

H2Teesside Project

Environmental Statement

Volume III – Appendices

Appendix 11C: Baseline Sound Survey Monitoring Information

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The Infrastructure Planning (Environmental Impact Assessment) Regulations 2017 (as amended)

The Infrastructure Planning (Applications: Prescribed Forms and Procedure) Regulations 2009 - Regulation 5(2)(a)



TABLE OF CONTENTS

11C.0	BASELINE SOUND SURVEY MONITORING INFORMATION	4
11C.1	Unattended Monitoring Location (H1) Manor House Farm, Cowpen Bewley	4
11C.2	Attended Monitoring Location (H2) Cresswell Road, Grangetown.....	6
11C.3	Unattended Monitoring Location (H3) Kirkleatham Village	8
11C.4	Attended Monitoring Location (H4) Seal Sands Office	10
11C.5	Unattended and Attended Monitoring Location (H5) Marsh House Farm	12
11C.6	Unattended Monitoring Location (H6) 58 Broadway West	16
11C.7	Attended Monitoring Location (Eb1) Greatham Railway.....	18
11C.8	Unattended Monitoring Location (Eb2) Potential Offtaker at Greatham, Tees Road, Hartlepool	20
11C.9	Unattended Monitoring Location (Eb3) Seal Sands.....	22
11C.10	Unattended Monitoring Location (Eb4) Hospital of God, Greatham.....	24
11C.11	Attended Monitoring Location (Eb5) Cowpen Marsh.....	26
11C.12	Unattended Monitoring Location (Eb6) Seal Sands.....	28
11C.13	Unattended Monitoring Location (Eb7) Highfield Environmental.....	30
11C.14	Summary of H2Teesside Baseline Noise Data.....	32

TABLES

Table 11C-1:	H1 Survey Location Details.....	4
Table 11C-2:	H2 Survey Location Details.....	6
Table 11C-3:	H3 Survey Location Details.....	8
Table 11C-4:	H4 Survey Location Details.....	10
Table 11C-5:	H5 Unattended Survey Location Details	12
Table 11C-6:	H5 Attended Survey Location Details.....	14
Table 11C-7:	H6 Survey Location Details.....	16
Table 11C-8:	Eb1 Survey Location Details	18
Table 11C-9:	Eb2 Survey Location Details	20
Table 11C-10:	Eb3 Survey Location Details	22
Table 11C-11:	Eb4 Survey Location Details	24
Table 11C-12:	Eb5 Survey Location Details	26
Table 11C-13:	Eb6 Survey Location Details	28
Table 11C-14:	Eb7 Survey Location Details	30
Table 11C-15:	Sound Survey Results	32

PLATES

Plate 11C-1:	Location H1 Manor House Farm, Cowpen Bewley.....	5
Plate 11C-2:	Location H2 Cresswell Road, Grangetown.....	7
Plate 11C-3:	Location H3 Kirkleatham Village.....	9

Plate 11C-4: Location H4 Seal Sands Office	11
Plate 11C-5: Location H5 Unattended Marsh House Farm	13
Plate 11C-6: Location H5 Attended Marsh House Farm	15
Plate 11C-7: Location H6 58 Broadway West.....	17
Plate 11C-8: Location Eb1 58 Greatham Railway.....	19
Plate 11C-9: Location Eb2 Potential Offtaker at Greatham	21
Plate 11C-10: Location Eb3 Seal Sands	23
Plate 11C-11: Location Eb4 Hospital of God, Greatham	25
Plate 11C-12: Location Eb5 Cowpen Marsh.....	27
Plate 11C-13: Location Eb6 Seal Sands	29
Plate 11C-14: Location Eb7 Highfield Environmental	31

11C.0 BASELINE SOUND SURVEY MONITORING INFORMATION

11C.1 Unattended Monitoring Location (H1) Manor House Farm, Cowpen Bewley

11C.1.1 Table 11C-1 provides information on the survey location and conditions recorded on site.

Table 11C-1: H1 Survey Location Details

LOCATION H1	DESCRIPTION
	DAY AND NIGHT UNATTENDED MONITORING
Location description, what 3 words location and OS grid reference (Easting/Northing)	Manor House Farm, Cowpen Bewley, Billingham ///cost.weep.voices NZ 48302 24880
Monitoring date and time	26/06/2023 15:17 to 04/07/2023 13:20
Monitoring height above ground	1.5 m
Distance to nearest building façade	Greater than 3.5m
Sound Level Meter and Serial No.	Rion NL-52 s/n 00620870
Field Calibrator and Serial No.	Brüel & Kjær Model 4231 s/n 2217877
Weather station used	See location H6
Description of the sound climate	Road traffic from A1185 (NE), wind

Plate 11C-1: Location H1 Manor House Farm, Cowpen Bewley



11C.2 Attended Monitoring Location (H2) Cresswell Road, Grangetown

11C.2.1 Table 11C-2 provides information on the survey location and conditions recorded on site.

Table 11C-2: H2 Survey Location Details

LOCATION H2	DESCRIPTION
	DAY TIME ATTENDED MONITORING
Location description, what 3 words location and OS grid reference (Easting/Northing)	Cresswell Road, Grangetown ///feel.unique.swan NZ 55447 20705
Monitoring date and time	26/06/2023 17:28 to 26/06/2023 18:28
Monitoring height above ground	1.5 m
Distance to nearest building façade	Greater than 3.5m
Average wind speeds (m/s)	2.5
Wind direction	From the southeast
Cloud coverage	2/8
Sound Level Meter and Serial No.	Rion NL-52 s/n 00710387
Field Calibrator and Serial No.	Brüel & Kjær Model 4231 s/n 3005464
Description of the sound climate	Road traffic from local roads and Broadway/Trunk Road and Greystone Road (A1053), light aircraft

Plate 11C-2: Location H2 Crosswell Road, Grangetown



11C.3 Unattended Monitoring Location (H3) Kirkleatham Village

11C.3.1 Table 11C-3 provides information on the survey location and conditions recorded on site.

Table 11C-3: H3 Survey Location Details

LOCATION H3	DESCRIPTION
	DAY AND NIGHT UNATTENDED MONITORING
Location description, what 3 words location and OS grid reference (Easting/Northing)	Kirkleatham Village ///phones.strain.jams NZ 59330 21711
Monitoring date and time	26/06/2023 16:43 to 04/07/2023 10:13
Monitoring height above ground	1.5 m
Distance to nearest building façade	Greater than 3.5m
Sound Level Meter and Serial No.	Rion NL-52 s/n 00386763
Field Calibrator and Serial No.	Brüel & Kjær Model 4231 s/n 2217877
Weather Station used	See location H6
Description of the sound climate	Road traffic from A1042, A174 and other local roads, birdsong, wind in trees, industrial noise likely from Wilton International site.

Plate 11C-3: Location H3 Kirkleatham Village



11C.4 Attended Monitoring Location (H4) Seal Sands Office

11C.4.1 Table 11C-4 provides information on the survey location and conditions recorded on site.

Table 11C-4: H4 Survey Location Details

LOCATION H4	DESCRIPTION
	DAY TIME ATTENDED MONITORING
Location description, what 3 words location and OS grid reference (Easting/Northing)	Seal Sands Office, Billingham ///recall.shark.legend NZ 53979 24812
Monitoring date and time	27/06/2023 13:5 5 4 to 27/06/2023 14:5 5 4
Monitoring height above ground	1.5 m
Distance to nearest building façade	Greater than 3.5m
Average wind speeds (m/s)	2.2
Wind direction	From the south
Cloud coverage	3/8
Sound Level Meter and Serial No.	Rion NA-28 s/n 00570400
Field Calibrator and Serial No.	Rion NC-74 34973231
Description of the sound climate	Industrial sounds from Semcorp site as well as other nearby industrial facilities. Road traffic from unnamed site road.

Plate 11C-4: Location H4 Seal Sands Office



11C.5 Unattended and Attended Monitoring Location (H5) Marsh House Farm

11C.5.1 Table 11C-5 provides information on the unattended survey location and conditions recorded on site.

Table 11C-5: H5 Unattended Survey Location Details

LOCATION H5 (UNATTENDED)	DESCRIPTION
	DAY AND NIGHT UNATTENDED MONITORING
Location description, what 3 words location and OS grid reference (Easting/Northing)	Marsh House Farm, Warrenby /// jazz.shadow.trial NZ 57984 25035
Unattended monitoring date and time	21/07/2023 12:15 to 31/07/2023 11:45
Monitoring height above ground	1.5 m
Distance to nearest building façade	Greater than 3.5m
Average wind speeds (m/s)	0 to 8.9 m/s (weather station left at this location)
Wind direction	Most often S/SE
Sound Level Meter and Serial No.	Rion NL-52 s/n 00710387
Field Calibrator and Serial No.	Brüel & Kjær Model 4231 s/n 3005464 and Brüel & Kjær Model 4231 s/n 2217876
Weather Station and Serial No.	RS Hydro OP46548
Description of the sound climate	Day: industrial sounds from east along Tod Point Road as well as distant industrial sound from west, road traffic along Tod Point Road, birdsong. Night: distant industrial sources to west (clanging and horns were noted), occasional cars on Tod Point Road

Plate 11C-5: Location H5 Unattended Marsh House Farm



11C.5.2 Table 11C-6 provides information on the attended survey location and conditions recorded on site.

Table 11C-6: H5 Attended Survey Location Details

LOCATION H5 (ATTENDED)	DESCRIPTION	
	DAY AND NIGHT ATTENDED MONITORING	
Location description, what 3 words location and OS grid reference (Easting/Northing)	Near Marsh House Farm, Warrenby /// dined.tape.tone NZ 57890 25142	
Attended monitoring date and time	Day: 26/06/2023 15:53 until 16:53 Night: 26/06/2023 23:17 - 27/06/2023 00:17	
Monitoring height above ground	1.5 m	
Distance to nearest building façade	Greater than 3.5m	
Average wind speeds (m/s)	Day: 0.0	Night: 0.0
Wind direction	Day: SE	Night: E
Cloud Cover	Day: 3/8	Night: 6/8
Sound Level Meter and Serial No.	Rion NL-52 s/n 00710387	
Field Calibrator and Serial No.	Day: Brüel & Kjær Model 4231 s/n 3005464 Night: Brüel & Kjær Model 4231 s/n 2217877	
Weather Station and Serial No.	RS Hydro OP46548 <u>at Location H6</u>	
Description of the sound climate	Day: industrial sounds from east along Tod Point Road as well as distant industrial sound from west, road traffic along Tod Point Road, birdsong. Night: distant industrial sources to west (clanging and horns were noted), occasional cars on Tod Point Road	

Plate 11C-6: Location H5 Attended Marsh House Farm



11C.6 Unattended Monitoring Location (H6) 58 Broadway West

11C.6.1 Table 11C-7 provides information on the survey location and conditions recorded on site.

Table 11C-7: H6 Survey Location Details

LOCATION H6	DESCRIPTION
DAY AND NIGHT UNATTENDED MONITORING	
Location description, what 3 words location and OS grid reference (Easting/Northing)	58 Broadway West, Dormanstown /// manliness.chest.oath NZ 58089 23908
Unattended monitoring date and time	27/06/2023 10:51 to 04/07/2023 12:11
Monitoring height above ground	1.5 m
Distance to nearest building façade	Greater than 3.5m
Average wind speeds (m/s)	Between 0 and 4.6 m/s (weather station set up at this location)
Wind direction	From the south
Sound Level Meter and Serial No.	Rion NL-52 s/n 01021280
Field Calibrator and Serial No.	Brüel & Kjær Model 4231 s/n 2217877
Weather Station and Serial No.	RS Hydro OP46548
Description of the sound climate	Road traffic on Broadway West and other nearby roads, industrial estate to north, birdsong.

Plate 11C-7: Location H6 58 Broadway West



11C.7 Attended Monitoring Location (Eb1) Greatham Railway

11C.7.1 ~~Table 11C-8~~ ~~Table 11C-8~~ provides information on the survey location and conditions recorded on site.

Table 11C-8: Eb1 Survey Location Details

LOCATION EB1	DESCRIPTION	
	DAY ATTENDED MONITORING	DAY ATTENDED MONITORING
Location description, what 3 words location and OS grid reference (Easting/Northing)	Greatham Railway /// deflection.silks.slows NZ 50194 27117	Thorn Tree Lane /// Noon.hogs.bigger NZ 50159 27149
Monitoring date and time	27/06/2023 13:50 to 27/06/2023 14:20	26/06/2023 13:23 to 13:53
Monitoring height above ground	1.5 m	1.5
Distance to nearest building façade	Greater than 3.5m	Greater than 3.5m
Average wind speeds (m/s)	0.0	4.0
Wind direction	Indeterminable	West
Cloud Cover	8/8	3/8
Sound Level Meter and Serial No.	JL: Rion NL-52 s/n 00710387	Rion NA-28 s/n 00570400
Field Calibrator and Serial No.	JL: Brüel & Kjær Model 4231 s/n 3005464	Rion NC-74 34973231
Description of the sound climate	Leaves rustling, trains, aircraft	Leaves rustling, trains, aircraft

Plate 11C-8: Location Eb1 58 Greatham Railway



11C.8 Unattended Monitoring Location (Eb2) Potential Offtaker at Greatham, Tees Road, Hartlepool

11C.8.1 ~~Table 11C-9~~ ~~Table 11C-9~~ provides information on the survey location and conditions recorded on site.

Table 11C-9: Eb2 Survey Location Details

LOCATION EB2	DESCRIPTION
DAY AND NIGHT UNATTENDED MONITORING	
Location description, what 3 words location and OS grid reference (Easting/Northing)	Potential Offtaker at Greatham, Tees Road, Hartlepool /// beans.lakes.frame NZ 51191 26237
Monitoring date and time	26/06/2023 13:45 to 04/07/2023 12:17
Monitoring height above ground	1.5 m
Distance to nearest building façade	Greater than 3.5m
Sound Level Meter and Serial No.	Rion NL-52 s/n 01581
Field Calibrator and Serial No.	Brüel & Kjær Model 4231 s/n 3005464
Weather Station used	See location H6
Description of the sound climate	Road traffic on A178 was dominant with additional contributions from birdsong.

Plate 11C-9: Location Eb2 Potential Offtaker at Greatham



11C.9 Unattended Monitoring Location (Eb3) Seal Sands

11C.9.1 ~~Table 11C-10~~ ~~Table 11C-10~~ provides information on the survey location and conditions recorded on site.

Table 11C-10: Eb3 Survey Location Details

LOCATION EB3	DESCRIPTION
	DAY AND NIGHT UNATTENDED MONITORING
Location description, what 3 words location and OS grid reference (Easting/Northing)	Seal Sands, unnamed access road /// dices.feed.coherent NZ 52364 25451
Monitoring date and time	27/06/2023 13:01 to 04/07/2023 14:25
Monitoring height above ground	1.5 m
Distance to nearest building façade	Greater than 3.5m
Sound Level Meter and Serial No.	Rion NL-52 s/n 00654034
Field Calibrator and Serial No.	Brüel & Kjær Model 4231 s/n 2217877
Weather Station used	See location H6
Description of the sound climate	Wind and industrial sound mainly from the nearby Conoco Phillips site were the main sources.

Plate 11C-10: Location Eb3 Seal Sands



11C.10 Unattended Monitoring Location (Eb4) Hospital of God, Greatham

11C.10.1 ~~Table 11C-11~~ ~~Table 11C-11~~ provides information on the survey location and conditions recorded on site.

Table 11C-11: Eb4 Survey Location Details

LOCATION EB4	DESCRIPTION
	DAY AND NIGHT UNATTENDED MONITORING
Location description, what 3 words location and OS grid reference (Easting/Northing)	To the rear of Hospital of God, Greatham /// diner.trash.crowned NZ 449032 527493
Monitoring date and time	27/06/2023 13:05to 06/07/2023 13:20
Monitoring height above ground	1.5 m
Distance to nearest building façade	Greater than 3.5m
Sound Level Meter and Serial No.	Rion NL-52 s/n 02041
Field Calibrator and Serial No.	Brüel & Kjær Model 4231 s/n 3005464
Weather Station used	See location H6
Description of the sound climate	Birdsong was identified as the dominant sound source at this location

Plate 11C-11: Location Eb4 Hospital of God, Greatham



11C.11 Attended Monitoring Location (Eb5) Cowpen Marsh

11C.11.1 ~~Table 11C-12~~ ~~Table 11C-12~~ provides information on the survey location and conditions recorded on site.

Table 11C-12: Eb5 Survey Location Details

LOCATION EB5	DESCRIPTION
	DAY ATTENDED MONITORING
Location description, what 3 words location and OS grid reference (Easting/Northing)	Cowpen Marsh /// orbit.into.bound NZ 45063 524710
Monitoring date and time	26/06/2023 14:12 0 to 15:12 0
Monitoring height above ground	1.5 m
Distance to nearest building façade	Greater than 3.5m
Average wind speeds (m/s)	3 m/s
Wind direction	From the north east
Sound Level Meter and Serial No.	Rion NL-52 s/n 00710387
Field Calibrator and Serial No.	Brüel & Kjær Model 4231 s/n 3005464
Description of the sound climate	Birdsong and road traffic were identified as sources at this location.

Plate 11C-12: Location Eb5 Cowpen Marsh



11C.12 Unattended Monitoring Location (Eb6) Seal Sands

11C.12.1 ~~Table 11C-13~~ ~~Table 11C-13~~ provides information on the survey location and conditions recorded on site.

Table 11C-13: Eb6 Survey Location Details

LOCATION EB6	DESCRIPTION
	DAY AND NIGHT UNATTENDED MONITORING
Location description, what 3 words location and OS grid reference (Easting/Northing)	Seal Sands /// film.Mondays.skips NZ 53547 25477
Monitoring date and time	27/06/2023 13:30 to 04/07/2023 14:45
Monitoring height above ground	1.5 m
Distance to nearest building façade	Greater than 3.5m
Sound Level Meter and Serial No.	Rion NL-52 s/n 01021284
Field Calibrator and Serial No.	Brüel & Kjær Model 4231 s/n 2217877
Weather Station used	See location H6
Description of the sound climate	Industrial sound mainly from the nearby Conoco Phillips site was dominant with additional contributions from wind and birds.

Plate 11C-13: Location Eb6 Seal Sands



11C.13 Unattended Monitoring Location (Eb7) Highfield Environmental

11C.13.1 ~~Table 11C-14~~ ~~Table 11C-14~~ provides information on the survey location and conditions recorded on site.

Table 11C-14: Eb7 Survey Location Details

LOCATION EB7	DESCRIPTION
	DAY AND NIGHT UNATTENDED MONITORING
Location description, what 3 words location and OS grid reference (Easting/Northing)	Highfield Environmental, Cowpen Bewley /// pasta.last.major NZ 49718 24447
Monitoring date and time	27/06/2023 15:00 to 04/07/2023 14:00
Monitoring height above ground	1.5 m
Distance to nearest building façade	Greater than 3.5m
Sound Level Meter and Serial No.	Rion NL-52 s/n 00386762
Field Calibrator and Serial No.	Brüel & Kjær Model 4231 s/n 3005464
Weather Station used	See location H6
Description of the sound climate	Operational noise from the Highfield Environmental site was dominant with additional noise form HGV movements on the site

Plate 11C-14: Location Eb7 Highfield Environmental



11C.14 Summary of H2Teesside Baseline Noise Data

Table 11C-15: Sound Survey Results

MONITORING LOCATION	TIME PERIOD	$L_{Aeq, T}$ dB	HIGHES L_{AFmax} dB	$L_{AF90, T}$ dB
H1	Daytime	50	98	43
	Night-time	44	90	36
H2	Daytime	51	73	48
	Night-time*	-	-	-
H3	Daytime	51	92	47
	Night-time	49	78	42
H4	Daytime	57	84	53
	Night-time*	-	-	-
H5	Daytime	51	96	39
	Night-time	44	80	36
H6	Daytime	56	102	46
	Night-time	45	77	42
Eb1	Daytime	51	78	43
	Night-time*	-	-	-

MONITORING LOCATION	TIME PERIOD	$L_{Aeq, T}$ dB	HIGHES L_{AFmax} dB	$L_{AF90, T}$ dB
Eb2	Daytime	67	95	50
	Night-time	62	90	47
Eb3	Daytime	48	92	42
	Night-time	46	79	42
Eb4	Daytime	51	101	45
	Night-time	49	85	36
Eb5	Daytime	57	79	45
	Night-time*	-	-	-
Eb6	Daytime	53	76	51
	Night-time	53	88	51
Eb7	Daytime	47	88	41
	Night-time	42	82	37
<u>Eb8**</u>	<u>Daytime</u>	<u>46</u>	<u>59</u>	<u>41</u>
	<u>Night-time</u>	<u>43</u>	<u>54</u>	<u>40</u>
<u>Eb9**</u>	<u>Daytime</u>	<u>48</u>	<u>67</u>	<u>42</u>
	<u>Night-time</u>	<u>44</u>	<u>57</u>	<u>40</u>
*Only attended daytime measurements made at H2, H4, Eb1 and Eb5				
<u>** Measurements completed for the Net Zero Teesside Project</u>				