**	**FRACTION ON TIME**	**CORRECTIONS TO $L_{Aeq,\ 1\ HR}$**		**ACTIVITY $L_{Aeq,\ 1\ HR}$**
				DISTANCE		**SCREENING**	**REFLECTION**					
List all noise sources	*Average*		*Average distance to receptor, m*	*K_h = $20log_{10}(R/10)$*	*K_s = $(25log_{10}(R/10) - 2$*	*0, 5, 10, calculate*	*0, 3*	*L_{WA} - adjustments*	*(Activity duration / working period)*	*$t_c = T_t \times F$*	*$(t_c)(10^{0.1Li})$*	*$L_{Aeq,1hr} = 10log_{10}[1/1S(t_c)(10^{0.1Li})$*
TRACKED EXCAVATOR		75	130	*22.3*	*25.8*	0	0	49.2	1	1	82251.1	
DUMP TRUCK 1		79	130	*22.3*	*25.8*	0	0	53.2	0.5	0.5	103302.7	
DUMP TRUCK 2		87	130	*22.3*	*25.8*	0	0	61.2	0.5	0.5	651795.9	
DOZER (142 kW, 20T)		80	130	*22.3*	*25.8*	0	0	54.2	1	1	260100.8	
Note 1 - No attenuation between receptor and source											*SIGMA $(t_c)(10^{0.1Li})$*	*$L_{Aeq,1hr} = 10log_{10}[1/1S(t_c)(10^{0.1Li})$*
											1097450.4	**60**

2. Predicted Noise at St Aengus Crescent from Piling works - Movax pile driver mounted on excavator.

PREDICTION OF NOISE FROM QUASI STATIONARY PLANT
[ACTIVITY LAEQ METHOD]

PLANT TYPE / NOISE SOURCE	**L_{Aeq}, AT 1m, dB**	**L_{Aeq}, AT 10m, dB**	**DISTANCE, m**	**ADJUSTMENTS (dB)**				**RESULTANT L_{Aeq}, dB**	**FRACTION ON TIME**	**CORRECTIONS TO $L_{Aeq,\ 1\ HR}$**		**ACTIVITY $L_{Aeq,\ 1\ HR}$**
				DISTANCE		**SCREENING**	**REFLECTION**					
List all noise sources	*Average*		*Average distance to receptor, m*	*K_h = $20log_{10}(R/10)$*	*K_s = $(25log_{10}(R/10) - 2$*	*0, 5, 10, calculate*	*0, 3*	*L_{WA} - adjustments*	*(Activity duration / working period)*	*$t_c = T_t \times F$*	*$(t_c)(10^{0.1Li})$*	*$L_{Aeq,1hr} = 10log_{10}[1/1S(t_c)(10^{0.1Li})$*
Movax pile driver		89	130	*22.3*	*25.8*	5	*3*	*64.7*	1	1	2965604.9	
											SIGMA $(t_c)(10^{0.1Li})$	*$L_{Aeq,1hr} = 10log_{10}[1/1S(t_c)(10^{0.1Li})$*
											2965604.9	**65**

Note 1 - 5 dB(A) partial attenuation between receptor and source

3. Predicted Noise at St Aengus Grove during Embankment Construction in Tymon North.

PREDICTION OF NOISE FROM QUASI STATIONARY PLANT [ACTIVITY LAEQ METHOD]

PLANT TYPE / NOISE SOURCE	**L_{Aeq}, AT 1m, dB**	**L_{Aeq}, AT 10m, dB**	**DISTANCE, m**	**ADJUSTMENTS (dB)**				**RESULTANT L_{Aeq}, dB**	**FRACTION ON TIME**	**CORRECTIONS TO $L_{Aeq,\ 1\ HR}$**		**ACTIVITY $L_{Aeq,\ 1\ HR}$**
				DISTANCE		**SCREENING**	**REFLECTION**					
List all noise sources	*Average*		*Average distance to receptor, m*	*K_h = $20log_{10}(R/10)$*	*K_s = $(25log_{10}(R/10) - 2$*	*0, 5, 10, calculate*	*0, 3*	*L_{WA} - adjustments*	*(Activity duration / working period)*	*$t_c = T_t \times F$*	*$(t_c)(10^{0.1Li})$*	*$L_{Aeq,1hr} = 10log_{10}[1/1S(t_c)(10^{0.1Li})$*
TRACKED EXCAVATOR		75	190	*25.6*	*30.0*	0	0	45.0	1	1	31850.5	
DUMP TRUCK 1		79	190	*25.6*	*30.0*	0	0	49.0	0.5	0.5	40002.4	
DUMP TRUCK 2		87	190	*25.6*	*30.0*	0	0	57.0	0.5	0.5	252398.1	
DOZER (142 kW, 20T)		80	190	*25.6*	*30.0*	0	0	50.0	1	1	100720.1	
											SIGMA $(t_c)(10^{0.1Li})$	*$L_{Aeq,1hr} = 10log_{10}[1/1S(t_c)(10^{0.1Li})$*
											424971.0	**56**

Note 1 - No attenuation between receptor and source

4. Predicted Noise at St Aengus Grove from Piling works - Movax pile driver mounted on excavator.

PREDICTION OF NOISE FROM QUASI STATIONARY PLANT
[ACTIVITY LAEQ METHOD]

PLANT TYPE / NOISE SOURCE	**L_{Aeq}, AT 1m, dB**	**L_{Aeq}, AT 10m, dB**	**DISTANCE, m**	**ADJUSTMENTS (dB)**				**RESULTANT L_{Aeq}, dB**	**FRACTION ON TIME**	**CORRECTIONS TO $L_{Aeq, 1\ HR}$**		**ACTIVITY $L_{Aeq, 1\ HR}$**
				DISTANCE		**SCREENING**	**REFLECTION**					
List all noise sources	*Average*		*Average distance to receptor, m*	*K_h = $20log_{10}(R/10)$*	*K_s = $(25log_{10}(R/10) - 2$*	*0, 5, 10, calculate*	*0, 3*	*L_{WA} - adjustments*	*(Activity duration / working period)*	*$t_c = T_t \times F$*	*$(t_c)(10^{0.1Li})$*	*$L_{Aeq,1hr} = 10log_{10}[1/1S(t_c)(10^{0.1Li})$*
Movax pile driver		89	190	*25.6*	*30.0*	5	*3*	*61.4*	1	1	1388330.3	
Note 1 - 5 dB(A) partial attenuation between receptor and source											*SIGMA $(t_c)(10^{0.1Li})$*	*$L_{Aeq,1hr} = 10log_{10}[1/1S(t_c)(10^{0.1Li})$*
											1388330.3	**61**

5. Predicted Noise at nearest Limekiln Road receivers during Embankment Construction in Tymon Park.

PREDICTION OF NOISE FROM QUASI STATIONARY PLANT
[ACTIVITY LAEQ METHOD]

PLANT TYPE / NOISE SOURCE	**L_{Aeq}, AT 1m, dB**	**L_{Aeq}, AT 10m, dB**	**DISTANCE, m**	**ADJUSTMENTS (dB)**				**RESULTANT $L_{Aeq, dB}$**	**FRACTION ON TIME**	**CORRECTIONS TO $L_{Aeq, 1 HR}$**		**ACTIVITY $L_{Aeq, 1 HR}$**
				DISTANCE		**SCREENING**	**REFLECTION**					
List all noise sources	*Average*		*Average distance to receptor, m*	*K_h = $20log_{10}(R/10)$*	*K_s = $(25log_{10}(R/10) - 2$*	*0, 5, 10, calculate*	*0, 3*	*L_{WA} - adjustments*	*(Activity duration / working period)*	*t_c = T_t x F*	*$(t_c)(10^{0.1Li})$*	*$L_{Aeq,1hr}$ = $10log_{10}[1/1S(t_c)(10^{0.1Li})$*
TRACKED EXCAVATOR		75	100	*20.0*	*23.0*	0	0	52.0	1	1	158489.3	
DUMP TRUCK 1		79	100	*20.0*	*23.0*	0	0	56.0	0.5	0.5	199053.6	
DUMP TRUCK 2		87	100	*20.0*	*23.0*	0	0	64.0	0.5	0.5	1255943.2	
DOZER (142 kW, 20T)		80	100	*20.0*	*23.0*	0	0	57.0	1	1	501187.2	
											SIGMA $(t_c)(10^{0.1Li})$	*$L_{Aeq,1hr}$ = $10log_{10}[1/1S(t_c)(10^{0.1Li})$*
											2114673.4	**63**

Note 1 - No attenuation between receptor and source

6. Predicted Noise at nearest Limekiln Road receivers from Piling works - Movax pile driver mounted on excavator.

PREDICTION OF NOISE FROM QUASI STATIONARY PLANT
[ACTIVITY LAEQ METHOD]

PLANT TYPE / NOISE SOURCE	**L_{Aeq}, AT 1m, dB**	**L_{Aeq}, AT 10m, dB**	**DISTANCE, m**	**ADJUSTMENTS (dB)**				**RESULTANT L_{Aeq}, dB**	**FRACTION ON TIME**	**CORRECTIONS TO $L_{Aeq, 1\ HR}$**		**ACTIVITY L_{Aeq}, 1 HR**
				DISTANCE		**SCREENING**	**REFLECTION**					
List all noise sources	*Average*		*Average distance to receptor, m*	*K_h = $20log_{10}(R/10)$*	*K_s = $(25log_{10}(R/10) - 2$*	*0, 5, 10, calculate*	*0, 3*	*L_{WA} - adjustments*	*(Activity duration / working period)*	*$t_c = T_t x F$*	*$(t_c)(10^{0.1Li})$*	*$L_{Aeq,1hr} = 10log_{10}[1/1S(t_c)(10^{0.1Li})$*
Movax pile driver		89	100	*20.0*	*23.0*	5	*3*	*67.0*	1	1	5011872.3	
											SIGMA $(t_c)(10^{0.1Li})$	*$L_{Aeq,1hr} = 10log_{10}[1/1S(t_c)(10^{0.1Li})$*
											5011872.3	**67**

Note 1 - 5 dB(A) partial attenuation between receptor and source

7. Predicted Noise at nearest Limekiln Road receivers to Construction Compound in Tymon Park.

PREDICTION OF NOISE FROM QUASI STATIONARY PLANT
[ACTIVITY LAEQ METHOD]

PLANT TYPE / NOISE SOURCE	**BS 5228 Ref**	**L_{Aeq}, @ 10m, dB**	**DISTANCE, m**	**ADJUSTMENTS (dB)**				**RESULTANT $L_{Aeq, dB}$**	**FRACTION ON TIME**	**CORRECTIONS TO $L_{Aeq, 1 HR}$**		**ACTIVITY $L_{Aeq, 1 HR}$**
				DISTANCE		**SCREENING**	**REFLECTION**					
Noise sources			*Distance to receptor, m*	*K_h = $20log_{10}(R/10)$*	*K_s = $(25log_{10}(R/10) - 2$*	*0, 5, 10, calculate*	*0, 3*	*L_{WA} - adjustments*	*(Activity duration / working period)*	*t_c = T_t x F*	*$(t_c)(10^{0.1Li})$*	*$L_{Aeq,1hr}$ = $10log_{10}[1/1S(t_c)(10^{0.1Li})$*
30T Excavator	C.2.16	75	25		7.9	5	0	62.1	0.5	0.5	801899.6	
40T Dumper Truck	C.6.26	79	25		7.9	5	0	66.1	0.5	0.5	2014280.7	
Lorry Tipper	C.2.30	79	25		7.9	5	0	66.1	0.5	0.5	2014280.7	
Concrete Mixer Truck	C4.20	80	25		7.9	5	0	67.1	0.5	0.5	2535829.1	
Vibratory Roller	D.3.16	78	25		7.9	5	0	65.1	0.5	0.5	1600000.0	
Generator - 2 no. in operation	(C.7.49)	79	65		18.3	5	0	55.7	1	1	369586.9	
Note 1 - 5 dB(A) partial attenuation between receptor and source											*SIGMA $(t_c)(10^{0.1Li})$*	*$L_{Aeq,1hr}$ = $10log_{10}[1/1S(t_c)(10^{0.1Li})$*
											9335876.9	**70**

8. Predicted Noise at nearest Limekiln Road receivers to Tymon Lake works in Tymon Park.

PREDICTION OF NOISE FROM QUASI STATIONARY PLANT [ACTIVITY LAEQ METHOD]

PLANT TYPE / NOISE SOURCE	**L_{Aeq}, AT 1m, dB**	**L_{Aeq}, AT 10m, dB**	**DISTANCE, m**	**ADJUSTMENTS (dB)**				**RESULTANT L_{Aeq}, dB**	**FRACTION ON TIME**	**CORRECTIONS TO $L_{Aeq, 1 HR}$**		**ACTIVITY $L_{Aeq, 1 HR}$**
				DISTANCE		**SCREENING**	**REFLECTION**					
List all noise sources	*Average*		*Average distance to receptor, m*	*K_h = $20log_{10}(R/10)$*	*K_s = $(25log_{10}(R/10) - 2$*	*0, 5, 10, calculate*	*0, 3*	*L_{WA} - adjustments*	*(Activity duration / working period)*	*$t_c = T_t x F$*	*$(t_c)(10^{0.1Li})$*	*$L_{Aeq,1hr} = 10log_{10}[1/1S(t_c)(10^{0.1Li})$*
TRACKED EXCAVATOR		75	165	*24.3*	*28.4*	0	0	46.6	1	1	45320.0	
DUMP TRUCK 1		79	165	*24.3*	*28.4*	0	0	50.6	0.5	0.5	56919.4	
DUMP TRUCK 2		87	165	*24.3*	*28.4*	0	0	58.6	0.5	0.5	359137.0	
DOZER (142 kW, 20T)		80	165	*24.3*	*28.4*	0	0	51.6	1	1	143314.5	
Note 1 - No attenuation between receptor and source											*SIGMA $(t_c)(10^{0.1Li})$*	*$L_{Aeq,1hr} = 10log_{10}[1/1S(t_c)(10^{0.1Li})$*
											604690.9	**58**

9. Predicted Noise at nearest Limekiln Road receivers to Integrated Constructed Wetland in Tymon Park.

PREDICTION OF NOISE FROM QUASI STATIONARY PLANT [ACTIVITY LAEQ METHOD]

PLANT TYPE / NOISE SOURCE	**L_{Aeq}, AT 1m, dB**	**L_{Aeq}, AT 10m, dB**	**DISTANCE, m**	**ADJUSTMENTS (dB)**				**RESULTANT $L_{Aeq, dB}$**	**FRACTION ON TIME**	**CORRECTIONS TO $L_{Aeq, 1 HR}$**		**ACTIVITY $L_{Aeq, 1 HR}$**
				DISTANCE		**SCREENING**	**REFLECTION**					
List all noise sources	*Average*		*Average distance to receptor, m*	*K_h = $20log_{10}(R/10)$*	*K_s = $(25log_{10}(R/10) - 2$*	*0, 5, 10, calculate*	*0, 3*	*L_{WA} - adjustments*	*(Activity duration / working period)*	*t_c = T_t x F*	*$(t_c)(10^{0.1Li})$*	*$L_{Aeq,1hr}$ = $10log_{10}[1/1S (t_c)(10^{0.1Li})$*
TRACKED EXCAVATOR		75	45	*13.1*	*14.3*	0	0	60.7	1	1	1166725.6	
DUMP TRUCK 1		79	45	*13.1*	*14.3*	0	0	64.7	0.5	0.5	1465341.1	
DUMP TRUCK 2		87	45	*13.1*	*14.3*	0	0	72.7	0.5	0.5	9245677.1	
DOZER (142 kW, 20T)		80	45	*13.1*	*14.3*	0	0	65.7	1	1	3689510.2	
Note 1 - No attenuation between receptor and source											*SIGMA $(t_c)(10^{0.1Li})$*	*$L_{Aeq,1hr}$ = $10log_{10}[1/1S (t_c)(10^{0.1Li})$*
											15567253.9	**72**

10. Predicted Construction Noise at 20m during construction at rear of Whitehall Park.

PREDICTION OF NOISE FROM QUASI STATIONARY PLANT [ACTIVITY LAEQ METHOD]

PLANT TYPE / NOISE SOURCE	**L_{Aeq}, AT 1m, dB**	**L_{Aeq}, AT 10m, dB**	**DISTANCE, m**	**ADJUSTMENTS (dB)**				**RESULTANT L_{Aeq}, dB**	**FRACTION ON TIME**	**CORRECTIONS TO $L_{Aeq, 1 HR}$**		**ACTIVITY $L_{Aeq, 1 HR}$**
				DISTANCE		**SCREENING**	**REFLECTION**					
List all noise sources	*Average*		*Average distance to receptor, m*	*K_h = 20log$_{10}$(R/10)*	*K_s = (25log$_{10}$(R/10) - 2*	*0, 5, 10, calculate*	*0, 3*	*L_{WA} - adjustments*	*(Activity duration / working period)*	*t_c = T_t x F*	*$(t_c)(10^{0.1Li})$*	*$L_{Aeq,1hr}$ = 10log$_{10}$[1/1S(t_c)($10^{0.1Li}$)*
TRACKED EXCAVATOR		75	20	*6.0*	*5.5*	5	3	67.5	0.75	0.75	4192627.5	
DUMP TRUCK 1		79	20	*6.0*	*5.5*	5	3	71.5	0.5	0.5	7020936.0	
Water Pump		80	20	*6.0*	*5.5*	5	3	*72.0*	1	1	15773933.6	
Place and vibrate concrete cycle		84	20	*6.0*	*5.5*	5	3	*76.0*	0.75	0.75	29716747.4	
											SIGMA $(t_c)(10^{0.1Li})$	*$L_{Aeq,1hr}$ = 10log$_{10}$[1/1S(t_c)($10^{0.1Li}$)*
											56704244.4	**78**

Note 1 - 5 dB(A) partial attenuation between receptor and source

11. Predicted Construction Noise at 20m during construction at Wainsfort Manor Crescent.

PREDICTION OF NOISE FROM QUASI STATIONARY PLANT [ACTIVITY LAEQ METHOD]

PLANT TYPE / NOISE SOURCE	**L_{Aeq}, AT 1m, dB**	**L_{Aeq}, AT 10m, dB**	**DISTANCE, m**	**ADJUSTMENTS (dB)**				**RESULTANT L_{Aeq}, dB**	**FRACTION ON TIME**	**CORRECTIONS TO $L_{Aeq, 1\ HR}$**		**ACTIVITY $L_{Aeq, 1\ HR}$**
				DISTANCE		**SCREENING**	**REFLECTION**					
List all noise sources	*Average*		*Average distance to receptor, m*	*K_h = $20log_{10}(R/10)$*	*K_s = $(25log_{10}(R/10) - 2$*	*0, 5, 10, calculate*	*0, 3*	*L_{WA} - adjustments*	*(Activity duration / working period)*	*t_c = T_t x F*	*$(t_c)(10^{0.1Li})$*	*$L_{Aeq,1hr}$ = $10log_{10}[1/1S(t_c)(10^{0.1Li})$*
TRACKED EXCAVATOR		75	20	*6.0*	*5.5*	5	3	67.5	0.75	0.75	4192627.5	
DUMP TRUCK 1		79	20	*6.0*	*5.5*	5	3	71.5	0.5	0.5	7020936.0	
Water Pump		80	20	*6.0*	*5.5*	5	3	*72.0*	1	1	15773933.6	
Place and vibrate concrete cycle		84	20	*6.0*	*5.5*	5	3	*76.0*	0.75	0.75	29716747.4	
											SIGMA $(t_c)(10^{0.1Li})$	*$L_{Aeq,1hr}$ = $10log_{10}[1/1S(t_c)(10^{0.1Li})$*
											56704244.4	**78**

Note 1 - 5 dB(A) partial attenuation between receptor and source

12. Predicted Noise at Wainsfort Manor Crescent receivers nearest to temporary works / set down area.

PREDICTION OF NOISE FROM QUASI STATIONARY PLANT [ACTIVITY LAEQ METHOD]

PLANT TYPE / NOISE SOURCE	**BS 5228 Ref**	**L_{Aeq}, @ 10m, dB**	**DISTANCE, m**	**ADJUSTMENTS (dB)**				**RESULTANT $L_{Aeq, dB}$**	**FRACTION ON TIME**	**CORRECTIONS TO $L_{Aeq, 1 HR}$**		**ACTIVITY $L_{Aeq, 1 HR}$**
				DISTANCE		**SCREENING**	**REFLECTION**					
Noise sources			*Distance to receptor, m*	*K_h = $20log_{10}(R/10)$*	*K_s = $(25log_{10}(R/10) - 2$*	*0, 5, 10, calculate*	*0, 3*	*L_{WA} - adjustments*	*(Activity duration / working period)*	*$t_c = T_t$ x F*	*$(t_c)(10^{0.1Li})$*	*$L_{Aeq,1hr} = 10log_{10}[1/1S(t_c)(10^{0.1Li})$*
30T Excavator	C.2.16	75	20		5.5	5	0	64.5	0.5	0.5	1400860.9	
40T Dumper Truck	C.6.26	79	20		5.5	5	0	68.5	0.5	0.5	3518803.5	
Lorry Tipper	C.2.30	79	20		5.5	5	0	68.5	0.5	0.5	3518803.5	
Concrete Mixer Truck	C4.20	80	20		5.5	5	0	69.5	0.5	0.5	4429911.1	
Vibratory Roller	D.3.16	78	20		5.5	5	0	67.5	0.5	0.5	2795085.0	
											SIGMA $(t_c)(10^{0.1Li})$	*$L_{Aeq,1hr} = 10log_{10}[1/1S(t_c)(10^{0.1Li})$*
											15663464.0	**72**

Note 1 - 5 dB(A) partial attenuation between receptor and source

13. Predicted Construction Noise at 10m during construction at Fortfield Drive

PREDICTION OF NOISE FROM QUASI STATIONARY PLANT [ACTIVITY LAEQ METHOD]

PLANT TYPE / NOISE SOURCE	**L_{Aeq}, AT 1m, dB**	**L_{Aeq}, AT 10m, dB**	**DISTANCE, m**	**ADJUSTMENTS (dB)**				**RESULTANT L_{Aeq}, dB**	**FRACTION ON TIME**	**CORRECTIONS TO $L_{Aeq, 1 HR}$**		**ACTIVITY $L_{Aeq, 1 HR}$**
				DISTANCE		**SCREENING**	**REFLECTION**					
List all noise sources	*Average*		*Average distance to receptor, m*	*K_h = $20log_{10}(R/10)$*	*K_s = $(25log_{10}(R/10) - 2$*	*0, 5, 10, calculate*	*0, 3*	*L_{WA} - adjustments*	*(Activity duration / working period)*	*t_c = T_t x F*	*$(t_c)(10^{0.1Li})$*	*$L_{Aeq,1hr}$ = $10log_{10}[1/1S(t_c)(10^{0.1Li})$*
TRACKED EXCAVATOR		75	10	*0.0*	*-2.0*	10	3	70.0	0.75	0.75	7500000.0	
DUMP TRUCK 1		79	10	*0.0*	*-2.0*	10	3	74.0	0.5	0.5	12559432.2	
Water Pump		80	10	*0.0*	*-2.0*	10	3	*73.0*	1	1	19952623.1	
Place and vibrate concrete cycle		84	10	*0.0*	*-2.0*	10	3	*77.0*	0.75	0.75	37589042.5	
											SIGMA $(t_c)(10^{0.1Li})$	*$L_{Aeq,1hr}$ = $10log_{10}[1/1S(t_c)(10^{0.1Li})$*
											77601097.8	**79**

Note 1 - 10 dB(A) partial attenuation between receptor and source

14. Predicted Construction Noise at 20m during construction at Ravensdale Park.

PREDICTION OF NOISE FROM QUASI STATIONARY PLANT [ACTIVITY LAEQ METHOD]

PLANT TYPE / NOISE SOURCE	**L_{Aeq}, AT 1m, dB**	**L_{Aeq}, AT 10m, dB**	**DISTANCE, m**	**ADJUSTMENTS (dB)**				**RESULTANT L_{Aeq}, dB**	**FRACTION ON TIME**	**CORRECTIONS TO $L_{Aeq, 1\ HR}$**		**ACTIVITY $L_{Aeq, 1\ HR}$**
				DISTANCE		**SCREENING**	**REFLECTION**					
List all noise sources	*Average*		*Average distance to receptor, m*	*K_h = $20log_{10}(R/10)$*	*K_s = $(25log_{10}(R/10) - 2$*	*0, 5, 10, calculate*	*0, 3*	*L_{WA} - adjustments*	*(Activity duration / working period)*	*t_c = T_t x F*	*$(t_c)(10^{0.1Li})$*	*$L_{Aeq,1hr}$ = $10log_{10}[1/1S(t_c)(10^{0.1Li})$*
TRACKED EXCAVATOR		75	15	*3.5*	*2.4*	5	3	70.6	0.75	0.75	8606629.7	
DUMP TRUCK 1		79	15	*3.5*	*2.4*	5	3	74.6	0.5	0.5	14412584.2	
Water Pump		80	15	*3.5*	*2.4*	5	3	*74.5*	1	1	28042548.6	
Place and vibrate concrete cycle		84	15	*3.5*	*2.4*	5	3	*78.5*	0.75	0.75	52829773.1	
											SIGMA $(t_c)(10^{0.1Li})$	*$L_{Aeq,1hr}$ = $10log_{10}[1/1S(t_c)(10^{0.1Li})$*
											103891535.6	**80**

Note 1 - 5 dB(A) partial attenuation between receptor and source

15. Predicted Noise at Ravensdale Park receivers nearest to temporary works / set down area.

PREDICTION OF NOISE FROM QUASI STATIONARY PLANT
[ACTIVITY LAEQ METHOD]

PLANT TYPE / NOISE SOURCE	**BS 5228 Ref**	**L_{Aeq}, @ 10m, dB**	**DISTANCE, m**	**ADJUSTMENTS (dB)**				**RESULTANT L_{Aeq}, dB**	**FRACTION ON TIME**	**CORRECTIONS TO $L_{Aeq, 1\ HR}$**		**ACTIVITY $L_{Aeq, 1\ HR}$**
				DISTANCE		**SCREENING**	**REFLECTION**					
Noise sources			*Distance to receptor, m*	*K_h = $20log_{10}(R/10)$*	*K_s = $(25log_{10}(R/10) - 2$*	*0, 5, 10, calculate*	*0, 3*	*L_{WA} - adjustments*	*(Activity duration / working period)*	*$t_c = T_t \times F$*	*$(t_c)(10^{0.1Li})$*	*$L_{Aeq,1hr} = 10log_{10}[1/1S(t_c)(10^{0.1Li})$*
30T Excavator	C.2.16	75	20		5.5	5	0	64.5	0.5	0.5	14008 60.9	
40T Dumper Truck	C.6.26	79	20		5.5	5	0	68.5	0.5	0.5	35188 03.5	
Lorry Tipper	C.2.30	79	20		5.5	5	0	68.5	0.5	0.5	35188 03.5	
Concrete Mixer Truck	C4.20	80	20		5.5	5	0	69.5	0.5	0.5	44299 11.1	
Vibratory Roller	D.3.16	78	20		5.5	5	0	67.5	0.5	0.5	27950 85.0	
											SIGMA $(t_c)(10^{0.1Li})$	*$L_{Aeq,1hr} = 10log_{10}[1/1S(t_c)(10^{0.1Li})$*
											15663 464.0	**72**

Note 1 - 5 dB(A) partial attenuation between receptor and source

16. Predicted Construction Noise at 10m during construction at St Martin's Drive & Mount Argus

PREDICTION OF NOISE FROM QUASI STATIONARY PLANT
[ACTIVITY LAEQ METHOD]

PLANT TYPE / NOISE SOURCE	**L_{Aeq}, AT 1m, dB**	**L_{Aeq}, AT 10m, dB**	**DISTANCE, m**	**ADJUSTMENTS (dB)**				**RESULTANT $L_{Aeq, dB}$**	**FRACTION ON TIME**	**CORRECTIONS TO $L_{Aeq, 1 HR}$**		**ACTIVITY $L_{Aeq, 1 HR}$**
				DISTANCE		**SCREENING**	**REFLECTION**					
List all noise sources	*Average*		*Average distance to receptor, m*	*K_h = $20log_{10}(R/10)$*	*K_s = $(25log_{10}(R/10) - 2$*	*0, 5, 10, calculate*	*0, 3*	*L_{WA} - adjustments*	*(Activity duration / working period)*	*t_c = T_t x F*	*$(t_c)(10^{0.1Li})$*	*$L_{Aeq,1hr}$ = $10log_{10}[1/1S(t_c)(10^{0.1Li})$*
TRACKED EXCAVATOR		75	10	*0.0*	*-2.0*	10	3	70.0	0.75	0.75	7500000.0	
DUMP TRUCK 1		79	10	*0.0*	*-2.0*	10	3	74.0	0.5	0.5	12559432.2	
Water Pump		80	10	*0.0*	*-2.0*	10	3	*73.0*	1	1	19952623.1	
Place and vibrate concrete cycle		84	10	*0.0*	*-2.0*	10	3	*77.0*	0.75	0.75	37589042.5	
											SIGMA $(t_c)(10^{0.1Li})$	*$L_{Aeq,1hr}$ = $10log_{10}[1/1S(t_c)(10^{0.1Li})$*
											77601097.8	**79**

Note 1 - 10 dB(A) partial attenuation between receptor and source

17. Predicted Construction Noise at pedestrians / park users at 40m from works in Tymon North & Tymon Park

PREDICTION OF NOISE FROM QUASI STATIONARY PLANT
[ACTIVITY LAEQ METHOD]

PLANT TYPE / NOISE SOURCE	**L_{Aeq}, AT 1m, dB**	**L_{Aeq}, AT 10m, dB**	**DISTANCE, m**	**ADJUSTMENTS (dB)**				**RESULTANT $L_{Aeq, dB}$**	**FRACTION ON TIME**	**CORRECTIONS TO $L_{Aeq, 1 HR}$**		**ACTIVITY $L_{Aeq, 1 HR}$**
				DISTANCE		**SCREENING**	**REFLECTION**					
List all noise sources	*Average*		*Average distance to receptor, m*	*K_h = 20log$_{10}$(R/10)*	*K_s = (25log$_{10}$(R/10) - 2*	*0, 5, 10, calculate*	*0, 3*	*L_{WA} - adjustments*	*(Activity duration / working period)*	*t_c = T_t x F*	*$(t_c)(10^{0.1Li})$*	*$L_{Aeq,1hr}$ = 10log$_{10}$[1/1S(t_c) ($10^{0.1Li}$)*
TRACKED EXCAVATOR		75	40	*12.0*	*13.1*	0	0	61.9	1	1	1566210.1	
DUMP TRUCK 1		79	40	*12.0*	*13.1*	0	0	65.9	0.5	0.5	1967071.0	
DUMP TRUCK 2		87	40	*12.0*	*13.1*	0	0	73.9	0.5	0.5	12411378.7	
DOZER (142 kW, 20T)		80	40	*12.0*	*13.1*	0	0	66.9	1	1	4952791.2	
Note 1 - No attenuation between receptor and source											*SIGMA $(t_c)(10^{0.1Li})$*	*$L_{Aeq,1hr}$ = 10log$_{10}$[1/1S(t_c) ($10^{0.1Li}$)*
											20897451.0	**73**

18. Predicted Noise at pedestrians / park users at 40m from Piling works - Movax pile driver mounted on excavator.

PREDICTION OF NOISE FROM QUASI STATIONARY PLANT
[ACTIVITY LAEQ METHOD]

PLANT TYPE / NOISE SOURCE	**L_{Aeq}, AT 1m, dB**	**L_{Aeq}, AT 10m, dB**	**DISTANCE, m**	**ADJUSTMENTS (dB)**				**RESULTANT L_{Aeq}, dB**	**FRACTION ON TIME**	**CORRECTIONS TO $L_{Aeq,\ 1\ HR}$**		**ACTIVITY L_{Aeq}, 1 HR**
				DISTANCE		**SCREENING**	**REFLECTION**					
List all noise sources	*Average*		*Average distance to receptor, m*	*K_h = $20log_{10}(R/10)$*	*K_s = $(25log_{10}(R/10) - 2$*	*0, 5, 10, calculate*	*0, 3*	*L_{WA} - adjustments*	*(Activity duration / working period)*	*t_c = T_t x F*	*$(t_c)(10^{0.1Li})$*	*$L_{Aeq,1hr}$ = $10log_{10}[1/1S(t_c)(10^{0.1Li})$*
Movax pile driver		89	40	*12.0*	*13.1*	5	*3*	*75.0*	1	1	31324202.1	
											SIGMA $(t_c)(10^{0.1Li})$	*$L_{Aeq,1hr}$ = $10log_{10}[1/1S(t_c)(10^{0.1Li})$*
											31324202.1	**75**

Note 1 - 5 dB(A) partial attenuation between receptor and source

19. Predicted Construction Noise at 20m from worst-case works when repairing / sealing manhole covers

PREDICTION OF NOISE FROM QUASI STATIONARY PLANT
[ACTIVITY LAEQ METHOD]

PLANT TYPE / NOISE SOURCE	**L_{Aeq}, AT 1m, dB**	**L_{Aeq}, AT 10m, dB**	**DISTANCE, m**	**ADJUSTMENTS (dB)**				**RESULTANT $L_{Aeq, dB}$**	**FRACTION ON TIME**	**CORRECTIONS TO $L_{Aeq, 1 HR}$**		**ACTIVITY $L_{Aeq, 1 HR}$**
				DISTANCE		**SCREENING**	**REFLECTION**					
List all noise sources	*Average*		*Average distance to receptor, m*	*K_h = $20log_{10}(R/10)$*	*K_s = $(25log_{10}(R/10) - 2$*	*0, 5, 10, calculate*	*0, 3*	*L_{WA} - adjustments*	*(Activity duration / working period)*	*t_c = T_t x F*	*$(t_c)(10^{0.1Li})$*	*$L_{Aeq,1hr}$ = $10log_{10}[1/1S (t_c)(10^{0.1Li})$*
TRACKED EXCAVATOR		75	20	*6.0*	*5.5*	5	3	67.5	0.75	0.75	4192627.5	
DUMP TRUCK 1		79	20	*6.0*	*5.5*	5	3	71.5	0.5	0.5	7020936.0	
Place and vibrate concrete cycle		84	20	*6.0*	*5.5*	5	3	*76.0*	0.75	0.75	29716747.4	
											SIGMA $(t_c)(10^{0.1Li})$	*$L_{Aeq,1hr}$ = $10log_{10}[1/1S (t_c)(10^{0.1Li})$*
											40930310.8	**76**

Note 1 - 5 dB(A) partial attenuation between receptor and source

20. Predicted Construction Noise at 20m from worst-case works when repairing flood defence walls.

PREDICTION OF NOISE FROM QUASI STATIONARY PLANT
[ACTIVITY LAEQ METHOD]

PLANT TYPE / NOISE SOURCE	**L_{Aeq}, AT 1m, dB**	**L_{Aeq}, AT 10m, dB**	**DISTANCE, m**	**ADJUSTMENTS (dB)**				**RESULTANT $L_{Aeq, dB}$**	**FRACTION ON TIME**	**CORRECTIONS TO $L_{Aeq, 1 HR}$**		**ACTIVITY $L_{Aeq, 1 HR}$**
				DISTANCE		**SCREENING**	**REFLECTION**					
List all noise sources	*Average*		*Average distance to receptor, m*	*K_h = $20log_{10}(R/10)$*	*K_s = $(25log_{10}(R/10) - 2$*	*0, 5, 10, calculate*	*0, 3*	*L_{WA} - adjustments*	*(Activity duration / working period)*	*t_c = T_t x F*	*$(t_c)(10^{0.1Li})$*	*$L_{Aeq,1hr}$ = $10log_{10}[1/1S(t_c)(10^{0.1Li})$*
TRACKED EXCAVATOR		75	20	*6.0*	*5.5*	5	3	67.5	0.75	0.75	4192627.5	
DUMP TRUCK 1		79	20	*6.0*	*5.5*	5	3	71.5	0.5	0.5	7020936.0	
Water Pump		80	20	*6.0*	*5.5*	5	3	*72.0*	1	1	15773933.6	
Place and vibrate concrete cycle		84	20	*6.0*	*5.5*	5	3	*76.0*	0.75	0.75	29716747.4	
											SIGMA $(t_c)(10^{0.1Li})$	*$L_{Aeq,1hr}$ = $10log_{10}[1/1S(t_c)(10^{0.1Li})$*
											56704244.4	**78**

Note 1 - 5 dB(A) partial attenuation between receptor and source