

# The Sizewell C Project

Deed of Obligation, Schedule 12, Annex W: Railway Construction Refreshed Noise Assessment

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## **Table of Contents**

1.	Introduction	1
2.	Criteria	2
Constr	uction	2
3.	Methodology	5
_	uction activities and plant	
	d heights	
	tasets	
	tors	
•	ion	
•	tion method	
	ptions and limitations	
_	·	
4.	Results	
_	uction	_
•	ity for insulation	
Eligibili	ity for temporary rehousing	10
5.	Conclusion	11
Appe	endix A Construction information	12
	endix B Detailed construction noise results	
Figu	ıres	
Figure	1. Construction Noise Receptors	25
•	2. Noise Insulation and Temporary Rehousing qualification	
Tabl	es	
	1. Construction noise insulation trigger levels for the Associated Development sites (from Table 1.3	
,		
	2. Construction noise insulation trigger levels for the MDS (Table 1.4 in the NMS)	
	3. Construction noise temporary rehousing trigger levels – all sites (Table 1.5 in the NMS)	
	1. Construction activities	
	5. Summary of construction information	
	6. Detailed construction noise results – L <sub>Aeq,T</sub> façade	
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# 1. Introduction

- 1.1 AECOM has been appointed by Sizewell C Limited ('SZC') to identify residential buildings that will qualify under the Noise Mitigation Scheme (NMS) (as set out in Annex W of the **Deed of Obligation**¹) as a result of the construction and operation of the Sizewell C nuclear power station project ('the project'). The project includes the following elements:
  - The main development site (MDS) comprising land required for the Sizewell C nuclear power station,
    offshore works and land used temporarily to support construction, including a temporary
    accommodation campus and caravan site for the construction workforce. This includes the land east of
    Eastlands Industrial Estate (LEEIE).
  - Two temporary park and ride sites, one at Darsham (the 'northern park and ride site') and one at Wickham Market (the 'southern park and ride site'), to reduce the amount of traffic generated by the construction workforce on local roads and through local villages.
  - A permanent road to bypass Stratford St Andrew and Farnham (referred to as the 'two village bypass' or TVB), to alleviate traffic and mitigate road safety effects on the A12 through the two villages.
  - A permanent road linking the A12 to west of the Sizewell C main development site (referred to as the 'Sizewell link road' or SLR), to alleviate traffic from the B1122 through Theberton and Middleton Moor.
  - Permanent highway improvements at the junction of the A12 and B1122 east of Yoxford (referred to as the 'Yoxford roundabout') and other road junctions to accommodate Sizewell C construction traffic and mitigate road safety effects.
  - A temporary freight management facility (FMF) at Seven Hills on land to the south-east of the A12/A14 junction to manage the flow of freight to the main development site.
  - A temporary extension of the existing Saxmundham to Leiston branch line into the main development site (referred to as 'the green rail route' or GRR) and other permanent rail improvements on the Saxmundham to Leiston branch line, to transport freight by rail to remove large numbers of lorries from the regional and local road network.
- 1.2 In addition, there will be temporary intensification for approximately 8-10 years of the use of the existing East Suffolk line railway between Westerfield Junction, just north of Ipswich and the junction with the Saxmundham to Leiston branch line, just north of Saxmundham, and the Saxmundham to Leiston branch line itself.
- 1.3 The project received development consent on 20 July 2022 under Statutory Instrument 2022 No 853. 'The Sizewell C (Nuclear Generating Station) Order 2022'.
- 1.4 Separate reports have been produced regarding qualification under the NMS due to the construction and operational use of each of the various elements as set out in paragraphs 1.1 and 1.2 above, except for the operational use of the power station itself, since the **Development Consent Order (DCO)** (Requirement 40: Operational Noise) precludes the operation of the power station at noise levels that could lead to properties being eligible for noise insulation.
- 1.5 This report focuses on noise insulation and temporary rehousing qualification under the NMS due to:
  - The construction of the permanent improvements to the existing Saxmundham to Leiston branch line, including the section east of the GRR through Leiston; and
  - The construction of the extension to the existing Saxmundham to Leiston branch line, the GRR.
- 1.6 Figure 1 provides an overview of the existing Saxmundham to Leiston branch line and the GRR, including the location of the various level crossings.

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Prepared for: Sizewell C Limited AECOM

Project reference: 60679030

<sup>&</sup>lt;sup>1</sup> The Sizewell C Project 8.17/10.4 *Deed of Obligation Engrossment Version – Annexures - Part 3 of 3*, Book 8 Revision: 9.0, Book 10 Revision: 1.0, PINS Reference Number: EN010012, https://infrastructure.planninginspectorate.gov.uk/wp-content/ipc/uploads/projects/EN010012/EN010012-008256-SZC%20Co.%20-

- Project reference: 60679030
- 1.7 The construction and operation of the temporary rail terminal within the LEEIE, also known as the ancillary construction area (ACA), which consists of a temporary rail unloading facility to be used prior to the completion of the GRR, is not covered in this report. These activities were considered in the refreshed assessment on noise insulation qualification due to the construction works at the MDS². The MDS refreshed construction noise assessment also included activities associated with the construction and operation of the GRR to the east of Abbey Road within the MDS red line boundary.
- 1.8 However, the rail construction works include an activity to construct a small satellite compound close to the western boundary of the LEEIE, which falls within the MDS red line boundary but was not considered in the refreshed MDS construction noise assessment. The activity has therefore been included in this report, albeit with the alternative, lower MDS criteria applied.
- 1.9 The construction works covered by the assessment in this report are currently anticipated to start in 2024.

## 2. Criteria

#### Construction

- 2.1 The criteria for noise insulation and temporary rehousing are set out in the NMS which is detailed in Annex W of the **Deed of Obligation**, as follows:
- 2.2 Table 1.1 of the NMS sets out the criteria for eligibility for insulation for construction noise, which are:
  - "A Property will be eligible for an offer of insulation where the Property is predicted to experience the following when measured 1 m from the external façade of any Eligible Room:
  - (1) a construction noise level which exceeds the higher of either:
    - (a) the noise insulation trigger levels set out in Table 1.3 for any Associated Development site or in Table 1.4 for the main development site for the corresponding times of the day; or
    - (b) the existing Baseline Ambient Sound Level for the corresponding times of the day; and
  - (2) an exceedance of (1) where:
    - (a) the exceedance is predicted to occur on 10 or more days of working in any 15 consecutive days or on a total number of days exceeding 40 in any 6 consecutive months; or
    - (b) where the exceedance occurs only on a Saturday or Sunday, it is predicted to occur on 2 weekends, or part thereof, in any 15 consecutive days or on 6 weekends, or part thereof, in any 6 consecutive months."
- 2.3 Table 1 sets out the NMS insulation trigger levels for construction noise for the associated development sites, which are taken from Table 1.3 of the NMS, but rearranged so that multiple periods are grouped according to their eligibility threshold; the NMS presented the periods chronologically.

Table 1. Construction noise insulation trigger levels for the Associated Development sites (from Table 1.3 in the NMS)

Day/Time	Averaging Period, T	Noise Insulation Trigger Level dB $L_{\mbox{\scriptsize Aeq},T}$
Day:		
Weekdays, 0800-1800,	10 hr (weekdays)	75
Saturday, 0800-1300	5 hr (Saturdays)	
Shoulder Periods		
Weekdays, 0700-0800		
Weekdays, 1800-1900	1 hr	70
Saturday, 0700-0800		
Saturday, 1300-1400		

<sup>&</sup>lt;sup>2</sup> The Sizewell C Project Deed of Obligation, Schedule 12, Annex W: *Main Development Site Refreshed Noise Assessment–Construction*, Revision 1. Ref: 60679030\_NI\_MDS\_1, April 2023

Day/Time	Averaging Period, T	Noise Insulation Trigger Level dB $L_{\text{Aeq},T}$
Evenings and weekends:		
Weekdays 1900-2300,	4 hr (weekdays)	65
Saturdays 1400-2300,	1 hr (Saturdays)	65
Sundays 0700 - 2300	1 hr (Sundays)	
Nights:	1 hr	55
Every day 2300 - 0700		

2.4 Since this report also considers the construction of a small satellite compound close to the western boundary of the LEEIE, which falls within the MDS red line boundary, the MDS criteria in Table 1.4 of the NMS are also relevant, and are set out in Table 2.

Table 2. Construction noise insulation trigger levels for the MDS (Table 1.4 in the NMS)

Day/Time	Averaging Period, T	Noise Insulation Trigger Level dB $L_{\text{Aeq},T}$
Day:		
Weekdays, 0700-1900,	12 hr (weekdays)	65
Saturday, 0700-1300	6 hr (Saturdays)	
Evenings and weekends:		
Weekdays 1900-2300,	4 hr (weekdays)	55
Saturdays 1300-2300,	1 hr (Saturdays)	55
Sundays 0700 - 2300	1 hr (Sundays)	
Nights:	1 hr	45
Every day 2300 - 0700		

2.5 Table 1.2 of the NMS sets out the criteria for temporary rehousing due to construction noise, which are:

"An occupier of a Property will be eligible for an offer of temporary rehousing where a Property is predicted to experience:

- (1) a construction noise level which exceeds the higher of either:
  - (a) the temporary rehousing trigger levels set out in Table 1.5 for the corresponding times of the day; or
  - (b) the existing Baseline Ambient Sound Level by 10 dB for the corresponding times of the day; and
- (2) an exceedance of (1) where:
  - (a) the exceedance is predicted to occur on 10 or more days of working in any 15 consecutive days or on a total number of days exceeding 40 in any 6 consecutive months; or
  - (b) where the exceedance occurs only on a Saturday or Sunday, it is predicted to occur on 2 weekends, or part thereof, in any 15 consecutive days or on 6 weekends, or part thereof, in any 6 consecutive months."
- 2.6 The numerical values associated with these criteria are contained in Table 1.5 of the NMS, and these are set out in Table 3.

Table 3. Construction noise temporary rehousing trigger levels – all sites (Table 1.5 in the NMS)

Day	Time	Time Averaging Period, T	
Monday to Friday	07:00 to 08:00	1 hr	80
	08:00 to 18:00	10 hr	85
	18:00 to 19:00	1 hr	80
	19:00 to 23:00	4 hr	75
	23:00 to 07:00	1 hr	65
Saturday	07:00 to 08:00	1 hr	80

Day	Time	Averaging Period, T	Temporary Rehousing Trigger Level dB $L_{\text{Aeq},T}$
	08:00 to 13:00	5 hr	85
	13:00 to 14:00	1 hr	80
	14:00 to 23:00	1 hr	75
	23:00 to 07:00	1 hr	65
Sunday and Public Holidays	07:00 to 23:00	1 hr	75
	23:00 to 07:00	1 hr	65

- 2.7 The trigger levels relate to 'façade' noise levels, i.e. 1 metre from the external façade.
- 2.8 The normal working times for the rail construction works are Monday - Friday 08:00-18:00 and Saturday morning 08:00-13:00. The appointed rail construction contractors have confirmed that the one hour shoulder periods of 07:00-08:00 Monday - Saturday, 18:00-19:00 Monday - Friday, and 13:00-14:00 Saturday would be used for activities such as staff briefings, not for construction works. In addition, the appointed rail construction contractors have confirmed that Saturday afternoons 14:00-19:00 are not currently proposed to be used for construction works. If the programme/start date changes then the option to carry out construction works on Saturday afternoons will be reviewed, and the assessment of qualification under the NMS updated.
- 2.9 The NMS trigger levels at which offers of noise insulation or temporary rehousing are to be made are the higher of the absolute levels set out in Tables 1, 2 and 3 or a level set relative to the baseline ambient sound levels at a receptor, where the existing ambient sound levels already exceed the absolute thresholds.
- For the permanent improvements to the branch line and the construction of the GRR, the baseline ambient sound levels are known to be generally below the absolute thresholds at nearby receptors. This understanding is based on the baseline noise monitoring completed for the Environmental Statement
- 2.11 Taking a conservative approach, the absolute trigger levels for eligibility for insulation set out in Table 1 for all construction works (except the for construction of the satellite compound in the LEEIE, which is covered by Table 2), and the absolute trigger levels for temporary rehousing for all works set out in Table 3 have been adopted for all receptors, even where the ambient sound level is understood to be higher than the trigger levels. This is considered to be a robust application of the NMS.
- For the sake of clarity, the normal daytime working hours for the rail construction works correspond to the 'daytime' periods defined in the NMS for the Associated Development sites, so the relevant noise insulation trigger level from Table 1 is therefore 75 dB, quantified as a ten hour LAeq on weekdays and a five hour LAeq on Saturday mornings. For the works to construct the satellite compound in the LEEIE, the relevant noise insulation trigger level from Table 2 is therefore 65 dB, quantified as a 12 hour LAeq during the week and a six hour LAeq on Saturday mornings.
- 2.13 Following the same principle, the relevant temporary rehousing trigger level from Table 3 for all rail construction activities is 85 dB, again, quantified as a ten hour LAeq on weekdays and a five hour LAeq on Saturday mornings.
- 2.14 Some works outside of normal daytime hours are required:
  - · Continuous daytime/evening/night working (railway possession type working) for a short period at the majority of the level crossings, i.e. those crossing local roads; and
  - Works to the junction between the East Suffolk line and the Saxmundham to Leiston branch line. These works will be completed during a 'blockade' of the railway, a nine day period including two consecutive weekends when the railway is closed to rail operational traffic. The second weekend will

<sup>&</sup>lt;sup>3</sup> The Sizewell C Project, 6.3 Volume 2 Main Development Site, Chapter 11 Noise and Vibration Appendix 11A Noise and Vibration Baseline Report, Revision 1.0, PINS Reference Number: EN010012, https://infrastructure.planninginspectorate.gov.uk/wp-content/ipc/uploads/projects/EN010012/EN010012-001824-SZC\_Bk6\_ES\_V2\_Ch11\_Noise\_and\_Vibration\_Appx11A\_Noise\_and\_Vibration\_Baseline\_Report.pdf

be used for testing which does not require any potentially noisy plant, therefore the duration of potentially noisy works is seven consecutive days, which includes only one weekend.

# 3. Methodology

## **Construction activities and plant**

- 3.1 The construction of the Sizewell C Project will span 9-12 years and involve many different contractors. The various rail construction and signalling contractors have been appointed, therefore, the construction information available at the ES4 has been reviewed and updated as required. In particular, more details are available regarding the works required at the existing level crossings on the branch line, compounds, signalling works, the nine day blockade at Saxmundham junction and track realignment works in Leiston.
- 3.2 The calculations use the SoundPLAN noise modelling software (version 8.2). The construction activities from the SoundPLAN model used during the preparation of the ES have been used as a starting point. However, the appointed rail construction and signalling contractors have provided updates and additional detail on the construction activities, plant, working times and durations, which have been adopted. In particular, some activities have been split into a number of sub-activities to provide greater detail on the likely variation in construction noise levels as the activities progress.
- Table 4 details the construction activities and durations, with the plant used in the model for each activity 3.3 provided in Appendix A.
- 3.4 SZC has confirmed that there would be a gap of a few weeks between the branch line track removal and branch line track laying works, so the worst-case ten days associated with each of these activities will not overlap.
- 3.5 For construction activities that progress along the branch line, the GRR and the two road diversions, the plant has been modelled as a series of regularly spaced point sources along the route, in accordance with the approach taken in the ES. The activity duration has been used to estimate the number of days the works will be carried out in the vicinity of each point source, enabling an estimate to be made of the construction noise level on the tenth noisiest day.
- 3.6 For activities that progress along the line but have programmed durations of less than ten days, for example, some of the GRR works, the construction noise level has been based on the least noisy day of the assumed programme. This is to enable a comparison with other activities, even though the programmed duration cannot trigger the noise insulation criteria.
- 3.7 For construction activities that are confined to a small specific location, where the plant will operate across the whole area such as works at the existing level crossings on the branch line, the plant has been modelled as an area source and the construction noise level is assumed to be unchanged throughout the activity or sub-activity.
- 3.8 For construction activities that are confined to a larger specific location, where the plant will progress across the area such as the GRR offline earthworks, the plant has been modelled as a series of area sources. Each area source corresponds to the approximate area completed in ten days based on the size of the total area of the works and the duration of the activity.

**Table 4. Construction activities** 

Ref	Activity	Type	Duration	Timing
1	Branch line upgrade – track removal	Progress along line	21 weeks	Day only
2	Branch line upgrade – track laying	Progress along line	21 weeks	Day only
3#	GRR Buckleswood Rd level crossing – track earthworks	Single area	1 week	Daytime and one period of 27 hr
4#	GRR Buckleswood Rd level crossing – track paving	Single area	1 week	continuous working

<sup>&</sup>lt;sup>4</sup> The Sizewell C Project, 6.10 Volume 9 Rail, Chapter 4 Noise and Vibration Appendices 4A-4B, Revision 1.0, PINS Reference Number: EN010012, https://infrastructure.planninginspectorate.gov.uk/wp-content/ipc/uploads/projects/EN010012/EN010012-002165-SZC\_Bk6\_ES\_V9\_Ch4\_Noise\_Vibration\_App4A\_4B.pdf

Dof	Antivity	Tumo	Duration	Timina
Ref 5#	Activity GRR Buckleswood Rd level crossing– track construction	Type Single area	Duration 2 weeks	Timing
6 <sup>*</sup>	GRR Buckleswood Rd level crossing – road diversion earthworks	Progress along road	5 weeks	Day only
<b>7</b> *	GRR Buckleswood Rd level crossing – road diversion paving	Progress along road	5 weeks	Day only
8	GRR Abbey Road level crossing – track earthworks	Single area	1 week	Daytime and one period of 27 hr
9	GRR Abbey Road level crossing – track paving	Single area	1 week	continuous working
10	GRR Abbey Road level crossing – track construction	Single area	2 weeks	-
11	GRR Abbey Road level crossing – road diversion	Progress	5 weeks	Daytime and one period of 27 hr
	earthworks	along road		continuous working
12	GRR Abbey Road level crossing – road diversion paving	Progress along road	5 weeks	
13	Green Rail Route – earthworks on route	Progress along line	13 weeks	Day only
14	Green Rail Route – earthworks offline embankments/ponds	Progress across area	35 weeks	Day only
15	Green Rail Route – bottom ballast	Progress along line	1 week	Day only
16	Green Rail Route – laying continuously welded rail	Progress along line	1 week	Day only
17	Green Rail Route – installation of track	Progress along line	1 week	Day only
18	Green Rail Route – ballasting and tamping	Progress along line	2 weeks	Day only
20.1	Bratts Blackhouse level crossing Day 1-5	Single area	5 days	Daytime and one period of 27 hr continuous working
20.2	Bratts Blackhouse level crossing Day 6-10	Single area	5 days	Day only
21.1	Knodishall level crossing Day 1-2	Single area	2 days	Day only
21.2	Knodishall level crossing Day 3-6	Single area	4 days	100 hr continuous working
21.3	Knodishall level crossing Day 7-12	Single area	6 days	Day only
22.1	West House level crossing Day 1-7	Single area	7 days	Day only
22.2	West House level crossing Day 8-9	Single area	2 days	54 hr continuous working
22.3	West House level crossing Day 10-14	Single area	5 days	Day only
23.1	Snowdens level crossing Day 1-5	Single area	5 days	Day only
23.2	Snowdens level crossing Day 6-11	Single area	6 days	Daytime and one period of 27 hr continuous working
24.1	Saxmundham Rd level crossing Day 1-5	Single area	5 days	Day only
24.2	Saxmundham Rd level crossing Day 6-10	Single area	5 days	Day only
24.3	Saxmundham Rd level crossing Day 11-15	Single area	5 days	Day only
24.4	Saxmundham Rd level crossing Day 16-20	Single area	5 days	105 hr continuous working
24.5	Saxmundham Rd level crossing Day 21-26	Single area	6 days	Day only
25.1	Buckles Wood footpath level crossing Stage 1 Day 1-5	Single area	5 days	Day only
25.2	Buckles Wood footpath level crossing Stage 1 Day 6-9	Single area	4 days	Day only
25.3	Buckles Wood footpath level crossing Stage 2	Single area	2 days	Day only
26.1	Summerhill footpath level crossing Day 1-5	Single area	5 days	Day only
26.2	Summerhill footpath level crossing Day 6-11	Single area	6 days	Day only
27.1	Leiston level crossing & track realignment Day 1-5	Single area	5 days	Day only
27.2	Leiston level crossing & track realignment Day 6-10	Single area	5 days	Day only
27.3	Leiston level crossing & track realignment Day 11-13	Single area	3 days	Day only
27.4	Leiston level crossing & track realignment Day 14-17	Single area	4 days	105 hr continuous working
27.5	Leiston level crossing & track realignment Day 18-22	Single area	5 days	Day only
27.6	Leiston level crossing & track realignment Day 23-25	Single area	3 days	Day only
29	Knodishall satellite compound	Single area	2 weeks	Day only
30	West House satellite compound	Single area	2 weeks	Day only
31	Saxmundham Rd satellite compound	Single area	2 weeks	Day only
32	LEEIE satellite compound	Single area	2 weeks	Day only
33	Saxmundham Jcn blockade mainline weekend days	<u>_</u>		1 <sup>st</sup> weekend days/evenings
34	Saxmundham Jch blockade mainline weekend days  Saxmundham Jch blockade mainline weekend evening/nights	Single area Single area	2 days 2 days	1 <sup>st</sup> weekend nights
35	Saxmundham Jcn blockade mainline weekday days	Single area	5 days	Weekday days/evenings
55	Saxinununam Jun bioukaue mainime weekuay days	Siriyie area	o uays	vveekuay uays/everiiiigs

Ref	Activity	Type	Duration	Timing
36	Saxmundham Jcn blockade mainline weekday evenings/nights	Single area	5 days	Weekday nights
37	Saxmundham Jcn blockade branch line weekend days	Single area	2 days	1 <sup>st</sup> weekend days/evenings
38	Saxmundham Jcn blockade branch line weekend evening/nights	Single area	2 days	1 <sup>st</sup> weekend nights
39	Saxmundham Jcn blockade branch line weekday days	Single area	5 days	Weekday days/evenings
40	Saxmundham Jcn blockade branch line weekday evenings/nights	Single area	5 days	Weekday nights
41*	GRR satellite compounds at Abbey Road and Buckleswood Rd	Multiple areas	2 weeks	Day only
42	GRR main compound construction	Progress across area	13 weeks	Day only
43.1	GRR main compound operation location 1	Single area	96 weeks	Day only
43.2	GRR main compound operation location 2	Single area	96 weeks	Day only
44	GRR Buckleswood Road level crossing signalling	Single area	1 week	Day, evening or night
45	GRR Abbey Road level crossing signalling	Single area	1 week	Day, evening or night
46	GRR lineside signalling at 4 locations (2 at each level crossing)	Multiple areas	1 week total	Day only
47	Knodishall level crossing signalling	Single area	1 week	Day, evening or night
48	West House level crossing signalling	Single area	1 week	Day only
49	Snowdens level crossing signalling	Single area	1 week	Day only
50	Saxmundham Rd level crossing signalling	Single area	1 week	Day, evening or night
51	Buckles Wood Footpath level crossing signalling	Single area	1 week	Day only
52	Summerhill Footpath level crossing signalling	Single area	1 week	Day only
53	Branch line lineside signalling at 10 locations	Multiple areas	3 weeks total	Day only
54	Saxmundham Jcn blockade mainline install signalling	Single area	4 hrs	Day, evening or night within 1st seven days of blockade
55	Saxmundham Jcn blockade mainline remove existing signalling	Single area	4 hrs	Day, evening or night within 1st seven days of blockade

<sup>#</sup> The road diversion at Buckleswood level on the GRR crossing is currently under review and may not be required, if this is the case Activities 3, 4 and 5 would all be completed over 1 week of continuous working.

## **Ground heights**

- 3.9 The noise models contain a 3-dimensional representation of the existing ground heights in the study area. The ground data is based on 2020 2 m Digital Terrain Model (DTM) LIDAR data downloaded from the Defra website<sup>5</sup> in December 2021, which has been filtered using the standard settings in the SoundPLAN software to minimise the size of the dataset.
- 3.10 No changes to the existing ground heights along the existing East Suffolk Line and the existing Saxmundham to Leiston branch line are proposed. The proposed ground heights for the GRR between the branch line and Abbey Road are based on data provided by LDA Design in May 2022<sup>6</sup>.

### **OS** datasets

- 3.11 The noise model contains a 3-dimensional representation of residential and non-residential buildings in the surrounding area, and a representation of the existing ground type (acoustically hard such as concrete or water, or acoustically soft such as vegetation). These data are based on OS MasterMap (including the Building Height Attribute dataset) and OS AddressBase Plus data provided by Dalcour Maclaren in December 2021.
- 3.12 Some manual additions to the OS MasterMap buildings dataset have been made for new developments that are not yet included in the mapping, in particular, the Johnsons Farm housing development on the western edge of Leiston close to the start of the GRR. Additional residential buildings have been added to the noise model based on information available online and provided by SZC from a site visit.

<sup>4</sup> and 5 would all be completed over 1 week of continuous working.

\* The road diversion at Buckleswood level crossing on the GRR is currently under review and may not be required, if this is the case Activities 6 and 7 would not be required and the satellite compound at Buckleswood Road (Activity 41) would not be required.

<sup>&</sup>lt;sup>5</sup> https://environment.data.gov.uk/DefraDataDownload/?Mode=survey downloaded 16/12/21

 $<sup>^6</sup>$  File: '6842\_WF\_GRR\_3D.dwg' from LDA Design 10/05/22

### **Receptors**

3.13 The rail construction noise calculations have been undertaken at 76 no. façade receptor positions. The receptors considered in the assessment include locations comparable to those set out in the **ES**, as well as additional receptor positions to provide greater detail. The construction noise receptor locations are shown in two sheets on Figure 1. Predicting construction noise levels at every façade of every property is not a reasonable or proportionate approach, therefore, in some locations a single receptor position is used to represent a small number of adjacent properties.

## **Mitigation**

3.14 No specific mitigation has been identified at this stage for inclusion in the rail construction works, so no allowance for mitigation has been made in the calculations presented in this report.

#### **Prediction method**

3.15 The calculation method for the construction noise assessment is that contained in ISO 9613-2:1996<sup>7</sup>, as was the case for the rail construction noise calculations in the **ES**.

## **Assumptions and limitations**

- 3.16 As with all construction noise assessments, the predicted noise levels can only ever be a best estimate of the actual noise levels due to the large number of variables for which assumptions must be made, including the number, type and on-time of each item of plant and the location and extent of the activity. Estimating the noise level that is likely to be exceeded for ten days also includes some inherent uncertainty as it is dependent on assumptions on the duration of the activity, the rate of progress across the working area and the manner in which the works will progress.
- 3.17 The eligibility for insulation and temporary rehousing due to construction works under the NMS is based on the predicted construction noise level exceeding the relevant trigger levels. However, for the purposes of this refreshed assessment, eligibility is considered to also occur where the predicted construction noise levels are equal to the relevant trigger level. The results have been rounded to the nearest whole decibel, i.e. 0.5 dB is rounded up. This is considered a reasonable approach given the inherent uncertainties in the construction noise calculation process, as set out above.

## 4. Results

## Construction

4.1 Full details of the predicted railway construction noise levels at the 76 no. selected receptor locations are provided in Appendix B. Building façades identified as potentially qualifying for noise insulation under the NMS, and properties identified as potentially qualifying for temporary rehousing, are identified on five sheets on Figure 2. In some instances, professional judgement has been used to identify additional façades on properties predicted to be eligible for insulation, so that the property is appropriately protected.

#### **Eligibility for insulation**

- 4.2 The results for the railway construction activities indicate that the 75 dB L<sub>Aeq,T</sub> daytime noise insulation trigger level, and the duration criteria, are predicted to be exceeded at:
  - Receptors R13, R15 and R19 three individual level crossing cottages immediately adjacent to the
    Knodishall, West House and Saxmundham Road level crossings respectively, due to the works at
    each level crossing. The duration of the main works at Knodishall level crossing (Activity 21) is
    understood to be approximately 12 days, at West House level crossing (Activity 22) approximately 14
    days, and at Saxmundham Road level crossing (Activity 24) approximately 26 days. The construction
    of the satellite compound at West House level crossing also meets the trigger level (Activity 30), with
    an expected duration of two weeks;

Project reference: 60679030

<sup>&</sup>lt;sup>7</sup> ISO 9613-2:1996 'Acoustics — Attenuation of sound during propagation outdoors — Part 2: General method of calculation'

- Receptors R39, R40, R41, R42, R44, R46, R47 and R48 18 no. properties in Leiston close to the Leiston level crossing and track realignment works. The total duration of the Leiston level crossing and track realignment works is expected to be approximately 25 days (Activity 27), and the 75 dB L<sub>Aeq,T</sub> daytime noise insulation trigger level is predicted to be exceeded for between 11 and 22 days at these properties. The lineside signalling works on the branch line (Activity 53) are also predicted to exceed the 75 dB L<sub>Aeq,T</sub> daytime noise insulation trigger level at Receptor R39, although these works are expected to be during daytime hours only and will last less than two days at each of the ten signalling worksites along the branch line. This increases the total duration of the exceedance at R39 from 11 to approximately 13 days. Predicted construction noise levels at Receptors R45, R49, R50, R51, R52 and R54 also exceed the trigger level but the duration is between two and eight days, and so below the NMS threshold of ten days in any 15 days.
- 4.3 The rate at which the branch line upgrade and GRR works progress along the route is key to these works not meeting or exceeding the noise insulation thresholds. Should the duration of the works set out in Table 4 change, and therefore the rate at which the works progress change, the assessment of qualification for noise insulation will need to be reviewed.
- 4.4 Three additional activities result in exceedances of the 75 dB L<sub>Aeq,T</sub> daytime noise insulation trigger level, however the duration criteria of ten or more days in any 15 consecutive working days or 40 days in six months, are not expected to be met. These are:
  - Summerhill footpath level crossing works: Activity 26.1 lasting five days affecting Receptors R34, R35 and R36 in Leiston;
  - Branch line signalling works: Activity 53 lasting less than two days at each of the ten signalling
    worksites along the branch line. This affects Receptor R39, as discussed previously, and Receptor
    R51, both in Leiston; and
  - Buckles Wood footpath level crossing: Activity 25, affecting Receptors R22 to R27 inclusive. The total
    duration of the works at this location is 11 days, however, it is understood that they are to be split into
    two stages, each lasting less than ten days, and programmed to occur more than 15 days apart.
- 4.5 The LEEIE compound works (Activity 32) are located within the MDS red line boundary, therefore the lower MDS daytime noise insulation trigger level of 65 dB L<sub>Aeq,T</sub> applies to the works. This level is exceeded at the 14 no. properties on Valley Road facing the LEEIE (represented by Receptor R66). The duration of the works is understood to be two weeks, therefore these 14 no. properties qualify for noise insulation.
- 4.6 The 55 dB L<sub>Aeq,T</sub> night time noise insulation trigger level and duration criteria are predicted to be potentially exceeded at Receptors R13 and R19, but only if the signalling works at the Knodishall and Saxmundham Road level crossings (Activities 47 and 50 lasting one week each) are completed at night and only if they occur within 15 days of the 100 hr/105 hour period of continuous working during the main level crossing construction works (Activities 21.2 and 24.4). The Knodishall and Saxmundham Road level crossing signalling works (Activities 47 and 50) are likely to be completed during the day but this is not yet confirmed, so there is a possibility that they may be completed at night. As Receptors R13 and R19 are predicted to qualify for noise insulation due to daytime construction noise levels and durations, the potential night-time works do not affect the conclusions on which properties qualify for noise insulation.
- 4.7 A number of activities result in exceedances of the 55 dB L<sub>Aeq,T</sub> night time noise insulation trigger level at various receptors, however the duration criteria of ten or more days in any 15 consecutive working days or 40 days in six months, are not expected to be met. These are:
  - Buckleswood Road level crossing on the GRR: 27 hour period of continuous working (Activity 5);
  - Abbey Road level crossing on the GRR: 27 hour period of continuous working for the track works (Activities 8 to 10 inclusive) and 27 hour period of continuous working for the road diversion works (Activities 11 and 12);
  - Bratts Blackhouse level crossing: 27 hour period of continuous working (Activity 20.1);
  - Knodishall level crossing: 100 hour period of continuous working (Activity 21.1);
  - West House level crossing: 54 hour period of continuous working (Activity 22.2);
  - Snowdens level crossing: 27 hour period of continuous working (Activity 23.2);

- Saxmundham level crossing: 105 hour period of continuous working (Activity 24.4)
- Leiston level crossing and track realignment: 105 hour period of continuous working (Activity 27.4);
   and
- Saxmundham Junction blockade: first weekend nights (Activities 34 and 38) and five weekday nights (Activities 36 and 40), both of which could potentially coincide with Activities 54 and 55, depending on the timing of the four hours of signalling installation (Activity 54) and removal (Activity 55). These could be anytime within the first seven days of the blockade.
- 4.8 In summary, a total of 35 no. properties have been identified as being eligible for insulation under the NMS, these being the three level crossing cottages at Knodishall, West House and Saxmundham Road level crossings, 18 no. properties in Leiston close to the Leiston level crossing and track realignment works, and 14 no. properties on Valley Road close to the LEEIE.

#### Eligibility for temporary rehousing

- 4.9 An exceedance of the 85 dB L<sub>Aeq,T</sub> daytime temporary rehousing trigger level and duration criteria, is currently predicted at a single property, Receptor R19 the cottage at Saxmundham Road level crossing. The exceedance relates to Days 1 to 5 and Days 16 to 20 of the level crossing works (Activities 24.1 and 24.4). Days 16 to 20 of the level crossing works represent the proposed 105 hour period of continuous working at Saxmundham Road level crossing.
- 4.10 Exceedances of the 85 dB L<sub>Aeq,T</sub> daytime temporary rehousing trigger level are also anticipated at Receptor R13 at Knodishall level crossing (Activities 21.1 and 21.2) and Receptor R15 at West House level crossing (Activity 22.1). However the duration criteria of ten or more days in any 15 consecutive working days or 40 days in six months, are not met, at six and seven days at each level crossing respectively.
- 4.11 The 65 dB L<sub>Aeq,T</sub> night time temporary rehousing trigger level and duration criteria are predicted to be potentially exceeded at Receptors R13 and R19, but only if the signalling works at the Knodishall and Saxmundham Road level crossings (Activities 47 and 50 lasting one week each) are completed at night and only if they occur within 15 days of the 100 hour/105 hour periods of continuous working during each of the main level crossing construction works (Activities 21.2 and 24.4).
- 4.12 The Knodishall and Saxmundham Road level crossing signalling works (Activities 47 and 50) are likely to be completed during the day but this is not yet confirmed, so there is a possibility they may be completed at night; the timing of the signalling works relative to the main level crossing works is also not yet confirmed.
- 4.13 As Receptor R19 at Saxmundham Road level crossing already qualifies for temporary rehousing due to daytime noise levels and durations, this does not affect the conclusion at this receptor. At Receptor R13 at Knodishall level crossing, a conservative approach has been adopted and the property has been identified as qualifying for temporary rehousing due to the potential night-time activities.
- 4.14 A number of activities result in exceedances of the 65 dB L<sub>Aeq,T</sub> night time temporary rehousing trigger level, however the duration criteria of ten or more days in any 15 consecutive working days or 40 days in six months, are not met. These are:
  - Bratts Blackhouse level crossing: 27 hour period of continuous working (Activity 20.1);
  - Knodishall level crossing: 100 hour period of continuous working (Activity 21.1);
  - West House level crossing: 54 hour period of continuous working (Activity 22.2);
  - Leiston level crossing and track realignment: 105 hour period of continuous working (Activity 27.4);
     and
  - Saxmundham Junction blockade: first weekend nights (Activities 34 and 38 and potentially Activities 54
    and 55, depending on the timing of the four hours of signalling installation and removal, which could be
    anytime within the first seven days of the blockade).
- 4.15 The time required to organise temporary rehousing is not defined in the NMS in the same way as it is for the installation of noise insulation, it is considered reasonable to revisit the temporary rehousing calculations closer to the works when the programme is more certain.

4.16 It is therefore considered appropriate to treat the conclusions in respect of temporary rehousing as indicative at this stage.

## 5. Conclusion

- 5.1 The results of the construction noise modelling indicate that there is a likelihood of the noise insulation trigger level and duration criteria being met at a total of 35 no. properties close to the main level crossing works at Knodishall, West House, Saxmundham Road and Leiston, and the LEEIE compound works in Leiston.
- 5.2 There is potential for the temporary rehousing trigger level and duration criteria to be met at two properties, one at Knodishall level crossing and one at Saxmundham Road level crossing. However, the eligibility for temporary rehousing is indicative at this stage and will be revisited closer to the start of the works, when the programme is more certain.

# **Appendix A Construction information**

**Table 5. Summary of construction information** 

Ref	Activity	Plant	% on-time	No. of plant items	L <sub>wA</sub> dB
1	Branch line upgrade – track removal	Class 66 loco idling	90	2	103
		Class 66 loco on load	10	2	117
		Rail saw	5	1	124
		Impact Wrench (Nut Runner)	5	2	108
		McCulloch's Panel Lifters	100	2	103
		Unimog	100	1	102
		RRV crane	100	2	105
2	Branch line upgrade – track laying	Class 66 loco idling	100	2	103
		Class 66 loco on load	10	2	117
		RRV crane	100	2	105
		Dozer	100	1	109
		CAT 350 excavator	100	1	108
		Wacker Plate	10	1	110
		Vibratory Roller	10	1	112
		Tracked Rail Transporter (TRT)	100	6	101
		NTC Train	100	1	111
		Delivery Lorry	5	1	109
		Impact Wrench (Nut Runner)	10	2	108
		Rail saw	10	2	124
		Dropping ballast	50	1	112
		Tamper	100	1	110
		Ballast Regulator	20	1	112
		Dynamic Track Stabiliser	100	1	104
		Track grinder	5	1	111
3	GRR Buckleswood Rd Level crossing	Dumper	100	1	109
	- track earthworks	Dozer	10	1	109
		CAT 350 excavator	100	1	108
		Floor (Road) Saw	20	1	112
		Excavator Mounted Breaker	10	1	120
4	GRR Buckleswood Rd Level crossing	Rigid tipper lorry	10	1	105
	- track paving	Asphalt paver	80	1	105
		Vibratory Roller	85	1	112
		Wacker plate	10	1	110
5	GRR Buckleswood Rd Level crossing	Flatbed lorry with hiab	10	1	106
	- track construction	Telehandler	25	1	109
		CAT 350 excavator	50	1	108
		Dropping ballast	5	1	112
		Tracked Rail Transporter (TRT)	25	6	101
		NTC Train	25	1	111
		Impact Wrench (Nut Runner)	10	2	108
		Rail Saw	10	2	124
		Tamper	10	1	110
		Dynamic Track Stabiliser	10	1	104
		Piling for OD sensors	10	1	115
-		Ballast Regulator	5	1	112
6	GRR Buckleswood Rd Level crossing	Dumper 2	70	2	106
	road diversion earthworks	Dozer	70	1	109
		Excavator	80	1	108
7	GRR Buckleswood Rd Level crossing	Paver	80	1	105
	road diversion paving	Tipper	10	1	106
-	r - J	Vibratory Roller	85	1	112
				•	-

Ref	Activity	Plant	% on-time	No. of plant items	L <sub>wA</sub> dB
		Wacker Plate	10	1	110
8	GRR Abbey Road Level crossing	Dumper	100	1	109
	<ul><li>track earthworks</li></ul>	Dozer	10	1	109
		CAT 350 excavator	100	1	108
		Floor (Road) Saw	20	1	112
		Excavator Mounted Breaker	10	1	120
9	GRR Abbey Road Level crossing	Rigid tipper lorry	10	1	105
	<ul><li>track paving</li></ul>	Asphalt paver	80	1	105
		Vibratory Roller	85	1	112
		Wacker Plate	10	1	110
10	GRR Abbey Road Level crossing	Flatbed lorry with hiab	10	1	106
	<ul> <li>track construction</li> </ul>	Telehandler	25	1	109
		CAT 350 excavator	50	1	108
		Dropping ballast	5	1	112
		Tracked Rail Transporter (TRT)	25	6	101
		NTC Train	25	1	111
		Impact Wrench (Nut Runner)	10	2	108
		Rail Saw	10	2	124
		Tamper	10	1	110
		Dynamic Track Stabiliser	10	1	104
		Piling for OD sensors	10	1	115
		Ballast Regulator	5	1	112
11	GRR Abbey Road Level crossing	Dumper 2	70	2	106
	<ul> <li>road diversion earthworks</li> </ul>	Dozer	70	1	109
		Excavator	80	1	108
12	GRR Abbey Road Level crossing	Paver	80	1	105
	<ul> <li>road diversion paving</li> </ul>	Tipper	10	1	106
		Vibratory Roller	85	1	112
		Wacker Plate	10	1	110
13	Green Rail	CAT D400 dumper	60	2	109
	Route - earthworks on route	Dozer	60	1	109
		CAT 16 grader	50	1	115
		CAT 350 excavator	50	2	108
14	Green Rail Route - earthworks offline embankments/ponds	CAT D400 dumper	60	2	109
		Dozer	60	1	109
		CAT 16 grader	50	1	115
		CAT 350 excavator	50	2	108
15	Green Rail Route – bottom ballast	Dropping ballast	50	1	112
16	Green Rail Route	Class 66 loco on load	10	2	117
	<ul> <li>laying continuously welded rail</li> </ul>	Class 66 loco idling	90	2	103
		RRV crane	100	1	105
		Rail saw	5	1	124
17	Green Rail Route – Installation of track	Class 66 loco on load	10	1	117
		Class 66 loco idling	90	1	103
		CAT 350 excavator	65	2	108
		NTC Train	100	1	111
		Impact Wrench (Nut Runner)	10	2	108
		Rail saw	5	2	124
		Track grinder	5	1	111
18	Green Rail Route	Class 66 loco on load	10	2	117
	<ul> <li>ballasting and tamping</li> </ul>	Class 66 loco idling	90	2	103
		Dropping ballast	50	1	112
		Tamper	100	2	110
		Ballast Regulator	20	1	112
		Dynamic Track Stabiliser	100	2	104

Ref	Activity	Plant	% on-time	No. of plant items	L <sub>wA</sub> dB
20.1	Bratts Blackhouse level crossing	CAT 350 excavator	70	2	108
	Day 1 to 5	Floor (Road) Saw	10	1	112
		Dropping ballast	15	1	112
		Wacker Plate	5	1	110
		Rail saw	5	2	124
		Vertical Tampers	10	2	109
		Dumper	40	1	106
20.2	Bratts Blackhouse level crossing	CAT 350 excavator	50	1	108
	Day 6 to 10	Dropping ballast	15	1	112
		Wacker Plate	5	1	110
		Rigid tipper lorry	10	1	105
		Asphalt paver	10	1	105
		Vibratory Roller	10	1	112
21.1	Knodishall level crossing	Rail saw	15	2	124
	Day 1 to 2	CAT 350 excavator	90	2	108
		Dumper	25	1	106
		Wacker Plate	5	1	110
		Dropping ballast	25	1	112
		Vertical Tampers	10	2	109
		Generator in compound	50	1	90
21.2	Knodishall level crossing	CAT 350 excavator	50	2	108
	Day 3 to 6	Floor (Road) Saw	5	1	112
		Road Planer	5	1	111
		Dropping ballast	15	1	112
		Wacker Plate	2.5	1	110
		Rail saw	2.5	1	124
		Dumper	50	1	106
		Vertical Tampers	5	2	109
		Excavator Mounted Breaker	2.5	1	120
		Unimog	20	1	102
		Rigid tipper lorry	15	1	105
		Asphalt paver	15	1	105
		Vibratory Roller	15	1	112
		Generator in compound	50	1	90
21.3	Knodishall level crossing	CAT 350 excavator	50	1	108
	Day 7 to 12	Piling for OD sensors	15	1	115
		Dropping ballast	15	1	112
		Wacker Plate	5	1	110
		Unimog	20	1	102
		Generator in compound	50	1	90
22.1	West House level crossing	CAT 350 excavator	80	1	108
	Day 1 to 7	Dumper	50	1	106
		Floor (Road) Saw	2.5	1	112
		Rail saw	5	1	124
		Dropping ballast	20	1	112
		Wacker Plate	2.5	1	110
		Unimog	20	1	102
		Rigid tipper lorry	10	1	105
		Asphalt paver	10	1	105
		Vibratory Roller	10	1	112
		Generator in compound	50	1	90
22.2	West House level crossing	CAT 350 excavator	65	1	108
	Day 8 to 9	Dumper	50	1	106
		Floor (Road) Saw	2.5	1	112
		Rail saw	2.5	1	124
		Dropping ballast	20	1	112

Ref	Activity	Plant	% on-time	No. of plant items	L <sub>wA</sub> dB
		Wacker Plate	2.5	1	110
		Unimog	20	1	102
		Rigid tipper lorry	20	1	105
		Asphalt paver	20	1	105
		Vibratory Roller	20	1	112
		Generator in compound	50	1	90
22.3	West House level crossing	CAT 350 excavator	65	1	108
	Day 10 to 14	Dropping ballast	15	1	112
		Wacker Plate	2.5	1	110
		Unimog	20	1	102
		Generator in compound	50	1	90
23.1	Snowdens level crossing	CAT 350 excavator	50	1	108
	Day 1 to 5	Dumper	40	1	106
		Wacker Plate	5	1	110
		Dropping ballast	15	1	112
		Rail saw	5	1	124
		Vertical Tampers	10	2	109
		Unimog	20	1	102
23.2	Snowdens level crossing	CAT 350 excavator	50	1	108
	Day 6 to 11	Dropping ballast	25	1	112
		Wacker Plate	2.5	1	110
		Rigid tipper lorry	20	1	105
		Asphalt paver	20	1	105
		Vibratory Roller	20	1	112
		Unimog	20	1	102
24.1	Saxmundham Road level crossing	CAT 350 excavator	50	2	108
	Day 1 to 5	Rail saw	5	2	124
		Floor (Road) Saw	5	1	112
		Dropping ballast	15	1	112
		Wacker Plate	2.5	1	110
		Dumper	20	1	106
		Rigid tipper lorry	20	1	105
		Asphalt paver	20	1	105
		Vibratory Roller	20	1	112
		Generator in compound	50	1	90
24.2	Saxmundham Road level crossing	CAT 350 excavator	60	2	108
	Day 6 - 10	Dumper	60	1	106
		Dropping ballast	15	1	112
		Wacker Plate	5	1	110
		Unimog	20	1	102
		Generator in compound	50	1	90
24.3	Saxmundham Road level crossing	CAT 350 excavator	50	2	108
	Day 11 to 15	Dumper	40	1	106
		Dropping ballast	20	1	112
		Wacker Plate	5	1	110
		Rigid tipper lorry	25	1	105
		Asphalt paver	25	1	105
		Vibratory Roller	25	1	112
		Unimog	20	1	102
		Generator in compound	50	1	90
24.4	Saxmundham Road level crossing	CAT 350 excavator	50	2	108
	Day 16 to 20	Dumper	15	1	106
-	•	Road Planer	5	1	111
		Excavator Mounted Breaker	2.5	1	120
		Dropping ballast	10	1	112
		Rail saw	2.5	2	124

Ref	Activity	Plant	% on-time	No. of plant items	L <sub>wA</sub> dB
		Rigid tipper lorry	10	1	105
		Asphalt paver	10	1	105
		Vibratory Roller	10	1	112
		Floor (Road) Saw	2.5	1	112
		Vertical Tampers	5	2	109
		Unimog	20	1	102
		Generator in compound	50	1	90
24.5	Saxmundham Road level crossing	CAT 350 excavator	40	1	108
	Day 21 to 26	Dropping ballast	15	1	112
		Unimog	20	1	102
		Wacker Plate	5	1	110
		Piling for OD sensors	15	1	115
		Generator in compound	50	1	90
25.1	Buckles Wood Footpath level crossing	CAT 350 excavator	70	1	108
	Stage 1 Day 1 to 5	Dumper	20	1	106
		Dropping ballast	15	1	112
		Rail saw	5	2	124
		Wacker Plate	2.5	1	110
		Unimog	20	1	102
25.2	Buckles Wood Footpath level crossing	CAT 350 excavator	50	1	108
	Stage 1 Day 6 to 9	Dumper	20	1	106
		Dropping ballast	20	1	112
		Wacker Plate	2.5	1	110
		Rigid tipper lorry	20	1	105
		Asphalt paver	20	1	105
		Vibratory Roller	20	1	112
		Vertical Tampers	10	2	109
		Unimog	20	1	102
25.3	Buckles Wood Footpath level crossing	CAT 350 excavator	50	1	108
	Stage 2	Dumper	20	1	106
		Dropping ballast	20	1	112
		Wacker Plate	2.5	1	110
		Rigid tipper lorry	20	1	105
		Asphalt paver	20	1	105
		Vibratory Roller	20	1	112
		Vertical Tampers	10	2	109
		Unimog	20	1	102
26.1	Summerhill Footpath level crossing	CAT 350 excavator	70	1	108
	Day 1 to 5	Dumper	20	1	106
		Dropping ballast	15	1	112
-		Rail saw	5	2	124
-		Wacker Plate	2.5	1	110
-		Unimog	20	1	102
26.2	Summerhill Footpath level crossing	CAT 350 excavator	50	1	108
	Day 6 to 11	Dumper	20	1	106
	•	Dropping ballast	20	1	112
		Wacker Plate	2.5	1	110
		Rigid tipper lorry	20	1	105
		Asphalt paver	20	<u>.</u> 1	105
		Vibratory Roller	20	<u>·</u> 1	112
		Vertical Tampers	10	2	109
		Unimog	20	<u>-</u> 1	102
27.1	Leiston level crossing & track realignment	Class 66 loco idling	40	2	103
	Day 1 to 5	Class 66 loco on load	10	2	117
	•	CAT 350 excavator	40	2	108

Ref	Activity	Plant	% on-time	No. of plant items	$L_{wA} dB$
		Dozer	20	1	109
		Rail saw	5	2	124
		Excavator Mounted Breaker	5	1	120
		Piling for OD sensors	15	1	115
		Floor (Road) Saw	2.5	1	112
		Dropping ballast	15	1	112
		Wacker Plate	2.5	1	110
27.2	Leiston level crossing & track realignment	Class 66 loco idling	80	2	103
	Day 6 to 10	Class 66 loco on load	10	2	117
		CAT 350 excavator	25	2	108
		Dozer	10	1	109
		Excavator Mounted Breaker	5	1	120
		Floor (Road) Saw	2.5	1	112
		Dropping ballast	15	1	112
		McCulloch's Panel Lifters	10	1	103
		Unimog	10	1	102
		Wacker Plate	2.5	1	110
27.3	Leiston level crossing & track realignment	Class 66 loco idling	40	2	103
	Day 11 to 13	Class 66 loco on load	10	2	117
		CAT 350 excavator	50	2	108
		Dozer	40	1	109
		Wacker Plate	5	1	110
		Dropping ballast	15	1	112
		McCulloch's Panel Lifters	5	1	103
		Unimog	5	1	102
27.4	Leiston level crossing & track realignment	Class 66 loco idling	70	2	103
	Day 14 - 17	Class 66 loco on load	10	2	117
		CAT 350 excavator	40	2	108
		Excavator Mounted Breaker	5	1	120
		Dozer	10	1	109
		Wacker Plate	2.5	1	110
		Dropping ballast	5	1	112
		Rail saw	2.5	2	124
		Floor (Road) Saw	2.5	1	112
		Vertical Tampers	5	2	109
		Dumper	10	1	106
		Road Planer	5	1	111
		Rigid tipper lorry	10	1	105
		Vibratory Roller	10	1	112
		Asphalt paver	10	1	105
		Vertical Tampers	5	2	109
27.5	Leiston level crossing & track realignment	Class 66 loco idling	80	2	103
	Day 18 to 22	Class 66 loco on load	10	2	117
		CAT 350 excavator	65	2	108
		Dozer	40	1	109
		Dropping ballast	25	1	112
		Wacker Plate	5	1	110
		Dumper	20	1	106
27.6	Leiston level crossing & track realignment	CAT 350 excavator	25	1	108
	Day 23 to 25	Dropping ballast	10	1	112
	-	Wacker Plate	5	1	110
29	Knodishall Satellite Compound	Strimmer	10	1	90

Ref	Activity	Plant	% on-time	No. of plant items	L <sub>wA</sub> dB
		Chain Saw	10	1	110
		Wood Chipper	10	1	110
		Dozer	10	1	109
		CAT 350 excavator	50	1	108
		Flatbed lorry with hiab	10	1	106
		Telehandler	25	1	109
		Rigid tipper lorry	10	1	105
30	West House Satellite Compound	Strimmer	10	1	90
		Chain Saw	10	1	110
		Wood Chipper	10	1	110
		Dozer	10	1	109
		CAT 350 excavator	50	1	108
		Flatbed lorry with hiab	10	1	106
		Rigid tipper lorry	10	1	105
		Telehandler	25	1	109
31	Saxmundham Road Satellite	Strimmer	10	1	90
	Compound	Chain Saw	10	1	110
	-	Wood Chipper	10	1	110
		Dozer	10	1	109
		CAT 350 excavator	50	1	108
		Flatbed lorry with hiab	10	1	106
		Rigid tipper lorry	10	1	105
		Telehandler	25	1	109
32	LEEIE Satellite Compound	Strimmer	10	<u>.</u> 1	90
<del></del>		Chain Saw	10	1	110
		Wood Chipper	10	<u>·</u> 1	110
		Dozer	10	<u>'</u> 1	109
		CAT 350 excavator	50	<u>·</u> 1	108
		Flatbed lorry with hiab	10	<u>'</u> 1	106
		Rigid tipper lorry	10	<u>'</u> 1	105
		Telehandler	25	<u>'</u> 1	109
33	Saxmundham Junction blockade	Class 66 loco idling	90	<u>'</u> 1	103
33	Mainline weekend days/evenings	Class 66 loco on load	10	1	117
	Mainine weekend days/evenings	RRV crane	50	2	105
		Dozer	50	1	109
		CAT 350 excavator	50	3	109
		Kirow 1200	100	1	99
		Impact Wrench (Nut Runner)	10	2	108
		Rail saw	10	2	124
		Dropping ballast	25	1	112
		Tamper	90	2	110
		Dynamic Track Stabiliser	90	2	104
34	Saxmundham Junction blockade	Class 66 loco idling	90	1	103
	Mainline weekend nights	Class 66 loco on load	10	1	117
		RRV crane	10	2	105
		Dozer	50	1	109
		CAT 350 excavator	50	3	108
		Wacker Plate	20	1	110
		Kirow 1200	100	1	99
		Impact Wrench (Nut Runner)	10	2	108
		Rail saw	10	2	124
		Dropping ballast	40	1	112
		Tamper	75	2	110
		Dynamic Track Stabiliser	75	2	104
35	Saxmundham Junction blockade	Class 66 loco idling	90	1	103
	Mainline weekday days/evenings	Class 66 loco on load	10	1	117

Ref	Activity	Plant	% on-time	No. of plant items	$L_{wA} dB$
		RRV crane	20	2	105
		Impact Wrench (Nut Runner)	5	2	108
		Rail saw	5	2	124
		Tamper	75	2	110
		Dynamic Track Stabiliser	75	2	104
		Track grinder	10	1	111
36	Saxmundham Junction blockade	Class 66 loco idling	90	1	103
	Mainline weekday nights	Class 66 loco on load	10	1	117
		RRV crane	20	2	105
		Impact Wrench (Nut Runner)	5	1	108
		Rail saw	5	1	124
		Track grinder	10	1	111
37	Saxmundham Junction blockade	Class 66 loco idling	90	2	103
	Branch line weekend days/evenings	Class 66 loco on load	10	2	117
		McCulloch's Panel Lifters	100	1	103
		Unimog	100	1	102
		NTC Train	100	1	111
		Impact Wrench (Nut Runner)	10	2	108
		Rail saw	10	2	124
38	Saxmundham Junction blockade	Class 66 loco idling	90	2	103
	Branch line weekend nights	Class 66 loco on load	10	2	117
		Impact Wrench (Nut Runner)	10	2	108
-		Rail saw	10	2	124
		Dozer	100	1	109
		CAT 350 excavator	100	<u>·</u> 1	108
		Tracked Rail Transporter (TRT)	100	6	101
		Dropping ballast	65	1	112
39	Saxmundham Junction blockade	Class 66 loco idling	90	2	103
39	Branch line weekday days/evenings	Class 66 loco on load	10	2	117
	Branch line weekday days/everilings	Impact Wrench (Nut Runner)	10	2	108
		Rail saw	10	2	124
		RRV crane	50	1	105
			75	<u>'</u> 1	110
		Tamper			
40	On the second se	Dynamic Track Stabiliser	75	1	104
40	Saxmundham Junction blockade	Class 66 loco idling	90	2	103
	Branch line weekday nights	Class 66 loco on load	10	2	117
		Impact Wrench (Nut Runner)	10	2	108
		Rail saw	10	2	124
		Tracked Rail Transporter (TRT)	25	6	101
		RRV crane	50	1	105
		Tamper	75	11	110
		Dynamic Track Stabiliser	75	1	104
41	GRR Satellite compounds	Strimmer	10	1	90
	Abbey Road & Buckleswood Rd	Chain Saw	10	1	110
		Wood Chipper	10	1	110
		Dozer	10	1	109
		CAT 350 excavator	50	1	108
		Flatbed lorry with hiab	10	1	106
		Rigid tipper lorry	10	1	105
		Telehandler	25	1	109
42	GRR Main Compound Construction	Dozer	75	1	109
		CAT D400 dumper	75	2	109
		CAT 350 excavator	75	1	108
		Flatbed lorry with hiab	25	1	106
		Telehandler	50	<u>·</u> 1	109
43.1	GRR Main Compound Operation	Generator in compound	50	<u>·</u> 1	90
	Criticinani Sompound Operation	Contrator in compound	50	•	55

Ref	Activity	Plant	% on-time	No. of plant items	L <sub>wA</sub> dB
	location 1 - roads/parking etc.	Hiab	10	1	106
		Cars	10	50	99
		Delivery Lorry	10	1	109
		Pick Up	10	1	102
43.2	GRR Main Compound Operation	Pick Up	10	1	102
	location 2 - off loading/laydown, road/rail access point & stockpile	Forklift	10	1	99
		FUCHs	10	1	106
		RRV crane	5	1	105
		Dozer	5	1	109
		CAT 350 excavator	5	1	108
		Dumper	5	1	109
44	GRR Buckleswood Rd level crossing signalling	Hiab	10	1	106
		RRV crane	10	1	105
		Temporary lighting tower	50	1	93
		Dimond cut induction loops	5	1	105
45	GRR Abbey Road level crossing signalling	Hiab	10	1	106
		RRV crane	10	1	105
		Temporary lighting tower	50	1	93
		Dimond cut induction loops	5	1	105
46	GRR Lineside Signalling	Screw piling for Signals	10	1	105
		RRV Crane	10	1	105
		RRV crane	10	1	105
		Impact Wrench (Nut Runner)	10	1	108
		Hiab	10	1	106
47	Knodishall level crossing signalling	Hiab	10	1	106
-		RRV crane	10	1	105
-		Dimond cut induction loops	5	1	105
		Temporary lighting tower	50	1	93
48	West House level crossing signalling	Hiab	10	1	106
49 50	Snowdens level crossing signalling Saxmundham Road level crossing	RRV crane Hiab	10 10	1	105 106
	signalling	RRV crane	10	4	105
		Temporary lighting tower	10 50	<u> </u>	105 93
		Dimond cut induction loops	5	1	105
51	Buckles Wood Footpath level crossing signalling	·	10	1	105
52	Summerhill level crossing signalling	RRV crane	10	1	105
53	Branch line Lineside Signalling	Screw piling for Signals	50	1	105
		RRV Crane	50	1	105
		RRV crane	50	1	105
-		Impact Wrench (Nut Runner)	50	1	108
		Cable pulling RRV	50	1	105
54	Saxmundham Junction blockade	Screw piling for Signals	10	1	105
	mainline install signalling	RRV Crane	50	1	105
		RRV crane	50	1	105
		Impact Wrench (Nut Runner)	10	1	108
		Cable pulling RRV	10	1	105
55	Saxmundham Junction blockade	disk cutter	10	2	105
	mainline remove existing signalling	RRV crane	10	1	105

# **Appendix B Detailed construction noise results**

Table 6 and Table 7 contain a breakdown of the results for the individual construction activities at each receptor (R01-R40 in Table 6 and R41-R76 in Table 7). For standard daytime only works results which meet or exceed the trigger level of 75 dB LAeq,T, facade are highlighted in red, results which meet or exceed the trigger level of 55 dB LAeq,T, facade are highlighted in yellow, results which meet or exceed the trigger level of 65 dB LAeq,T facade are highlighted in orange. A '-' indicates the receptor is remote from the construction activity and the predicted construction noise level is less than 30 dB LAeq,T.

Table 6. Detailed construction noise results –  $L_{Aeq,T}$  façade

Ref	Activity	Duration	Timing	R01 R02 R03 R04 R05 R06 R07 R08 R09 R10 R11 R12 R13 R14 R15 R16 R17 R18 R19 R20 R21 R22 R23 R24 R25 R26 R27 R28 R29 R30 R31 R32 R33 R34 R35 R36 R37 R38 R39 R40
1	Branch line track removal	21 weeks	Day only	34 - 33 35 35 - 35 46 55 56 54 61 56 61 54 57 59 60 54 56 56 56 54 58 58 58 59 57 54 55 59 58 58 58 57 53 56 60
2	Branch line track laying	21 weeks	Day only	39 - 37 39 39 39 32 39 51 60 61 59 66 61 66 59 62 64 65 58 61 61 61 59 63 63 63 63 65 62 59 60 64 63 63 64 62 58 61 65
3#	GRR Buckleswood Rd level crossing – track earthworks	1 week		31 37 45 51 51 52 40 53 53 54 54 54 54 54 44 38 35 37 34 32 41 41 40
4#	GRR Buckleswood Rd level crossing – track paving	1 week	Day & x1 27 hr	
5#	GRR Buckleswood Rd level crossing – track construction	2 weeks	working	31 - 34 34 34 40 47 54 55 55 44 56 57 57 57 58 58 57 48 42 39 40 38 36 44 44 42
6*	GRR Buckleswood Rd level crossing – road diversion earthworks	5 weeks	Day only	
7*	GRR Buckleswood Rd level crossing – road diversion paving	5 weeks	Day only	
8	GRR Abbey Rd level crossing – track earthworks	1 week		
9	GRR Abbey Rd level crossing – track paving	1 week	Day & x1 27 hr	
10	GRR Abbey Rd level crossing – track construction	2 weeks	working	
11	GRR Abbey Rd level crossing – road diversion	5 weeks		
	earthworks	27 hrs	Day & x1 27 hr	
12	GRR Abbey Rd level crossing - road diversion paving	5 weeks	working	
		27 hrs		
13	GRR – earthworks on route	13 weeks	Day only	33 31 34 36 36 41 52 63 64 64 56 62 59 60 60 60 56 53 53 44 43 44 43 42 42 43 41
14	GRR – earthworks offline	35 weeks	Day only	32 33 39 39 40 31 41 40 40 40 41 42 41 36 38 39 38 38 39
15	GRR – bottom ballast	1 week	Day only	
16	GRR – laying continuously welded rail	1 week	Day only	31 32 36 36 36 - 36 35 35 35 36 38 36 31 34 34 34 34
17	GRR – installation of track	1 week	Day only	33 34 38 38 38 38 30 38 37 37 37 39 40 38 32 32 32 32 33 37 36 36 36
18	GRR – ballasting and tamping	2 weeks	Day only	34 35 42 42 43 36 43 43 43 42 43 42 41 32 36 36 37 38 39 40 39 40
20.1	Bratts Blackhouse level crossing Day 1-5	5 days	Day	33 - 31 34 33 32 - 34 48 67 55 47 47 - 32 32
			27 hr working	33 - 31 34 33 32 - 34 48 <mark>68 55</mark> 47 47 - 32 32
20.2	Bratts Blackhouse level crossing Day 6-10	5 days	Day only	42 60 48 41 41
21.1	Knodishall level crossing Day 1-2	2 days	Day only	32 32 31 31 42 47 52 59 92 - 39 38 35 33
21.2	Knodishall level crossing Day 3-6	4 days	100 hr working	39 43 49 <mark>55 89</mark> - 34 34 30
21.3	Knodishall level crossing Day 7-12	6 days	Day only	36 40 45 52 <mark>82</mark> - 33 31
22.1	West House level crossing Day 1-7	7 days	Day only	39 - 61 88 55 43 41 36 35 33 33 34 31 33 - 32 31 31
22.2	West House level crossing Day 8-9	2 days	54 hr working	37 - <mark>60 84 57</mark> 42 40 35 34 33 33 31 33 - 31 - 31
22.3	West House level crossing Day 10-14	5 days	Day only	34 - 55 <mark>82</mark> 50 38 36 32 30
23.1	Snowdens level crossing Day 1-5	5 days	Day only	34 - 40 45 41 62 63 56 43 39 39 38 37 37 36 36 35 35 34 33 35
23.2	Snowdens level crossing	6 days	Day	
-	Day 6-11		27 hr working	31 - 38 42 39 <mark>59 59</mark> 53 40 37 37 35 34 34 33 34 32 32 31 32
24.1	Saxmundham Rd level crossing Day 1-5	5 days	Day only	37 37 38 57 60 86 50 46 44 44 44 44 43 43 44 39 37 39 39 33 32 32 33 31 32 35 33
24.2	Saxmundham Rd level crossing Day 6-10	5 days	Day only	36 35 36 54 56 <mark>82</mark> 48 44 42 42 43 42 41 41 42 37 35 37 37 31 31 31 32 - 31 34 32
24.3	Saxmundham Rd level crossing Day 11-15	5 days	Day only	36 35 36 54 57 <mark>83</mark> 48 44 43 42 43 41 41 42 37 35 37 37 32 31 31 32 30 31 34 32
24.4	Saxmundham Rd level crossing Day 16-20	5 days	105 hr working	36 35 37 <mark>55 58 87</mark> 50 45 43 42 43 43 42 42 37 36 38 38 32 31 31 32 30 31 34 31
24.5	Saxmundham Rd level crossing Day 21-26	6 days	Day only	33 33 34 52 55 <mark>80</mark> 46 42 40 40 40 39 39 40 35 33 35 35 32 -
25.1	Buckleswood footpath level crossing Stage 1 Day 1-5	5 days	Day only	30 34 32 37 37 40 46 74 <mark>77 79 75 84 79 76</mark> 71 66 54 49 52 43 43 43 43 40 39 42 40
25.2	Buckleswood footpath level crossing Stage 1 Day 6-9	4 days	Day only	33 31 35 36 38 44 70 73 <mark>75</mark> 71 <mark>80 75</mark> 72 67 62 51 47 49 41 41 41 39 37 40 38
25.3	Buckleswood footpath level crossing Stage 2	2 days	Day only	33 31 35 36 38 44 70 73 <mark>75</mark> 71 <mark>80 75</mark> 72 67 62 51 47 49 41 41 41 39 37 40 38
26.1	Summerhill footpath level crossing Day 1-5	5 days	Day only	32 35 40 40 40 42 42 44 42 43 43 48 45 45 74 <mark>75 76 75</mark> 62 56 55 54
26.2	Summerhill footpath level crossing Day 6-11	6 days	Day only	31 33 38 38 38 39 40 42 40 41 41 45 43 43 70 71 72 72 58 52 52 51

Sizewell C Noise Mitigation Scheme - Railway Construction Refreshed Noise Assessment Project reference: 60679030

Ref	Activity	Duration	Timing	R01 R	02 R03	3 R04	R05 R0	6 R07	R08 R0	9 R10	R11	R12 R	13 R14	4 R15	R16 F	R17 R1	18 R19	R20	R21 R	22 R2	3 R24	R25 F	26 R	27 R28	8 R29	R30 I	R31 R3	2 R33	R34	R35 R	36 R3	7 R38	R39 R40
27.1	Leiston level crossing & track realignment Day 1	1 day	Day only	-	-	-		-		-	-	-		-	-		34	36	40 4	40 40	39	42	43 4	2 43	42	45	44 39	) 49	53	54 5	6 69	3 78	79 81
	Leiston level crossing & track realignment Day 2-5	4 days	Day only	-	-	-		-		-	-	-		-	-		34	35	40 3	39 39	37	41	42 4	0 41	41	42	41 39	) 47	48	52 5	3 57	7 57	60 67
27.2	Leiston level crossing & track realignment Day 6-8	3 days	Day only	-	-	-		-		-	-	-		-	-		34	35	40 3	39 39	37	41	42 4	0 41	41	42	41 39	9 47	48	52 5	53 57	7 57	60 67
	Leiston level crossing & track realignment Day 9	1 day	Day only	-	-	-		-		-	-	-		-	-		33	34	39 3	38 37	7 34	40	40 3	8 40	39	40	39 37	7 44	45	48 5	51 52	2 49	52 59
	Leiston level crossing & track realignment Day 10	1 day	Day only	-	-	-		-		-	-	-		-	-		32	34	38 3	37 37	35	39	40 3	9 39	39	41	40 37	7 44	46	48 5	0 56	3 59	72 75
27.3	Leiston level crossing & track realignment Day 11	1 day	Day only	-	-	-		-		-	-	-		-	-		33	34	39 3	39 39	37	41	42 4	0 41	41	43	42 39	) 47	50	52 5	3 65	5 73	74 77
	Leiston level crossing & track realignment Day 12-13	2 days	Day only	-	-	-		-		-	-	-		-	-		33	35	39 3	39 39	37	41	42 4	0 41	41	43	43 39	) 48	51	52 5	4 66	6 74	75 78
27.4	Leiston level crossing & track realignment Day 14-17	4 days	105 hr working	-	-	-		-		-	-	-		-	-		34	36	40 4	40 40	39	42	43 4	2 43	43	45	44 40	) 50	53	54 5	6 69	78	79 81
27.5	Leiston level crossing & track realignment Day 18-21	4 days	Day only	-	-	-		-		-	-	-		-	-		34	35	40	40 40	39	42	43 4	2 43	43	45	44 40	) 49	53	54 5	55 68	3 76	77 80
	Leiston level crossing & track realignment Day 22	1 day	Day only	-	-	-		-		-	-	-		-	-		34	35	39 3	39 38	36	41	41 4	0 41	41	42	41 39	) 46	47	50 5	52 55	5 55	58 64
27.6	Leiston level crossing & track realignment Day 23-25	3 days	Day only	-	-	-		-		-	-	-		-	-		-	-	-		-	-	31		-	31		35	37	41 4	3 46	3 45	47 55
29	Knodishall satellite compound	2 weeks	Day only	-	-	-		-	- 34	4 38	45	50 6	64 -	-	-		-	-	-		-	-			-	-		-	-	-		-	
30	West House satellite compound	2 weeks	Day only	-	-	-		-		-	-	31	- 59	75	52	38 3	7 32	-	-		-	-			-	-		-	-	-		-	
31	Saxmundham Rd satellite compound	2 weeks	Day only	-	-	-		-		-	-	-	- 31	-	30	48 49	9 67	44	40 3	39 39	38	38	38 3	6 37	33	31	33 3	3 -	-	-		-	30 -
32	LEEIE satellite compound (MDS trigger levels)	2 weeks	Day only	-	-	-		-		-	-	-		-	-		-	-	-		-	-			-	-		-	31	33 3	j2 33	3 34	32 34
33+37+54+55	Saxmundham Jcn blockade 1st weekend days	2 days	1st weekend days/evenings	54 6	1 60	64	66 63	3 64	70 5	5 43	42	41 3	37 -	33	33	32 30	0 -	-	-		-	-	-		-	-		-	-	-		-	
34+38+54+55	Saxmundham Jcn blockade weekend evening/nights	2 days	1st weekend nights	55 6	1 60	65	66 64	4 64	71 6	1 66	56	50 4	19 31	38	38	34 3	4 32	32	31 3	31 3°	30	30	-	- 30	-	-		-	-	-		-	
35+39+54+55	Saxmundham Jcn blockade weekday days	5 days	Weekday days/evenings	54 6	1 60	63	64 6	1 61	67 53	3 41	41	39 3	35 -	31	30		-	-	-		-	-	-		-	-		-	-	-		-	
36+40+54+55	Saxmundham Jcn blockade weekday evenings/nights	5 days	Weekday nights	54 6	1 60	61	62 59	9 58	<b>63</b> 53	3 40	40	39 3	35 -	30	-		-	-	-		-	-	-		-	-		-	-	-		-	
41	GRR satellite compounds at Abbey Rd & Buckleswood Rd	2 weeks	Day only	-		-		_		-	-	-		-	-		32	40	47	47 48	3 31	49	50 5	50 51	51	52	52 40	) 31	-	34		35	37 35
42	GRR main compound construction	13 weeks	Day only	-	-	-		-		-	-	-	- 32	30	32	35 34	4 40	45	62 (	63 66	60	73	73 7	'3 74	72	74	70 6	3 50	49	49 4	8 45	5 41	44 44
43.1+43.2	GRR main compound operation location 1 & 2	96 weeks	Day only	-	-	-		-		-	-	-		-	-		32	37	48 4	19 50	) 41	55	58 5	8 60	60	57	52 5	2 41	40	41 4	0 36	34	37 36
44	GRR Buckleswood Rd level crossing signalling	1 week	Day, evening or night	-	-	-		-		-	-	-		-	-		-	30	37 3	37 38	} -	39	39 3	9 39	40	40	39 -	-	-	-		-	
45	GRR Abbey Rd level crossing signalling	1 week	Day, evening or night	-	-	-		-		-	-	-		-	-		-	-	-		-	-			-	-		-	-	-		-	
46	GRR lineside signalling at 4 locations	1 week total	Day only	-		-		_		-	-	-		-	-		-	34	41 4	41 42	2 31	43	43 4	4 44	44	44	43 37	· -	-	-		31	31 -
47	Knodishall level crossing signalling	1 week	Day, evening or night	-	-	-		-		31	35	40	- 88	-	-		-	-	-		-	-			-	-		-	-	-		-	
48	West House level crossing signalling	1 week	Day only	-	-	-		-		-	-	-	- 43	60	40		-	-	-		-	-	-		-	-		-	-	-		-	
49	Snowdens level crossing signalling	1 week	Day only	-	-	-		-		-	-	-		-	-	43 43	3 38	-	-		-	-	-		-	-		-	-	-		-	
50	Saxmundham Rd level crossing signalling	1 week	Day, evening or night	-	-	-		-		-	-	-		-	-	40 4	3 68	36	31		-	-	-		-	-		-	-	-			
51	Buckles Wood Footpath level crossing signalling	1 week	Day only	-	-	-		-		-	-	-		-	-		-	-	48 :	51 59	58	59	44 4	8 46	44	35	- 32	2 -	-	-		-	
52	Summerhill Footpath level crossing signalling	1 week	Day only	-		-		-		-	-	-		-	-		-	-	-		-	-			-	-		50	56	58 5	4 42	2 34	35 34
53	Branch line lineside signalling at 10 locations	3 weeks total	Day only	31	31	35	33 3 <sup>-</sup>	1 -	37 46	6 41	46	51 6	62 41	53	50	54 58	8 66	48	50	50 50	) 49	59	60 6	2 65	70	56	49 51	1 45	46	47 5	1 62	2 69	77 70

<sup>#</sup> The road diversion at Buckleswood level on the GRR crossing is currently under review and may not be required, if this is the case Activities 3, 4 and 5 would all be completed over 1 week of continuous working

\* The road diversion at Buckleswood level crossing on the GRR is currently under review and may not be required, if this is the case Activities 6 and 7 would not be required and the satellite compound at Buckleswood Road (Activity 41) would not be required

Sizewell C Noise Mitigation Scheme - Railway Construction Refreshed Noise Assessment

Table 7. Detailed construction noise results –  $L_{Aeq,T}$  façade

	etalieu construction noise results – Laeq, Tiaçaue			
Ref	Activity	Duration	Timing	R41 R42 R43 R44 R45 R46 R47 R48 R49 R50 R51 R52 R53 R54 R55 R56 R57 R58 R59 R60 R61 R62 R63 R64 R65 R66 R67 R68 R69 R70 R71 R72 R73 R74 R75 R76
1	Branch line track removal	21 weeks	Day only	60 58 54 57 51 54 59 54 51 55 55 53 53 53 52 55 55 54 54 55 57 56 53 59 43 45 33 32 38 41 34 38 38 42 42 48
2	Branch line track laying	21 weeks	Day only	65 63 59 62 56 59 64 59 56 59 60 58 58 58 57 59 60 59 59 61 62 61 57 64 47 49 37 36 42 45 38 42 43 46 47 53
3#	GRR Buckleswood Rd level crossing – track earthworks	1 week		38 33 39 38 34 40 38 39 39 37 35 31 33 35 34 - 36 35 32 34 30 33 36 37 - 32 - 42 46 48
4#	GRR Buckleswood Rd level crossing – track paving	1 week	Day & x1 27 hr	34 - 35 33 - 35 34 34 35 32 31 30 31 31 31 32 38 42 43
5#	GRR Buckleswood Rd level crossing – track	2 weeks	working	41 36 42 41 37 42 41 42 42 40 38 34 36 38 37 31 39 38 35 36 33 36 31 33 39 40 33 35 32 45 49 51
· ·	construction	2		
6*	GRR Buckleswood Rd level crossing – road diversion earthworks	5 weeks	Day only	36 37 38 39 - 36 37 39 37 34 35 35 32 35 34 - 34 33 - 32 - 30 33 34 40 42 46
7*	GRR Buckleswood Rd level crossing – road diversion paving	5 weeks	Day only	33 34 36 36 - 33 34 36 35 31 32 32 - 32 31 - 32 31 30 32 37 39 43
8	GRR Abbey Rd level crossing – track earthworks	1 week		34 - 36 - 33 - 39 36 35 38 38 37 37 - 36 36 - 36 - 35 31 <mark>57 61</mark> 38 42 <mark>57</mark> 46 49 37 39 -
9	GRR Abbey Rd level crossing – track paving	1 week	Day & x1 27 hr	32 35 32 30 33 33 32 31 30 - 31 55 59 34 39 55 39 46 33 35 -
10	GRR Abbey Rd level crossing – track construction	2 weeks	working	37 - 39 31 36 31 41 38 37 41 40 - 31 40 40 - 39 39 - 39 - 38 34 60 64 43 45 61 49 52 41 42 -
11	GRR Abbey Rd level crossing – road diversion	5 weeks		31 - 36 - 36 - 36 32 32 36 36 37 37 - 37 37 - 36 - 36 32 - 32 - 54 56 36 39 53 43 48 35 37 -
	earthworks	27 hrs	Day & x1 27 hr	32 - 37 - 37 32 37 34 33 36 36 37 37 - 38 37 - 36 - 36 32 - 32 - 55 58 37 40 54 46 52 36 37 -
12	GRR Abbey Rd level crossing – road diversion paving	5 weeks	working	33 - 33 - 34 33 33 34 34 - 35 34 - 33 - 33
	, , , , , , , , , , , , , , , , , , , ,	27 hrs		34 - 35 - 34 31 31 34 34 34 34 - 35 35 - 33 - 33 53 <mark>56</mark> 34 37 53 44 50 33 34 -
13	GRR – earthworks on route	13 weeks	Day only	40 39 41 39 36 39 41 41 41 41 40 37 35 40 39 33 39 38 34 37 32 37 33 30 51 53 53 56 59 42 40 55 55 49
14	GRR – earthworks offline	35 weeks	Day only	38 36 39 - 36 38 41 39 38 40 40 31 33 40 40 - 39 39 - 39 35 64 69 64 68 71 48 52 59 48 -
15	GRR – bottom ballast	1 week	Day only	
16	GRR – laying continuously welded rail	1 week	Day only	30 - 33 - 31 30 37 37 34 36 36 30 30 35 35 - 35 35 - 33 - 32 30 - 34 36 - 31 32 38 36 -
17	GRR – installation of track	1 week	Day only	32 32 36 32 33 33 39 40 36 38 38 32 32 38 37 32 38 37 32 35 31 34 - 31 32 32 37 39 32 34 34 41 38 32
18	GRR – ballasting and tamping	2 weeks	Day only	36 34 37 36 33 36 40 41 39 40 40 35 34 39 38 34 39 39 34 38 32 35 - 31 33 33 38 40 35 36 34 44 42 36
20.1	Bratts Blackhouse level crossing Day 1-5	5 days	Day	
	3 . <b>,</b> .	_	27 hr working	
20.2	Bratts Blackhouse level crossing Day 6-10	5 days	Day only	
21.1	Knodishall level crossing Day 1-2	2 days	Day only	
21.2	Knodishall level crossing Day 3-6	4 days	100 hr working	
21.3	Knodishall level crossing Day 7-12	6 days	Day only	
22.1	West House level crossing Day 1-7	7 days	Day only	35
22.2	West House level crossing Day 8-9	2 days	54 hr working	34
22.3	West House level crossing Day 10-14	5 days	Day only	
23.1	Snowdens level crossing Day 1-5	5 days	Day only	40
23.2	Snowdens level crossing	6 days	Day	
	Day 6-11	, <u> </u>	27 hr working	
24.1	Saxmundham Rd level crossing Day 1-5	5 days	Day only	30 32 30
24.2	Saxmundham Rd level crossing Day 6-10	5 days	Day only	31
24.3	Saxmundham Rd level crossing Day 11-15	5 days	Day only	31
24.4	Saxmundham Rd level crossing Day 16-20	5 days	105 hr working	
24.5	Saxmundham Rd level crossing Day 21-26	6 days	Day only	
25.1	Buckleswood footpath level crossing Stage 1 Day 1-5	5 days	Day only	35 36 37 39 - 37 36 39 31 35 34 35 34 34 34 31 36 35 33 33 32 33 - 30 - 40 34 46
25.2	Buckleswood footpath level crossing Stage 1 Day 6-9	4 days	Day only	33 34 36 37 - 35 34 38 - 33 33 33 32 33 32 - 34 33 31 31
25.3	Buckleswood footpath level crossing Stage 2	2 days	Day only	33 34 36 37 - 35 34 38 - 33 33 32 33 32 - 34 33 31 31 31 32 38 32 43
26.1	Summerhill footpath level crossing Day 1-5	5 days	Day only	52 53 52 51 38 48 49 50 44 47 45 43 43 43 43 40 42 41 39 40 36 33 - 33 34 38 - 31 - 37 38 34
26.2	Summerhill footpath level crossing Day 6-11	6 days	Day only	49 50 49 48 36 45 46 48 42 45 43 41 41 41 37 40 39 37 38 34 31 - 32 33 36 35 36 32
27.1	Leiston level crossing & track realignment Day 1	1 day	Day only	81 81 66 74 69 76 81 69 65 76 76 76 68 75 60 66 59 53 51 52 48 49 37 48 34 36 33 32 37 41 32 37 37 39 39 35
	Leiston level crossing & track realignment Day 2-5	4 days	Day only	70 75 73 83 79 84 85 87 75 73 70 74 61 62 53 54 54 51 50 51 46 47 36 46 34 35 36 34 41 44 35 38 39 39 39 36
27.2	Leiston level crossing & track realignment Day 6-8	3 days	Day only	70 75 73 83 79 84 85 87 75 73 70 74 61 62 53 54 54 51 50 51 46 47 36 46 34 35 36 34 41 44 35 38 39 39 39 36
	Leiston level crossing & track realignment Day 9	1 day	Day only	61 63 59 69 68 75 80 62 58 75 76 75 67 75 61 65 58 53 50 51 48 49 37 48 35 36 32 31 36 41 31 36 37 38 38 34
	Leiston level crossing & track realignment Day 10	1 day	Day only	75 75 63 73 69 74 76 76 65 70 71 71 63 70 62 67 68 65 57 68 64 70 66 63 52 57 32 31 36 39 32 37 37 37 33
27.3	Leiston level crossing & track realignment Day 11	1 day	Day only	76 76 65 74 70 75 77 77 66 71 72 72 64 71 57 61 55 51 49 49 46 47 36 46 34 35 33 31 37 40 32 36 37 38 38 34
-	Leiston level crossing & track realignment Day 12-13	2 days	Day only	77 77 63 71 66 73 77 66 62 72 72 72 64 71 58 62 56 51 49 49 46 48 36 46 34 35 32 31 36 40 31 36 36 38 37 34
27.4	Leiston level crossing & track realignment Day 14-17	4 days	105 hr working	81 81 69 79 74 78 79 82 71 67 65 69 56 58 50 52 53 49 48 49 44 47 36 45 33 34 34 32 39 41 33 36 37 39 38 35
		, -	9	

Sizewell C Noise Mitigation Scheme - Railway Construction Refreshed Noise Assessment Project reference: 60679030

Ref	Activity	Duration	Timing	R41	R42	R43	R44	R45 I	R46 R	847 R	48 R	49 R	R50 R	51 R	52 R	53 R	54 R5	55 R5	56 R5	7 R58	R59	R60	R61	R62	R63	R64	R65	R66	R67	R68	R69	R70	R71	R72 I	R73 F	R74 F	₹75 F	₹76
27.5	Leiston level crossing & track realignment Day 18-21	4 days	Day only	79	79	68	77	72	77	77 8	<b>30</b> 6	69 (	66 6	63 6	8 5	6 5	6 50	0 5	1 52	2 49	48	48	44	47	36	44	33	34	33	32	39	41	33	36	37	39	38 3	35
	Leiston level crossing & track realignment Day 22	1 day	Day only	67	72	70	81	77	81 8	82 8	34 7	73	71 (	67 7	72 5	9 6	0 52	2 5	3 54	50	49	50	45	46	36	45	34	35	35	33	41	43	35	38	39	38	39	36
27.6	Leiston level crossing & track realignment Day 23-25	3 days	Day only	58	63	61	72	68	72	73 7	<b>75</b> 6	64	62 5	58 6	3 4	9 5	1 4	1 4	3 44	40	39	40	34	36	-	35	-	-	-	-	30	32	-	-	-	-	-	
29	Knodishall satellite compound	2 weeks	Day only	-	-	-	-	-	-	-	-	-	-	-			-		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
30	West House satellite compound	2 weeks	Day only	-	-	-	-	-	-	-	-	-	-	-			-		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	- :	31
31	Saxmundham Rd satellite compound	2 weeks	Day only	-	-	-	-	-	-	-	-	-	-	-			-		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	- :	35
32	LEEIE satellite compound (MDS trigger levels)	2 weeks	Day only	35	37	35	-	38	- ;	37	- 3	35 3	38 4	41 3	37 3	39 3	9 39	9 4	2 37	42	45	48	51	51	54	61	55	72	-	-	-	-	-	-	-	-	-	-
33+37+54+55	Saxmundham Jcn blockade 1st weekend days	2 days	1st weekend days/evenings	-	-	-	-	-	-	-	-	-	-	-			-		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
34+38+54+55	Saxmundham Jcn blockade weekend evening/nights	2 days	1st weekend nights	-	-	-	-	-	-	-	-	-	-	-			-		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	- :	34
35+39+54+55	Saxmundham Jcn blockade weekday days	5 days	Weekday days/evenings	-	-	-	-	-	-	-	-	-	-	-			-		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
36+40+54+55	Saxmundham Jcn blockade weekday evenings/nights	5 days	Weekday nights	-	-	-	-	-	-	-	-	-	-	-			-		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
41	GRR satellite compounds at Abbey Rd & Buckleswood Rd	2 weeks	Day only	34	32	34	35	31	33 3	34 3	35 3	35	33 3	33		- 3	3 3	3 -	- 33	3 33	-	32	-	32	-	-	-	-	52	56	31	34	52	42	43	37	41	42
42	GRR main compound construction	13 weeks	Day only	39	40	41	41	-	38 3	39 4	12 4	40 ;	37 3	38 3	39 3	35 3	7 3	6 3	4 38	36	34	36	32	31	-	30	-	-	-	30	36	37	30	33		42	44	47
43.1+43.2	GRR main compound operation location 1 & 2	96 weeks	Day only	31	32	35	34	-	32 3	33 3	35 3	31 ;	31 3	32 3	33 -	- 3	1 30	0 -	- 32	2 31	-	-	-	-	-	-	-	-	-	-	-	31	-	-	-	34	36	39
44	GRR Buckleswood Rd level crossing signalling	1 week	Day, evening or night	-	-	-	-	-	-	-	-	-	-	-			-		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	- :	32	33
45	GRR Abbey Rd level crossing signalling	1 week	Day, evening or night	-	-	-	-	-	-	-	-	-	-	-			-		-	-	-	-	-	-	-	-	-	-	46	48	-	-	44	32	35	-	-	
46	GRR lineside signalling at 4 locations	1 week total	Day only	-	-	-	-	-	-	-	-	-	-	-			-		-	-	-	-	-	-	-	-	-	-	47	49	32	36	48	34	40	32	36	36
47	Knodishall level crossing signalling	1 week	Day, evening or night	-	-	-	-	-	-	-	-	-	-	-			-		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
48	West House level crossing signalling	1 week	Day only	-	-	-	-	-	-	-	-	-	-	-			-		-	-	-	-	-	-	-	-	-	-		-	-	-	-	-		-		
49	Snowdens level crossing signalling	1 week	Day only	-	-	-	-	-	-	-	-	-	-	-			-		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
50	Saxmundham Rd level crossing signalling	1 week	Day, evening or night	-	-	-	-	-	-	-	-	-	-	-			-		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
51	Buckles Wood Footpath level crossing signalling	1 week	Day only	-	-	-	-	-	-	-	-	-	-	-			-		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
52	Summerhill Footpath level crossing signalling	1 week	Day only	30	33	34	31	-	- ;	30 3	32	-	-	-			-		-	-	-	-	-	-	-	-	-	-	-		-	-	-	-			-	
53	Branch line lineside signalling at 10 locations	3 weeks total	Day only	65	63	57	59	60	63 (	65 5	53 5	58	71	76 7	72 6	65 6	4 52	2 4	9 50	) 51	50	64	69	73	55	61	49	48	-	-	31	35		32	30	35	34	40

<sup>#</sup> The road diversion at Buckleswood level crossing on the GRR crossing is currently under review and may not be required, if this is the case Activities 3, 4 and 5 would all be completed over 1 week of continuous working

\* The road diversion at Buckleswood level crossing on the GRR is currently under review and may not be required, if this is the case Activities 6 and 7 would not be required and the satellite compound at Buckleswood Road (Activity 41) would not be required

**Figure 1. Construction Noise Receptors** 

Date:

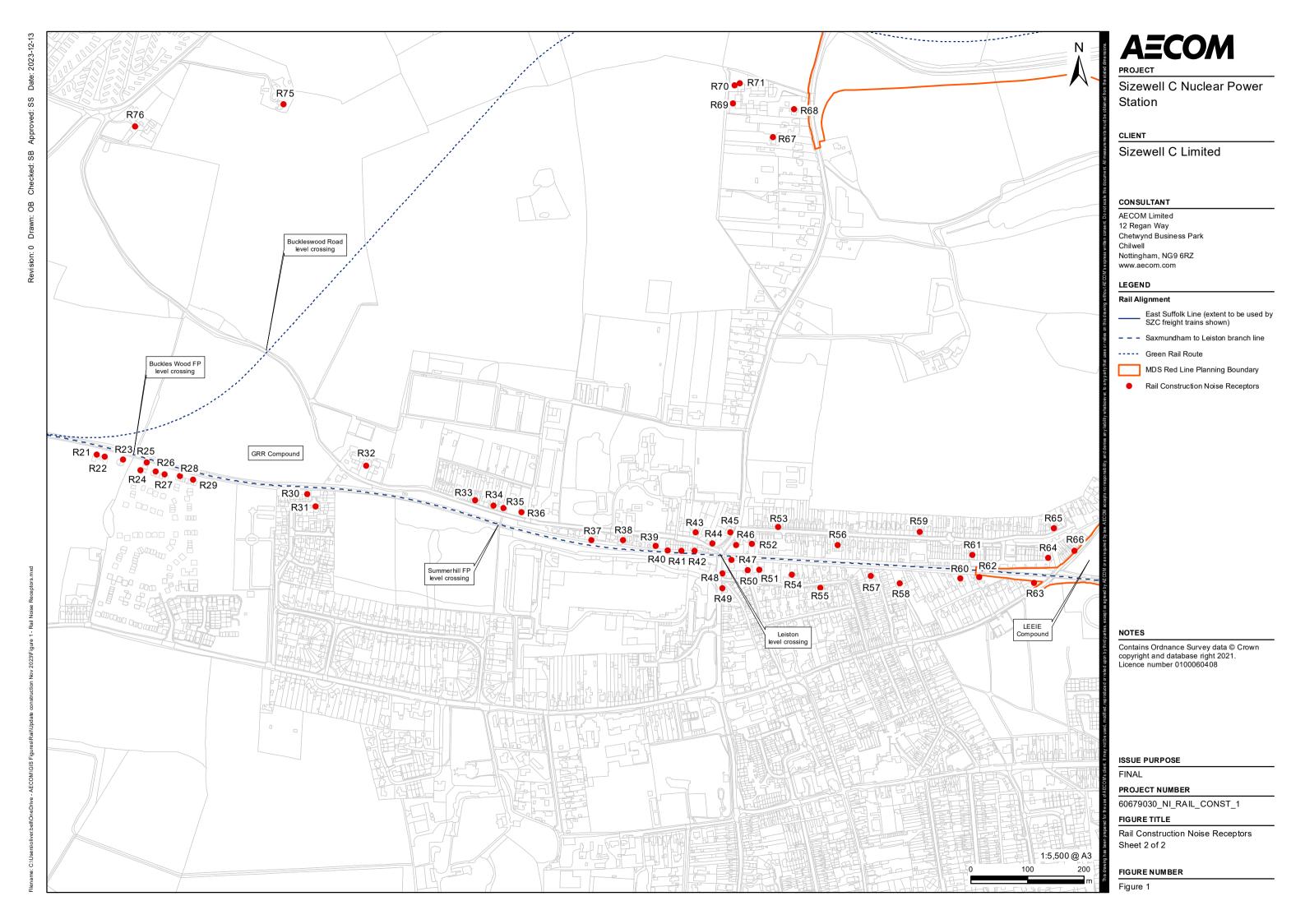
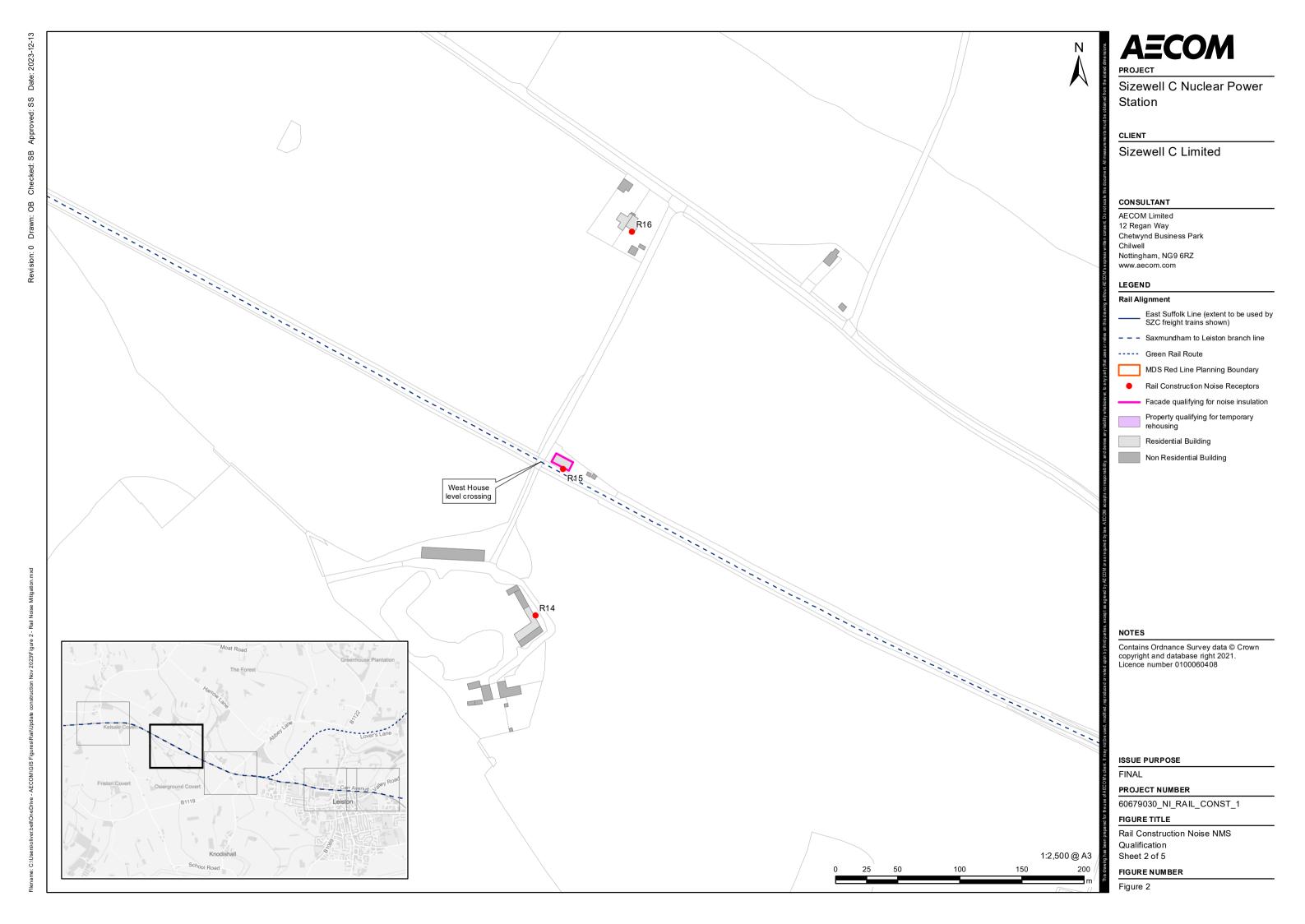
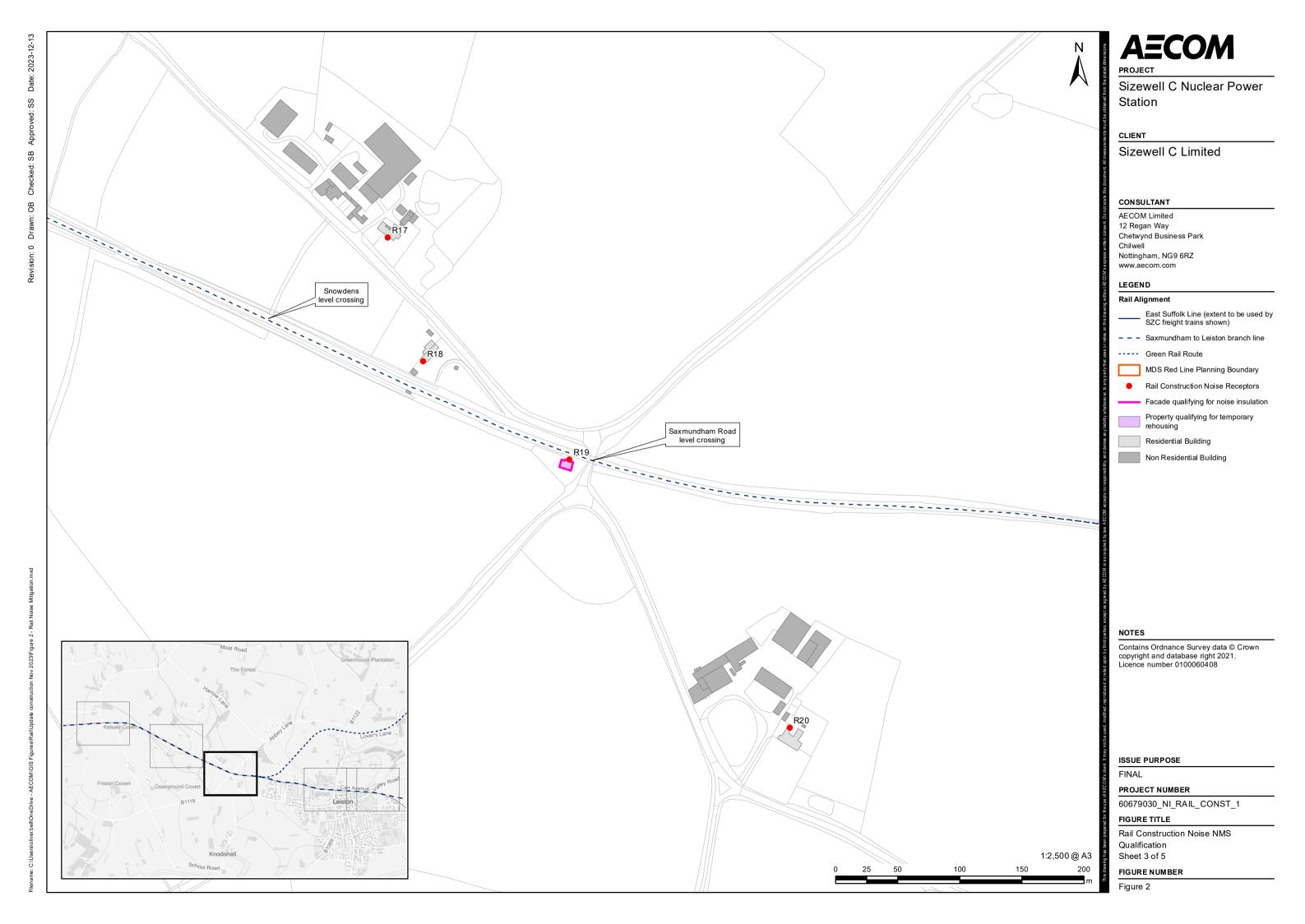


Figure 2. Noise Insulation and Temporary Rehousing qualification







Date:

Checked: SB

OB

East Suffolk Line (extent to be used by

MDS Red Line Planning Boundary

Contains Ordnance Survey data © Crown

# **AECOM**

