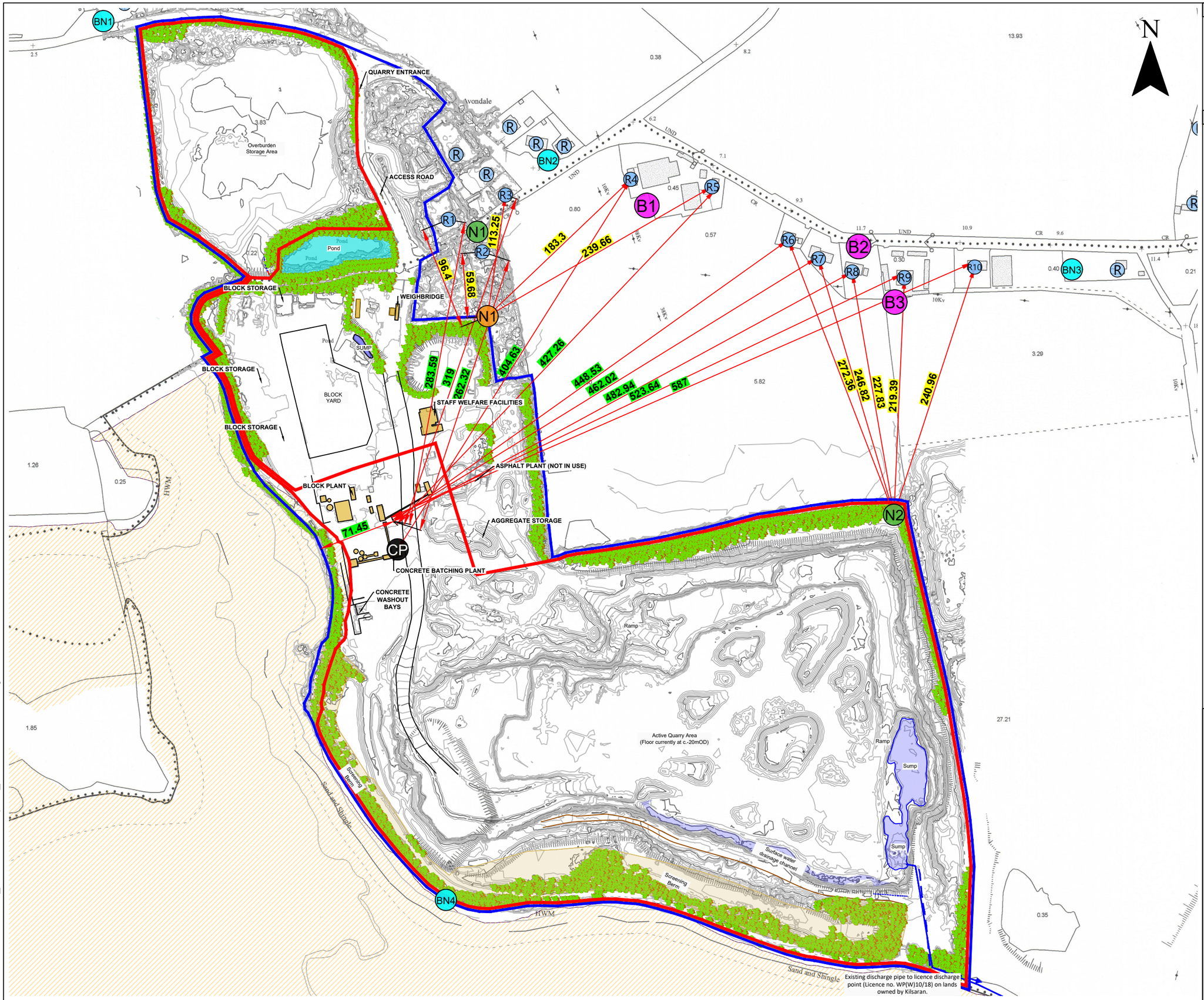

NOTES

1. BASED ON EXTRACT FROM 1:2500 O.S.I MAP NO. 6386A 6386B 6386C AND 6386D.

2. ORDNANCE SURVEY IRELAND LICENCE NO. **CYAL50167032** (C) ORDNANCE SURVEY & GOVERNMENT OF IRELAND.

LEGEND

- APPLICANTS LAND INTEREST
- PLANNING APPLICATION AREA (c.24.7 ha)
- RESIDENTIAL PROPERTY LOCATION
- N1 NOISE MONITORING LOCATION (UP TO 2019)
- N1 NOISE MONITORING LOCATION (2019 TO PRESENT)
- N2 NOISE MONITORING LOCATION
- NIGHT-TIME NOISE MONITORING LOCATIONS
- BLAST MONITORING LOCATIONS
- SPECIAL AREA OF CONSERVATION (SAC)

NOTE:
The SAC / SPA boundaries have been downloaded from the NPWS mapping webviewer database as a dxf data-set.

The NPWS mapping data was digitised on the old 6 inch (1841 and revised 1929-1930) mapping system in Irish Grid which has resulted in discrepancies when overlaid on the more updated 2500 scale mapping.

*'Orthomosaic produced from Aerial Photography flown **MAY 2018** by SLR Consulting Ireland (IAA Permit No. 150052) www.slrconsulting.com Tel. +353-1-2964667.*

Orthomosaic produced using Ground Control Points; Related to Irish Transverse Mercator Coordinate System and OS Malin Head Level Datum.

The accuracy of the orthomosaics and the digital elevation models (DEM) strongly depends on the flight height, lighting conditions, availability of textures, image quality, overlap, and type of terrain. Contours / 3D data relates to the surface model and not terrain levels. Typical accuracies: E: 0.05 m; N:0.05 m; Levels: 0.30 m.
All Dimensions and Levels are to be checked on site.

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KILSARAN CONCRETE

ENVIRONMENTAL IMPACT ASSESSMENT REPORT

ROSSMORE QUARRY,
CARRIGTOHILL, CO. CORK

RECEPTORS / NOISE ASSESSMENT

FIGURE 10-2

Scale	Date
NTS @ A3	JUNE 2021

00036.00070.0001.FIG_10-2.R1.18.Receptors_Noise Assessment.dwg

Appendix 10-A
GLOSSARY OF TERMINOLOGY

In order to assist the understanding of acoustic terminology and the relative change in noise, the following background information is provided.

The human ear can detect a very wide range of pressure fluctuations, which are perceived as sound. In order to express these fluctuations in a manageable way, a logarithmic scale called the decibel, or dB scale, is used. The decibel scale typically ranges from 0dB (the threshold of hearing) to over 120dB. An indication of the range of sound levels commonly found in the environment is given in the following table.

Table 10.A
Noise Levels Commonly Found In the Environment

Sound Level	Location
0dB(A)	Threshold of hearing
20 to 30dB(A)	Quiet bedroom at night
30 to 40dB(A)	Living room during the day
40 to 50dB(A)	Typical office
50 to 60dB(A)	Inside a car
60 to 70dB(A)	Typical high street
70 to 90dB(A)	Inside factory
100 to 110dB(A)	Burglar alarm at one metre away
110 to 130dB(A)	Jet aircraft on take off
140dB(A)	Threshold of Pain

Acoustic Terminology

dB (decibel) The scale on which sound pressure level is expressed. It is defined as 20 times the logarithm of the ratio between the root-mean-square pressure of the sound field and a reference pressure ($2x10^{-5}$ Pa).

dB(A) A-weighted decibel. This is a measure of the overall level of sound across the audible spectrum with a frequency weighting (i.e. 'A' weighting) to compensate for the varying sensitivity of the human ear to sound at different frequencies.

L_{Aeq} L_{Aeq} is defined as the notional steady sound level which, over a stated period of time, would contain the same amount of acoustical energy as the A-weighted fluctuating sound measured over that period.

L_{10} & L_{90} If a non-steady noise is to be described it is necessary to know both its level and the degree of fluctuation. The L_n indices are used for this purpose, and the term refers to the level exceeded for n% of the time. Hence, L_{10} is the level exceeded for 10% of the time and as such can be regarded as the 'average maximum level'. Similarly, L_{90} is the 'average minimum level' and is often used to describe the background noise. It is common practice to use the L_{10} index to describe traffic noise.

L_{Amax} L_{Amax} is the maximum A-weighted sound pressure level recorded over the period stated. L_{Amax} is sometimes used in assessing environmental noise where occasional loud noises occur, which may have little effect on the overall L_{eq} noise level but will still affect the noise environment. Unless described otherwise, it is measured using the 'fast' sound level meter response.

Appendix 10-B

Table 10B.1 Operational Noise Levels at Rossmore Quarry – All Quarry Operations

Receptor	Maximum L_{Aeq} dB(A)	Partial Screening (dB(A)	Reflection (dB(A)	Activity distance (m)	Attenuation with distance dB(A)	Operational Noise Level at Receptor L_{Aeq} dB(A)
R1	53.0	-5	+3	98	-20	31
R2	53.0	-5	+3	63	-16	35
R3	53.0	-5	+3	117	-21	30
R4	63	-5	+3	246	-28	33
R5	63	-5	+3	227	-27	34
R6	63	-5	+3	219	-27	34
R7	63	-5	+3	240	-28	33

Table 10B.2 Concrete Plant Out of Hours Operation – Operational Noise Levels (Without Mitigation)

Activity	Receptor	Activity LAeq (dB) at 10m Distance		Reflection	Screening	Activity Distance (m)	Noise Attenuated with Distance dB(A)	Activity LAeq (dB)		Operational Noise Levels dB(A)
		Concrete Plant	Concrete Lorry	dB(A)	dB(A)			Plant	Dumper	
Readymix Night-time Activities	R 1	79	75	3	-15	283	-29	38	34	39
	R 2	79	75	3	-15	319	-30	37	33	38
	R 3	79	75	3	-15	262	-28	39	35	40
	R 4	79	75	3	-15	385	-32	35	31	37
	R 5	79	75	3	-15	427	-33	34	30	36
	R 6	79	75	3	-15	448	-33	34	30	35
	R 7	79	75	3	-15	462	-33	34	30	35
	R8	79	75	3	-15	482	-34	33	29	35
	R9	79	75	3	-15	523	-34	33	29	34
	R10	79	75	3	-15	587	-35	32	28	33
	SAC	79	75	0	-15	71	-17	47	43	48