

Bingally 400kV Substation Community Liaison Group

Meeting 03:
August 11 2026 – Cannich Hall

Agenda:

1. Confirmation of Mins
2. Actions from Last Meeting
3. Project Update
4. How fire risk is considered and mitigated during the construction period (BAM)
5. AIS/GIS: Why an AIS proposal was considered optimal for Bingally
6. Noise and screening considerations
7. Progressing the Cannich Car Park Potholes
8. AOB plus dates for remainder of year

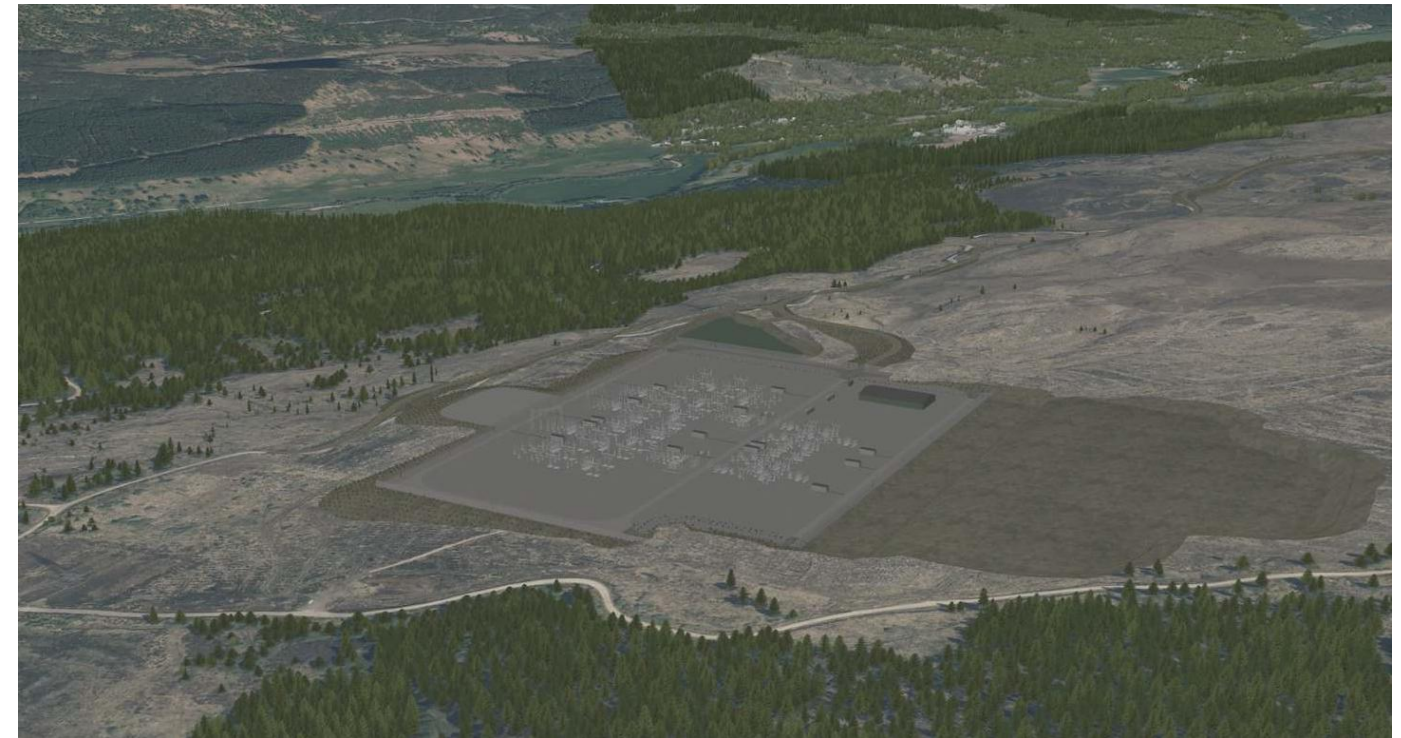


Actions from Last Meeting

Number	SSSEN	Action / Update	Owner	Open/Closed	Update
1		Review options to reduce visual impact of bellmouth and entrance	BAM	Open	Confirm visual mitigation proposals and any revised drawings.
2		Confirm the approach to Traffic Management around School times	SSEN T/ BAM /CLG	Open	Update on CTMP review and confirmation of school-time considerations for Cannich, Balnain and Drumnadrochit.
3		Potential improvement of local car park and ownership clarification	CLG	Open	Confirm ownership position and whether pothole repairs remain feasible. CLG members to report back from our initial investigation SSE do not own any of the car park and is fully owned by the community
4		Hall Connectivity for hybrid meetings	SSEN T	Open	Outcome of hotspot/dongle investigation. Price has been forwarded and SSEN Transmission are happy to support.
5		Species Protection Plans to show monitoring reports	SSEN T	Closed	Black Grouse SPP sent alongside minutes as example.
6		Project team to confirm the proposed bunding arrangements for the northern compound, including the intended visual and noise mitigation benefits. Further clarification required on how the long term cabins will blend in	BAM	Open	Confirm whether bunding will be installed, location, timescale and expected visual/noise benefits.
7		School times Cannich, Balnain and Drumnadrochit schools and other local events	CLG Members	Open	School times and events diary
8		Create a diary of dates for the rest of the year xxx	Group	Open	To discuss best approach

Project Update – Irfan Ahmad

- **15 out of 21 pre-commencement conditions** have been **satisfied** to date – remaining 6 conditions of key documents in process under review with the Highland Council Case Officer.
- Feedback from The Highland Council (THC) received on the **Construction Traffic Management Plan** condition. Key point being discussed was the request for Active Travel improvement ie: opportunities for path improvements etc on A381.
- **Start on Site: Targeting 31 August / Early September** – *subject to agreement with THC on the remaining 6 conditions as per above.*
- **Letter going out to local properties** within 10k radius



How fire risk is considered and mitigated during the construction period

How we work to protect the local environment during construction

**Keith Gibson–
Project Manager – BAM**



Fire prevention is better than firefighting...

- Electrical equipment tested and inspected
- Keep plant and equipment maintained and fit for purpose
- Hot work permit to be in place where required
- Maintain good housekeeping
- Dispose of waste accordingly
- Smoking is only permitted in designated smoking areas



Fire Risk Management

Fire Risk Assessment completed prior to works commencing:

Fire Risk Assessment reviewed:

- At regular intervals
- Following significant changes
- Following any fire-related incident

Fire Safety Coordinator appointed

- Fire Safety Training

Site Fire Safety Emergency Plan: Prevent fire, protect people and ensure a rapid, coordinated response should an emergency occur.

Key Emergency Roles

Incident Controller: **Andy Galbraith, Sunil Sharma**



Fire Wardens/Marshals: **Andy Galbraith, Sunil Sharma, Martha Meso, Ravindu Rannetthige, Jasper Grasham, Bruce Clark, Jack Frazer**



Wildfire Risk Management & Fire Prevention

Preventing Ignition Sources:

- Smoking only permitted in designated facilities where provided.
- Removal / management of dry vegetation during hot, dry and windy conditions.
- No uncontrolled storage of flammable materials on site.
- Fuel stores, COSHH cabins, flammable liquids locked when not in use.
- Quantities of materials limited to what is operationally required.



Smoke Shelter



COSHH Cabin

Hot Works Controls:

- Formal Hot Works Permit System in place.
- Hot works restricted to designated areas before activities commence.
- Suitable fire extinguishers available at point of work.
- Fire watch maintained during and after completion of hot works.
- Flammable materials and vegetation removed from work area before work starts.
- Hot Works reviewed and where necessary postponed during periods of elevated wildfire risk

Fire Risk Management

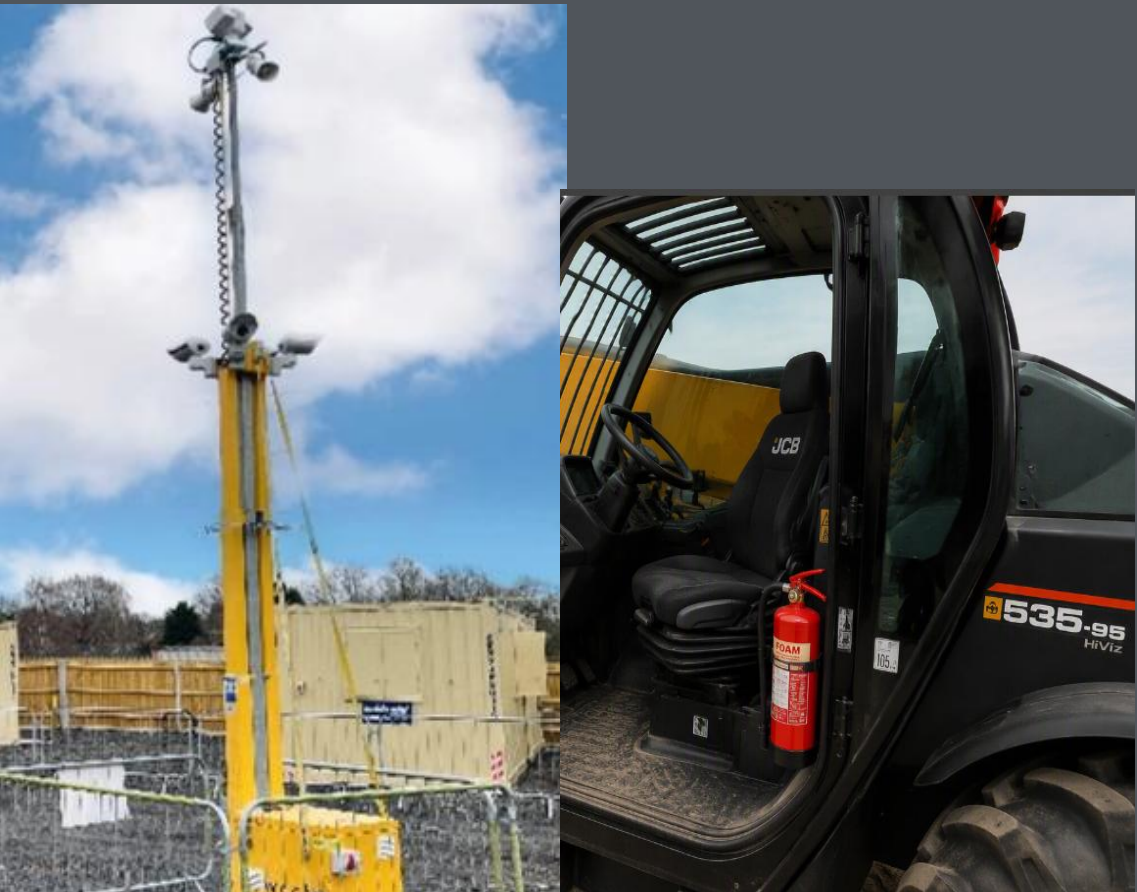
**Site Security:
Preventing Unauthorised Access &
Deliberate Fire Setting**

- Remotely monitored CCTV installed across the site
- Controlled access to site
- Site information and signage

Site familiarisation visits to be undertaken with Fire & Rescue services.

**Plant, Fuel & Flammable material controls:
Plant& Equipment Fire Prevention**

- Plant engines not left idling unnecessarily
- Daily plant inspection pre and post use
- Defective equipment removed from service immediately
- Controlled refuelling arrangements in designated areas
- Suitable firefighting equipment available throughout the project
- Personnel trained in the use of fire equipment



BAM Nuttall management system
Management checklist: MC04

Work Equipment checklist

Project Name:		Project No:	
Make:		Model:	
MOM revision:		Category:	
ID:		Type:	
Hours at start:			

This document is a pre-use checklist for completion by the operator. This checklist must be populated using the manufacturer’s operator manual, Industry body or association guidance or industry custom and practice.

The completion of a pre-use inspection is a legal requirement. A pre-use inspection must be performed before the machine is used, by every operator, including on change of operator or shift.

If the machine is unused, an inspection must be carried out at least every 7 days. Consideration should be given to the working environment; if the conditions are more arduous than normal, the inspection regime should be increased.

As the operator you must indicate that you have checked that each item is fit for purpose and in full working order
A '✓' indicates the work equipment is fit for purpose and in full working order. An 'X' indicates a fault or nonconformance. If you indicate with an 'X' you must support this with a comment that explains the decision. Add or delete rows as necessary

Fire Risk Management



Fire Prevention & Protection Measures

Controls in Place:

- Fire detection and alarm systems installed, tested and maintained.
- Emergency lighting installed, tested and maintained.
- Fire Action Instruction signs displayed at fire points.
- Fire extinguishers regularly checked, serviced and maintained.

Fire Points throughout the site as per instructed on the site Fire Risk Assessment.

Emergency Preparedness

Ongoing :

- Regular fire drills undertaken ✓
- Alarm systems routinely tested ✓
- Fire arrangements reviewed throughout construction ✓
- Workforce briefed through inductions and toolbox talks ✓



Emergency Response

Fire Drill Arrangements:

- Fire drills carried out at regular intervals throughout the construction phase
- All site personnel, visitors and contractors participate in drills
- Evacuation routes and emergency exits tested to ensure effectiveness
- Muster Point procedures tested and attendance verified through roll call
- Personal Emergency Evacuation Plans (PEEPs) incorporated into drill scenarios where applicable
- Rollcalls at Muster Points captured via M-Site – Electronic attendance system



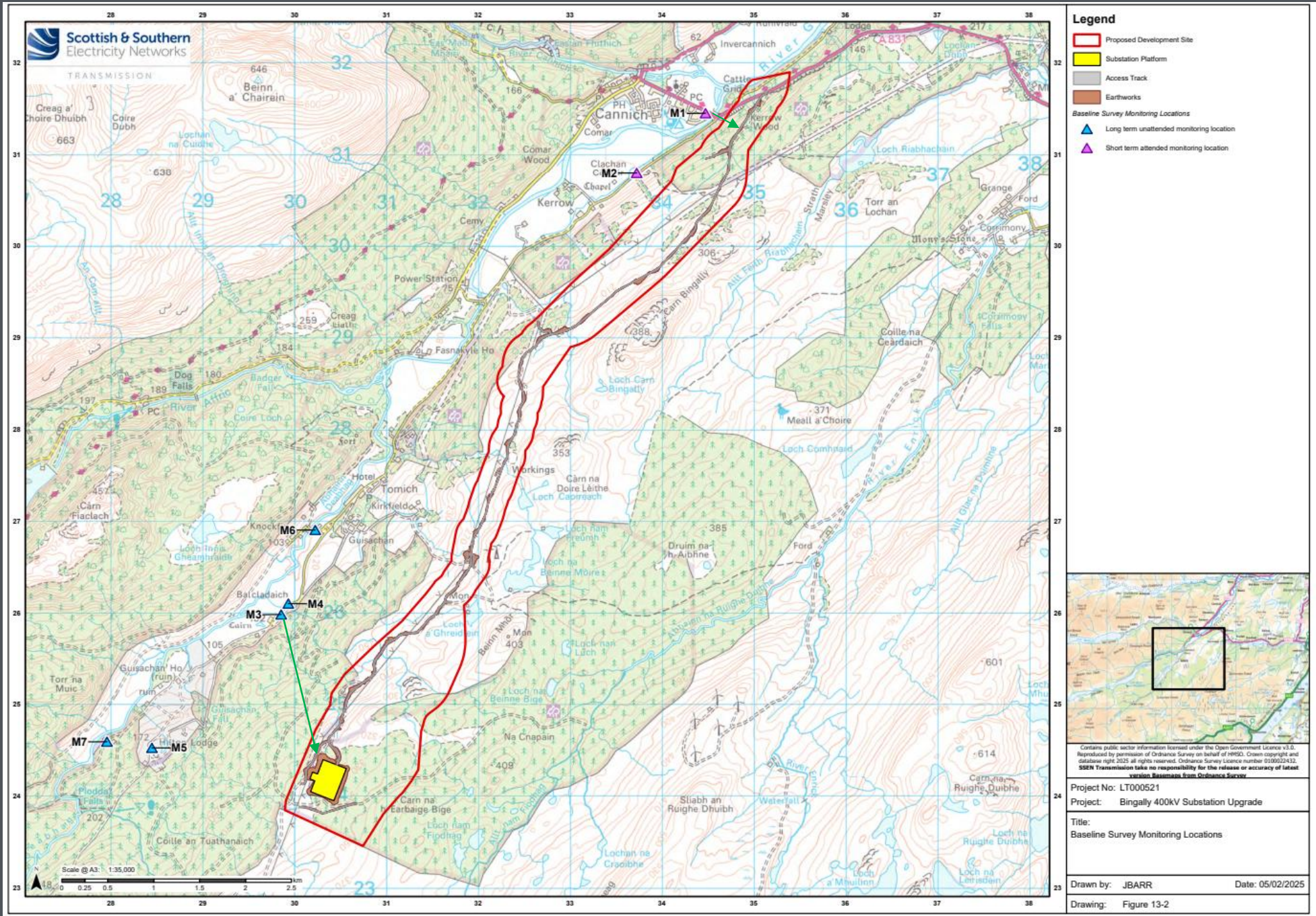
Emergency Preparedness

Ongoing :

- Regular fire drills undertaken ✓
- Alarm systems routinely tested ✓
- Fire arrangements reviewed throughout construction ✓
- Workforce briefed through inductions and toolbox talks ✓

Noise sensitive receptors

As identified from Environmental Impact Assessment (EIA)



NSR ID	Monitoring location ID	Noise Sensitive Receptor	Distance to access track or platform
NSR1	M1	Glass House	Access track: 400 m
NSR2	M2	Birchwood House	Access track: 770 m
NSR3	M3	Challenger Lodge	Access track: 1.14 km Platform: 1.6 km
NSR4	M4	The Sawmill	Access track: 1.15 km Platform: 1.61 km
NSR5	M5	Hilton Lodge	Platform: 1.78 km
NSR6	M6	Guisachan Cottage	Access track: 1.6 km
NSR7	M7	Plodda Cottage	Platform: 2.27 km
NSR8		The Fank	Access track: 582 m

Background noise levels

- The assessment of construction noise has been undertaken in accordance with British Standard 5228-1:2009+A1:2014 *Code of Practice for Noise and Vibration Control on Construction and Open Sites – Part 1 Noise*.
- The study area for assessing noise and vibration as per BS is 300m and 100m, respectively.
- Monitoring locations represent nearest NSRs to the site and are representative of other properties in proximity to those NSRs.

NSR ID	Monitoring location ID	NSR	Measured noise levels ($L_{A90,15min}$) dB	
			Daytime (07:00 – 19:00)	Night-time (23:00 – 07:00)
NSR1	M1	Glass House	38	33
NSR2	M2	Birchwood House	33	-
NSR3	M3	Challenger Lodge	35	33
NSR4	M4	The Sawmill	39	37
NSR5	M5	Hilton Lodge	35	39
NSR6	M6	Guisachan Cottage	36	29
NSR7	M7	Plodda Cottage	38	40

Assessment Category and Threshold Value Period	Threshold Value $L_{Aeq,T}$ dB(A) façade		
	Category A (a)	Category B (b)	Category C (c)
Night-time (23:00 – 07:00)	45	50	55
Evenings and Weekends (d)	55	60	65
Daytime (07:00 – 19:00) and Saturdays (07:00 – 13:00)	65	70	75

NOTE 1: A potential significant effect is indicated if the $L_{Aeq,T}$ noise level arising from the site exceeds the threshold level for the category appropriate to the ambient noise level.

NOTE 2 If the ambient noise level exceeds the Category C threshold values given in the table (i.e. the ambient noise level is higher than the above values), then a potential significant effect is indicated if the total $L_{Aeq,T}$ noise level for the period increases by more than 3 dB due to site noise.

NOTE 3: Applies to residential receptors only.

(a) Category A: Threshold values to use when ambient noise levels (when rounded to the nearest 5 dB) are less than these values.

(b) Category B: Threshold values to use when ambient noise levels (when rounded to the nearest 5 dB) are the same as Category A values.

(c) Category C: Threshold values to use when ambient noise levels (when rounded to the nearest 5 dB) are higher than Category A values.

(d) 19:00 – 23:00 weekdays, 13:00 – 23:00 Saturdays, 07:00 – 23:00 Sundays.

Noise Monitoring: *Trial Field Earthworks*

- 3-week trial field earthworks: May- June 2025
- 3 areas of works:
 - Rock breaking (ripability) by 70t excavator with 6t breaker at two borrow pits and platform
 - Trial vibration blast: 11.06.2025
- Noise monitoring at 3 locations via RSK Acoustics

When considering the noise levels presented above, and accounting for the distance from the construction works to position MP2 and the setting of MP2 at a property boundary within Tomich village, it is considered likely that the elevated noise levels presented in Table 7 were due to short term activities within the local area, and not construction activities taking place at the proposed development site.

Monitoring position MP1		
Date	Measured noise levels, dB	
	Highest L _{Aeq,1h}	Daily L _{Aeq,10h}
Tuesday 27/05/26	-*	-*
Wednesday 28/05/26	50	48
Thursday 29/05/26	49	47
Friday 30/05/26	54	48
Saturday 31/05/26 (no construction)	49	46
Sunday 01/06/25 (no construction)	48	45
Monday 02/06/25	51	47
Tuesday 03/06/25	54	50
Wednesday 04/06/25	62	53
Thursday 05/06/25	50	47
Friday 06/06/25	48	46
Saturday 07/06/25 (no construction)	48	44
Sunday 08/06/25 (no construction)	48	44
Monday 09/06/25	59	51
Tuesday 10/06/25	47	45
Wednesday 11/06/25	50	48
Thursday 12/06/25	50	46
Friday 13/06/25	47	45
Saturday 14/06/25 (no construction)	48	44
Sunday 15/06/25 (no construction)	48	44
Monday 16/06/25	45	43
Tuesday 17/06/25	45	44

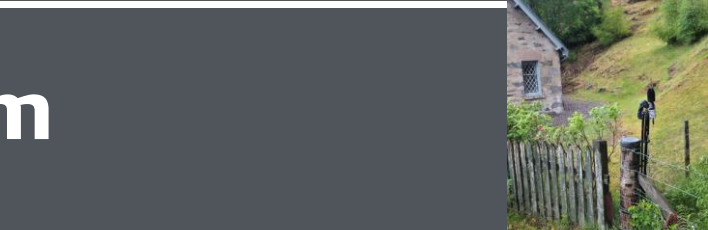
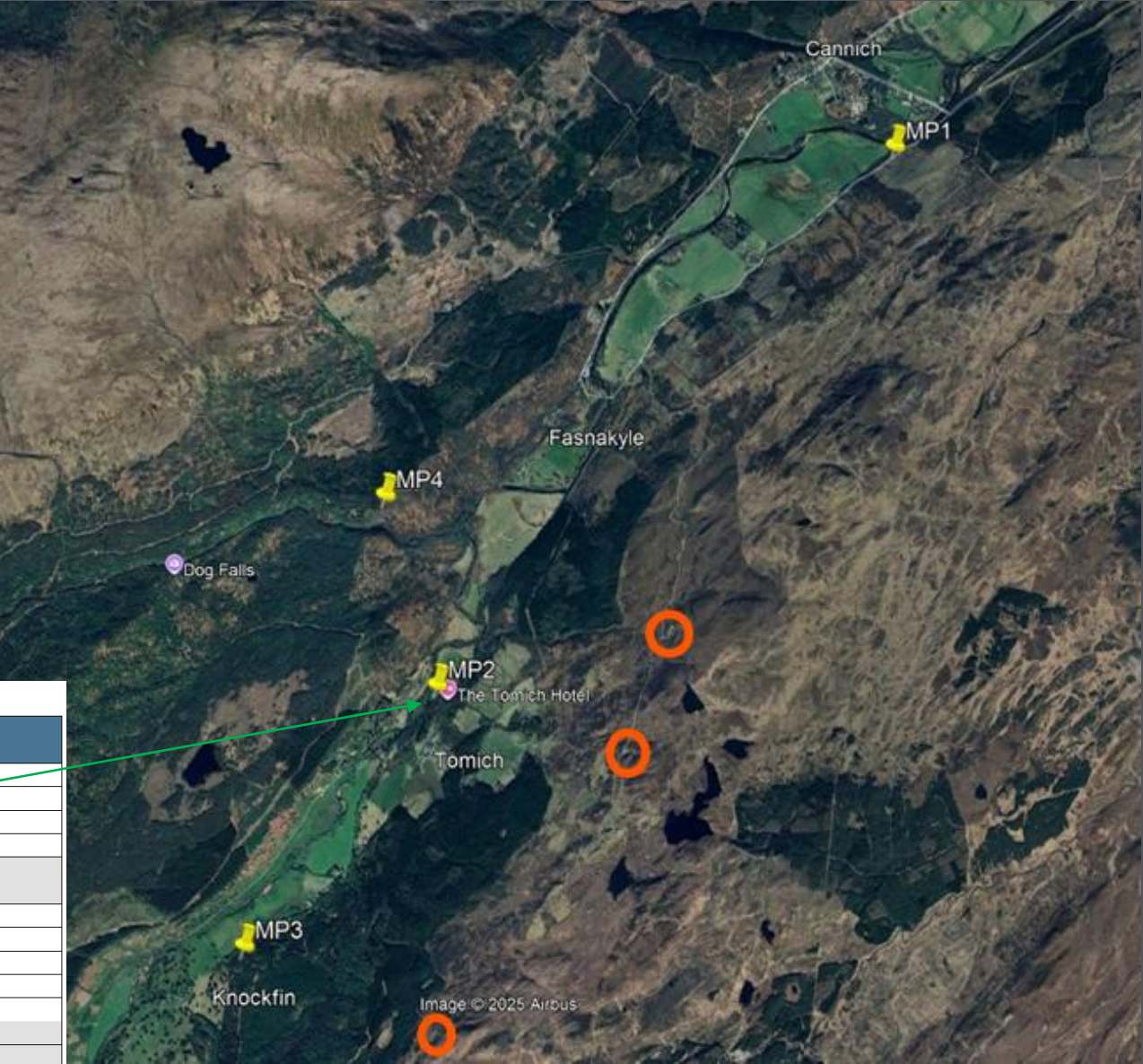
*Due to installation taking place after standard working hours, noise data during site operational hours was not obtained.

Monitoring position MP2		
Date	Measured noise levels, dB	
	Highest L _{Aeq,1h}	Daily L _{Aeq,10h}
Tuesday 27/05/26	-*	-*
Wednesday 28/05/26	70	61
Thursday 29/05/26	74	66
Friday 30/05/26	56	51
Saturday 31/05/26 (no construction)	56	50
Sunday 01/06/25 (no construction)	57	49
Monday 02/06/25	52	51
Tuesday 03/06/25	56	53
Wednesday 04/06/25	65	58
Thursday 05/06/25	52	51
Friday 06/06/25	56	51
Saturday 07/06/25 (no construction)	54	48
Sunday 08/06/25 (no construction)	50	46
Monday 09/06/25	69	54
Tuesday 10/06/25	63	55
Wednesday 11/06/25	59	56
Thursday 12/06/25	55	51
Friday 13/06/25	56	51
Saturday 14/06/25 (no construction)	52	47
Sunday 15/06/25 (no construction)	52	46
Monday 16/06/25	52	48
Tuesday 17/06/25	51	50

*Due to installation taking place after standard working hours, noise data during site operational hours was not obtained.

Monitoring position MP4		
Date	Measured noise levels, dB	
	Highest L _{Aeq,1h}	Daily L _{Aeq,10h}
Tuesday 27/05/26	-*	-*
Wednesday 28/05/26	59	58
Thursday 29/05/26	58	56
Friday 30/05/26	59	58
Saturday 31/05/26 (no construction)	58	54
Sunday 01/06/25 (no construction)	60	55
Monday 02/06/25	62	59
Tuesday 03/06/25	59	57
Wednesday 04/06/25	63	59
Thursday 05/06/25	59	57
Friday 06/06/25	60	57
Saturday 07/06/25 (no construction)	58	53
Sunday 08/06/25 (no construction)	60	55
Monday 09/06/25	62	58
Tuesday 10/06/25	59	57
Wednesday 11/06/25	61	58
Thursday 12/06/25	62	59
Friday 13/06/25	61	59
Saturday 14/06/25 (no construction)	58	54
Sunday 15/06/25 (no construction)	61	56
Monday 16/06/25	60	57
Tuesday 17/06/25	58	56

*Due to installation taking place after standard working hours, noise data during site operational hours was not obtained.



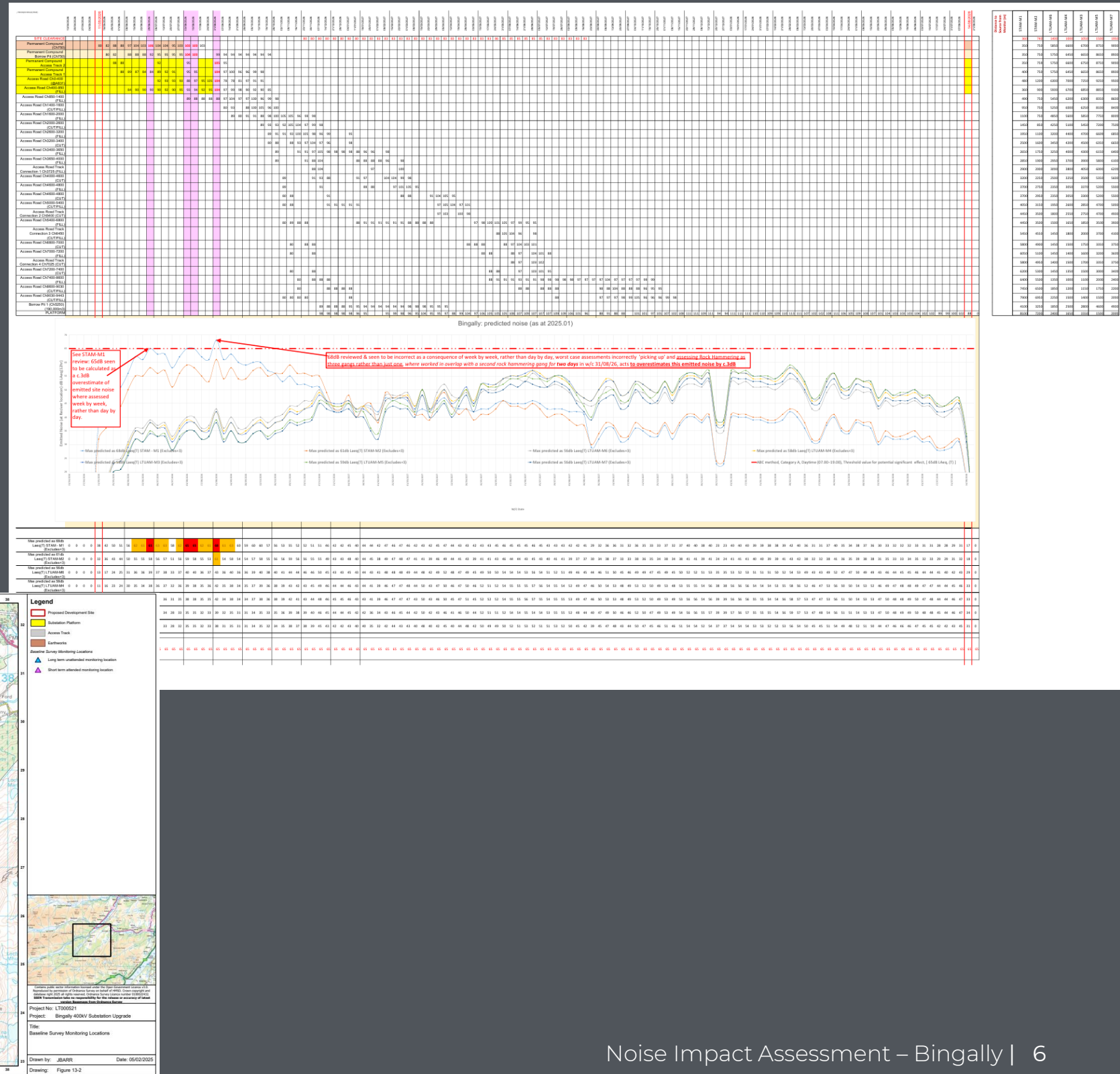
Updated desk-based noise assessment – January 2026

- Noise assessment **inputs**:
 - *Earthworks programme* (dates will alter due to planning sign off of conditions but activities will not).
 - *Construction timeline*
 - *Plant/equipment – types and quantities*
 - *Linear construction*:
 - bell-mouth working towards platform
(i.e. construction of access track then platform)
 - No simultaneous working areas
 - *Work scope*:
 - Site clearance
 - Access track construction
 - Compound works
 - Excavation of material (peaty soils and rock)
 - Rock blasting, breaking and material processing (crushing)
 - Platform works
 - *Attenuation/screening* – natural vegetation/terrain between the NSRs and the site.
 - *Conservative assessment* (worst-case scenario)
 - Week-by-week rather than day-by-day
 - Ensures data is displayed clearly and concisely

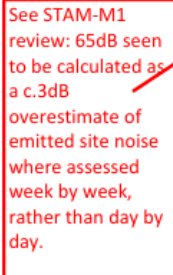


Updated desk-based noise assessment – January 2026

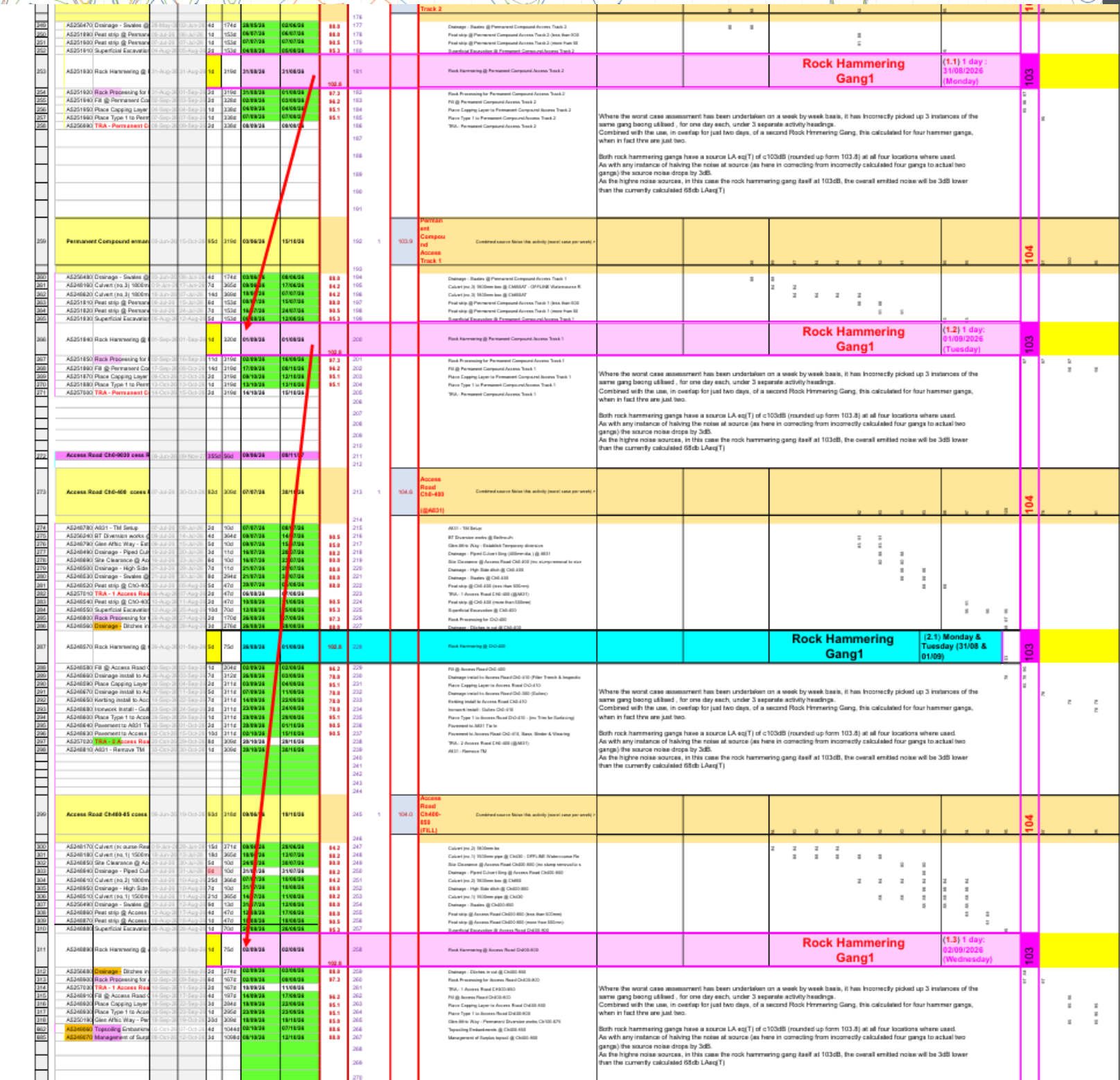
- Noise assessment **outputs**:
 - Noise prediction calculator
 - Highlights activities by week and those which exceed the Cat A threshold of 65dB.
 - Exceedances highlight activities which BAM Nuttall must reassess/provide adequate mitigation for.
 - Noise outputs reflect worst-case scenario.



13/04/2026	20/04/2026	27/04/2026	04/05/2026
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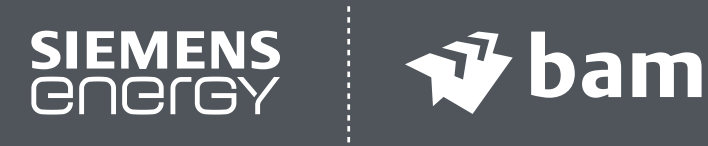
68dB reviewed & seen to be incorrect as a consequence of week by week, rather than day by day, worst case assessments incorrectly 'picking up' and assessing Rock Hammering as three gangs rather than just one, where worked in overlap with a second rock hammering gang for **two days** in w/c 31/08/26, acts to overestimates this emitted noise by c.3dB



Updated desk-based noise assessment – January 2026 – NSR1

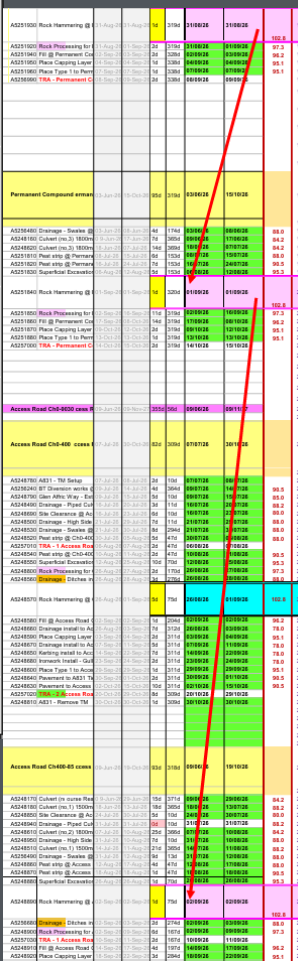
Initial exceedance at NSR 1:

- Exceeded the 65dB daytime cut-off value. Noise Assessment value = 68dB
- This exceedance occurs during construction works associated with the northern compound and the access track at chainage 0-850m which includes rock blasting, hammering and processing.
- As the assessment was conducted on a week-by-week basis, the programme breakdown of these grouped activities of the week in exceedance is summarised in table opposite.
- The week-by-week assessment is assuming that there are 4no. rock hammering gangs working simultaneously however, the programme breakdown demonstrates there are only 2no. gangs for rock hammering, with each gang only working simultaneously on two days that week.
- Each rock hammering gang has a noise of c.104dB. When halving the noise at source (four gangs to two), there is a reduction in noise level generated by 3dB. Therefore, a 3dB reduction in overall emitted noise reduces the daytime noise level for this week from 68dB LAeq(T) to 65dB LAeq(T), in turn preventing any exceedance of the daytime cut off-value as per BS5228:1.



Works area	Noise level of each activity (dB)	Process	Timescale of works
Permanent compound borrow pit (chainage 750)	99	Rock blasting Rock processing	
Permanent compound Access track 2	105	Rock hammering Rock processing In fill works Capping layer placement	Rock hammering 1 day = 31.08.2026
Permanent compound Access track 1	104	Rock hammering Rock processing	Rock hammering 1 day = 01.09.2026
Access road (CH0-400 @A831)	104	Rock hammering In fill works Drainage Capping layer placement	Rock hammering 2 days = 31.08.2026 & 01.09.2026
Access road (CH400-850 fill)	104	Rock hammering Rock processing Drainage works	Rock hammering 1 day = 02.09.2026
Access road (CH850-1400 fill)	88	Peat stripping	

- M1: W/C - 31/08/26	(AM)	(Ch750)		350
	(1) Activity Method (AM)	Permanent Compound Borrow Pit (Ch750)	99	350
	(1) Activity Method (AM)	Permanent Compound Access Track 3	105	350
	(1) Activity Method (AM)	Permanent Compound Access Track 2	104	400
	(1) Activity Method (AM)	Access Road Ch0-400 (@A831)	104	480
	(1) Activity Method (AM)	Access Road Ch400-850 (FILL)	104	360
	(1) Activity Method (AM)	Access Road Ch850-1400 (FILL)	88	490
	(1) Activity Method (AM)	Access Road Ch1400-1600 (CUT/FILL)		950



Updated desk-based noise assessment – January 2026 - Summary

- **Summary of outputs for NSRs:**
 - No exceedances for NSRs 2-7 above the daytime cat A threshold of 65dB.
 - Assessment demonstrates that NSRs closest to the bell mouth will be impacted by noise levels at the commencement of the project but will become less audible as the project progresses further south-west and vice-versa for NSRs in closer proximity to the platform, which may experience audible noise towards the latter stages of construction.

Table 13.4: Maximum predicted noise level at NSRs				
NSR ID	Noise Sensitive Receptor	Distance to access track or platform	Noise level peak (dB)	Closest distance between construction works and NSR (metres)
NSR1	Glass House	Access track: 400 m	68	350
NSR2	Birchwood House	Access track: 770 m	61	740
NSR3	Challenger Lodge	Access track: 1.14 km Platform: 1.6 km	58	1050
NSR4	The Sawmill	Access track: 1.15 km Platform: 1.61 km	58	1000
NSR5	Hilton Lodge	Platform: 1.78 km	59	1500
NSR6	Guisachan Cottage	Access track: 1.6 km	56	1350
NSR7	Plodda Cottage	Platform: 2.27 km	56	1950

Mitigation

- The Highland Council planning condition for construction hours on site:
 - 08:00 to 19:00 Monday to Friday
 - 08:00 to 13:00 Saturday
 - No works on Sundays
- Intensive, noise-emitting works will be undertaken at times to avoid the more sensitive times within the agreed working hours, such as early mornings
- Operations will be designed to be undertaken with any directional noise emissions pointing away from NSRs
- Vehicles and mechanical plant will be maintained in a good and effective working order.
- HGV and site vehicles will be equipped with non-tonal reversing alarms such as white noise/ broad band type alarms.
- Compressor, generator and engine compartment doors will be kept closed and plant turned off when not in use
- All pneumatic tools will be fitted with silencers/mufflers
- Complaints during construction work:
 - *Noise complaints should be directed to the community liaison officer.*

Substation Technology

*Technology choice / AIS vs GIS
and
why AIS is being used at Bingally?*

Steven Miller
Onshore Development Portfolio Manager



Disclaimer

The Community Liaison Group has requested further information on the rationale for selecting an Air Insulated Switchgear (AIS) solution rather than a Gas Insulated Switchgear (GIS) solution. SSEN Transmission is happy to provide additional explanation to support understanding and offer assurance regarding the decision-making process.

However, this discussion is intended to provide clarity on the rationale for the consented design and should not be viewed as a consultation on, or debate about, the underlying technology choice. The AIS solution forms part of the approved and consented development and, as such, is the solution that will be taken forward during construction.

Any information provided is therefore for explanation and transparency purposes only and does not reopen consideration of alternative technologies or designs.

Substation Technology

What is AIS and GIS?

Air Insulated Switchgear Substation (AIS)

- An AIS substation is constructed with switchgear which relies on open air components, which can require large clearance areas for operation and safety.
- AIS examples at Loch Buidhe, Rothienorman, Fetteresso.
- Majority of our substations are AIS.



275kV AIS substation at Loch Buidhe

Substation Technology

What is AIS and GIS?



400kV AIS substation at Rothienorman



275kV AIS substation at Fetteresso (currently being upgraded to 400kV)

Substation Technology

What is AIS and GIS?

Gas Insulated Switchgear Substation (GIS)

- A GIS substation is constructed with switchgear with gaseous reliant components which allows operation and safety clearances to be reduced compared to AIS.
- SF6 and SF6-free technologies are available to the market, but SF6-free is still limited.
- GIS examples at Peterhead, Alyth, Fort Augustus and in Argyll.



The 400kV GIS substation at Peterhead

Substation Technology

What is AIS and GIS?



275kV GIS substation at Alyth (currently being upgraded to 400kV)



400/132kV substation at Fort Augustus which has a mixture of AIS and GIS technologies

Technology choice / AIS vs GIS

SSEN Transmission uses two types of substation technology: Air Insulated Switchgear (AIS) and Gas Insulated Switchgear (GIS).

- **AIS is the starting point when selecting a site.** Site selection begins by looking for a site large enough to accommodate AIS and meet technical, environmental and planning requirements. Any site suitable for AIS would also be large enough for GIS.
- If no suitable AIS site can be found, GIS may be considered, **particularly in more constrained or exposed locations, such as coastal areas**, where equipment may need additional protection within buildings.
- While GIS generally requires less space than AIS, some AIS equipment is still needed within GIS substations, and other key equipment, such as transformers, remain the same size. As a result, the **overall difference in site size is often less significant than might be expected**, especially with 400kV substations (such as Bingally).
- Once technically suitable sites have been identified, the preferred site is selected by **balancing environmental, planning, technical and cost considerations** and GIS is most commonly used where site constraints or environmental conditions make it the more suitable option than AIS.



Why AIS at Bingally?

For the Bingally substation, a comparison between AIS and GIS technologies was conducted by the project team during the site selection stages. The comparison had a balanced consideration of several factors, including site conditions, environmental effects, visual impact, operational requirements and overall network efficiency.

At Bingally, there are no engineering or operational requirements for a GIS solution.

For example: The highest operational weighting in this selection decision comes from coastal proximity and site wind speed. In the former case, this is due to the impact of corrosion from the saline sea air on the outdoor equipment, and in the latter because higher wind speeds can cause outdoor equipment within the substation to fail to operate, thus restricting the function of the network. In the case of the Bingally substation location taken through planning, it is neither coastal, nor subject to winds above the threshold that would place the substation equipment indoors. As such, the project team proceeded with an AIS substation design.

Conclusion:

The starting point for site selection at Bingally (as per all of our substations) was AIS, and there were no identified engineering or operational requirements for a GIS solution.

Footprint savings from GIS would have been limited and by contrast, a GIS solution would have required larger and taller buildings, adding to the visual impact of the development in this landscape. Taking all factors together, AIS was identified as the most appropriate solution for the consented site.

Fire Safety: AIS does not add fire risk at Bingally

The same fire-safety controls apply whether the substation uses AIS or GIS.

BUILT-IN SAFEGUARDS

01 Contain

Oil-containing equipment sits within a bund, restricting the spread of oil or fire.

02 Separate

No equipment that can catch fire is installed within the required safety radius.

03 Maintain clear space

Clear areas inside and outside the fence prevent fire spreading into or out of the substation.

These measures are sufficient, where they can be implemented, to bring the risk of fire to what we term As Low As Reasonably Practicable (ALARP), which is a foundational concept within the Construction (Design and Management) 2015 regulations.

The measures outlined here can be implemented without constraint at Bingally substation and would be **identical in principle** even with a GIS (or other indoor) option.

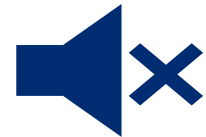
Additional slide based on recent email request on behalf of CLG members .

Questions from the Community



Is AIS any less safe than GIS?

No, an AIS substation is not inherently less safe compared with a GIS substation. Both technologies are designed to meet the same electrical safety standards and can be operated safely when properly designed, maintained, and managed.



Is GIS known to be quieter?

The main continuous noise source from substations are typically transformers. Transformers are not typically located within buildings so whether the substation was AIS or GIS would have no bearing on any noise emitted from transformers. Switchgear, whilst much less audible in general, may be considered quieter with GIS due to being housed within a building.



Is AIS more visible?

If by footprint, then yes. In an AIS substation the primary electrical equipment is insulated by air which means components must be physically separated by large clearance distances. In a GIS substation, most high-voltage equipment is insulated by gas, which reduces the overall substation footprint. However, GIS for Bingally would have had a limited saving on footprint and would have required larger and taller buildings, adding to the visual impact of the development in this landscape.



Does GIS take less time to construct?

GIS tends to be around the same timescales as AIS overall. The platform footprint for AIS is larger and takes longer to build, however GIS buildings take a long time to build as well and the commissioning period for GIS is much longer than AIS.

Noise and screening considerations



Through Design

During design, noise impacts were mitigated primarily through site selection, distance from nearby properties, and detailed noise modelling to ensure operational noise levels would not exceed existing background levels at sensitive receptors. Visual screening was addressed through a Landscape and Habitat Management Plan including native woodland planting, Scots pine woodland, peatland restoration and heathland restoration around the substation and access route to help integrate the development into the surrounding landscape and reduce visual effects.

The key mitigation measures embedded in the design are:

- Selection of a site with **substantial separation from residential properties** with the closest identified property to the substation approximately 1.6 km away.
- A design that is in compliance with agreed Environmental Health criteria, including low-frequency noise assessment and BS4142 industrial noise assessment.
- Construction controls including restricted working hours and application of Best Practicable Means to minimise construction noise.

Noise mitigation proposed during design

- The Environmental Appraisal concluded that operational noise from the substation would not exceed the existing background noise levels at the nearest receptors. Baseline monitoring was undertaken at nearby properties, and the substation design was modelled against those baseline conditions.

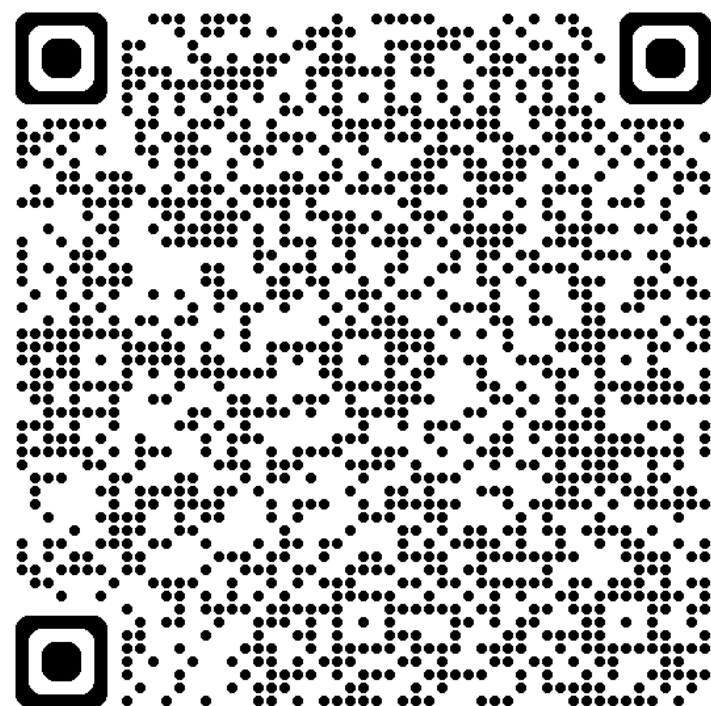
Consenting process

- Pre-application consultation was undertaken with THC. This identified the assessment required to support the planning application including the need for a noise impact assessment.
- THC Environmental Health were consulted as part of the planning application process and did not object to the planning application. Planning conditions were requested and have been applied to the permission in order to ensure no adverse effects relating to noise occur.

Read more:

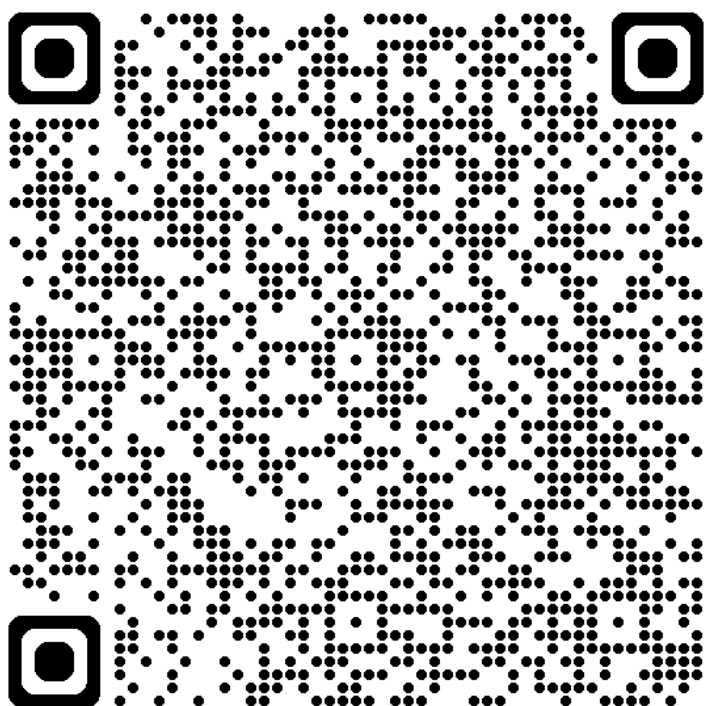
Visual Screening

Chapter 7 ‘Visual Impact ’ from
our Environmental Appraisal:



Noise

Chapter 15 ‘Noise’ from our
Environmental Appraisal:



Car Park Ownership

Discussion with community re how to
progress/who owns what

