

## **Appendix A.8.24**

### **Badger Sett Mitigation During Construction**

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## Badger Sett Mitigation During Construction

The mitigation measures during construction that relate to each of the Badger setts that lie within the Zone of Influence of the proposed road development are presented below in **Table 1**. This presents more detail on the construction mitigation strategy that is outlined in **Section 8.6.7.3.1** of **Chapter 8, Biodiversity**.

The mitigation measures to protect Badgers from the habitat severance, barrier effect and mortality risk impacts during operation of the proposed road development are described in **Section 8.6.7.3.2** of **Chapter 8, Biodiversity**. These measures relate to the provision of mammal passage facilities and mammal resistant fencing as listed shown on **Figures 8.23.1** to **8.23.14**.

This table should be read in conjunction with the set of mitigation drawings (**Figures 8.23.1** to **8.23.14**), which show the location of each of these setts relative to the proposed road development and illustrate the various distance bands discussed in **Table 1**.

**Table 1: Badger sett mitigation**

Ref. No.	Mitigation measures for Badger setts
S2	<p><b>c.90m from proposed development boundary</b></p> <p><b>Potential Main Sett – Active</b></p> <p>Pre-construction check of sett to establish current activity status within 12 months of any constructions works commencing.</p> <p>If active, any blasting or pile driving works within 150m of the sett during the breeding season (December to June inclusive) will only be carried out with the approval of and, if required, under the supervision of a badger specialist.</p>
S3	<p><b>&lt;5m from proposed development boundary</b></p> <p><b>Main Sett - Active</b></p> <p>Pre-construction check of sett to establish current activity status within 12 months of any constructions works commencing.</p> <p>No heavy machinery shall be used within 30m of Badger setts at any time (unless carried out under licence). Lighter machinery (generally wheeled vehicles) shall not be used within 20m of a sett entrance. No works shall be undertaken within 50m of active setts during the breeding season. Neither blasting nor pile driving shall be undertaken within 150m of active setts during the breeding season (December to June inclusive).</p> <p>Non-interference zone of 30m (outside of breeding season – July to November inclusive) or 50m (if the sett is active during the breeding season - December to June inclusive) to be established as appropriate using temporary fencing. The fencing shall be as noted in <b>Chapter 7, Construction Activities</b> and of a sufficient durability to maintain the exclusion zone throughout the construction period or, if required, until such time as the sett in question is excluded/removed.</p> <p>Works within the 30m/50m/150m distance bands will only be carried out with the approval of and, if required, under the supervision of a badger specialist. Works within 50m of the sett will only be carried out during daylight hours so as not to disturb foraging Badgers; unless otherwise agreed with a badger specialist.</p>
S4	<p><b>c.85m from proposed development boundary</b></p>

Ref. No.	Mitigation measures for Badger setts
	<p><b>Annex Sett – Active</b></p> <p>Pre-construction check of sett to establish current activity status within 12 months of any constructions works commencing.</p> <p>If active, any blasting or pile driving works within 150m of the sett during the breeding season (December to June inclusive) will only be carried out with the approval of and, if required, under the supervision of a badger specialist.</p>
S8	<p><b>c.55m from proposed development boundary</b></p> <p><b>Main Sett – Active</b></p> <p>Pre-construction check of sett to establish current activity status within 12 months of any constructions works commencing.</p> <p>If active, any blasting or pile driving works within 150m of the sett during the breeding season (December to June inclusive) will only be carried out with the approval of and, if required, under the supervision of a badger specialist.</p>
S9	<p><b>Within proposed development boundary</b></p> <p><b>Probable Main Sett – Active</b></p> <p>Pre-construction check of sett to establish current activity status within 12 months of any constructions works commencing.</p> <p>The sett will require removal and an artificial sett will be required. Refer to <b>Figure 8.23.8</b></p> <p>Prior to exclusion of the existing sett, a non-interference zone of 30m will be established using temporary fencing at the outset of works (accompanied by appropriate signage); if the sett is active, non-interference zone will be extended to 50m during the breeding season (December to June inclusive). The fencing shall be as noted in <b>Chapter 7, Construction Activities</b> and of a sufficient durability to maintain the exclusion zone throughout the construction period or, if required, until such time as the sett in question is excluded/removed.</p> <p>No heavy machinery shall be used within 30m of Badger setts at any time. Lighter machinery (generally wheeled vehicles) shall not be used within 20m of a sett entrance. No works shall be under taken within 50m of active setts during the breeding season. Neither blasting nor pile driving shall be undertaken within 150m of active setts during the breeding season (December to June inclusive).</p> <p>Works within the 30m/50m/150m distance bands will only be carried out with the approval of and, if required, under the supervision of a badger specialist. Works within 50m of the sett will only be carried out during daylight hours so as not to disturb foraging Badgers; unless otherwise agreed with a badger specialist.</p> <p>The artificial sett will be in place six months in advance of the exclusion and removal of the existing sett. The artificial sett will be designed in accordance with the design principles described in Highways Agency (2001b) and in Scottish Natural Heritage’s guidance document available at <a href="http://www.snh.gov.uk/docs/B962140.pdf">http://www.snh.gov.uk/docs/B962140.pdf</a>.</p> <p>Consideration will be given to materials used, direction of sett entrances, air flow through the sett, landscaping, long-term protection, drainage and flooding. Chambers will be constructed using a palisade-wall of wooden stakes, with an open bare earth floor and a ceiling of 2” marine ply covered with roofing felt to divert drainage through the soil. Passage ways will be constructed using the same materials or alternatively, using 300mm wide Wavin pipes which are cut on-site to provide natural shapes and joints. Pea gravel will be poured around joints to ensure that water drains away.</p> <p>The sett exclusion and removal will be undertaken in accordance with the methodology detailed in the <i>Guidelines for the Treatment of Badgers during the Construction of National Road Schemes</i> (National Roads Authority, 2006c).</p>

Ref. No.	Mitigation measures for Badger setts
	<ul style="list-style-type: none"> <li>▪ All Badger setts requiring exclusion and removal will require a monitoring period of at least five days to confirm activity status in advance of any construction works commencing</li> <li>▪ If the sett is active, then it shall not be removed within the Badger breeding season (December to June inclusive). To exclude or remove an active Badger sett outside of this period, inactive entrances shall be soft and hard-blocked with one-way gates installed on active entrances. One-way gates will be tied open for three days before being set to exclude, and then monitored for a period of at least 21 days before the sett is deemed inactive and destroyed. If at any time during the monitoring period the sett becomes active, the exclusion process/programme must commence again from day 1 of the 21-day monitoring period</li> <li>▪ For inactive setts, entrances will be soft-blocked (lightly blocked with vegetation and soil) and if all entrances remain undisturbed for a period of five days the sett should be destroyed immediately. This can be undertaken at any time of the year for inactive setts</li> </ul>
S10	<p><b>c.45m from proposed development boundary</b> <b>Subsidiary Sett - Active</b></p> <p>Pre-construction check of sett to establish current activity status within 12 months of any constructions works commencing.</p> <p>No works shall be under taken within 50m of active setts during the breeding season. Neither blasting nor pile driving shall be undertaken within 150m of active setts during the breeding season (December to June inclusive).</p> <p>Non-interference zone of 50m to be established during the breeding season (December to June inclusive) using temporary fencing, if the sett is active. The fencing shall be as noted in <b>Chapter 7, Construction Activities</b> and of a sufficient durability to maintain the exclusion zone as long as it is necessary.</p> <p>Works within the 50m/150m distance bands will only be carried out with the approval of and, if required, under the supervision of a badger specialist. Works within 50m of the sett will only be carried out during daylight hours so as not to disturb foraging Badgers; unless otherwise agreed with a badger specialist.</p>
S11	<p><b>Within proposed development boundary</b> <b>Subsidiary Sett - Active</b></p> <p>Pre-construction check of sett to establish current activity status within 12 months of any constructions works commencing.</p> <p>Non-interference zone of 30m to be established using temporary fencing at the outset of works (accompanied by appropriate signage); if the sett is active, non-interference zone extended to 50m during the breeding season (December to June inclusive). The fencing shall be as noted in <b>Chapter 7, Construction Activities</b> and of a sufficient durability to maintain the exclusion zone throughout the construction period or, if required, until such time as the sett in question is excluded/removed.</p> <p>No heavy machinery shall be used within 30m of Badger setts at any time. Lighter machinery (generally wheeled vehicles) shall not be used within 20m of a sett entrance. No works shall be under taken within 50m of active setts during the breeding season. Neither blasting nor pile driving shall be undertaken within 150m of active setts during the breeding season (December to June inclusive).</p> <p>Works within the 30m/50m/150m distance bands will only be carried out with the approval of and, if required, under the supervision of a badger specialist. Works within 50m of the sett will only be carried out during daylight hours so as not to disturb foraging Badgers; unless otherwise agreed with a badger specialist.</p>

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	<p>The sett will require exclusion and removal. This will be undertaken in accordance with the methodology detailed in the <i>Guidelines for the Treatment of Badgers during the Construction of National Road Schemes</i> (National Roads Authority, 2006c).</p> <ul style="list-style-type: none"> <li>▪ All Badger setts requiring exclusion and removal will require a monitoring period of at least five days to confirm activity status in advance of any construction works commencing</li> <li>▪ If the sett is active, then it shall not be removed within the Badger breeding season (December to June inclusive). To exclude or remove an active Badger sett outside of this period, inactive entrances shall be soft and hard-blocked with one-way gates installed on active entrances. One-way gates will be tied open for three days before being set to exclude, and then monitored for a period of at least 21 days before the sett is deemed inactive and destroyed. If at any time during the monitoring period the sett becomes active, the exclusion process/programme must commence again from day 1 of the 21-day monitoring period</li> <li>▪ For inactive setts, entrances will be soft-blocked (lightly blocked with vegetation and soil) and if all entrances remain undisturbed for a period of five days the sett should be destroyed immediately. This can be undertaken at any time of the year for inactive setts</li> </ul>
S13	<p><b>c.130m from proposed development boundary</b> <b>Subsidiary Sett - Active</b></p> <p>Pre-construction check of sett to establish current activity status within 12 months of any constructions works commencing.</p> <p>If active, any blasting or pile driving works within 150m of the sett during the breeding season (December to June inclusive) will only be carried out with the approval of and, if required, under the supervision of a badger specialist.</p>
S14	<p><b>Within proposed development boundary</b> <b>Subsidiary Sett - Active</b></p> <p>Pre-construction check of sett to establish current activity status within 12 months of any constructions works commencing.</p> <p>Non-interference zone of 30m to be established using temporary fencing at the outset of works (accompanied by appropriate signage); if the sett is active, non-interference zone extended to 50m during the breeding season (December to June inclusive). The fencing shall be as noted in <b>Chapter 7, Construction Activities</b> and of a sufficient durability to maintain the exclusion zone throughout the construction period or, if required, until such time as the sett in question is excluded/removed.</p> <p>No heavy machinery shall be used within 30m of Badger setts at any time. Lighter machinery (generally wheeled vehicles) shall not be used within 20m of a sett entrance. No works shall be under taken within 50m of active setts during the breeding season. Neither blasting nor pile driving shall be undertaken within 150m of active setts during the breeding season (December to June inclusive).</p> <p>Works within the 30m/50m/150m distance bands will only be carried out with the approval of and, if required, under the supervision of a badger specialist. Works within 50m of the sett will only be carried out during daylight hours so as not to disturb foraging Badgers; unless otherwise agreed with a badger specialist.</p> <p>The sett will require exclusion and removal. This will be undertaken in accordance with the methodology detailed in the <i>Guidelines for the Treatment of Badgers during the Construction of National Road Schemes</i> (National Roads Authority, 2006c).</p> <ul style="list-style-type: none"> <li>▪ All Badger setts requiring exclusion and removal will require a monitoring period of at least five days to confirm activity status in advance of any construction works commencing</li> </ul>

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<b>S15</b>	<p><b>c.100m from proposed development boundary</b> <b>Subsidiary Sett - Active</b></p> <p>Pre-construction check of sett to establish current activity status within 12 months of any constructions works commencing.</p> <p>If active, any blasting or pile driving works within 150m of the sett during the breeding season (December to June inclusive) will only be carried out with the approval of and, if required, under the supervision of a badger specialist.</p>
<b>S16</b>	<p><b>c.150m from proposed development boundary</b> <b>Subsidiary Sett - Active</b></p> <p>Pre-construction check of sett to establish current activity status within 12 months of any constructions works commencing.</p> <p>If active, any blasting or pile driving works within 150m of the sett during the breeding season (December to June inclusive) will only be carried out with the approval of and, if required, under the supervision of a badger specialist.</p>
<b>S17</b>	<p><b>c.52m from proposed development boundary</b> <b>Subsidiary Sett - Active</b></p> <p>Pre-construction check of sett to establish current activity status within 12 months of any constructions works commencing.</p> <p>If active, any blasting or pile driving works within 150m of the sett during the breeding season (December to June inclusive) will only be carried out with the approval of and, if required, under the supervision of a badger specialist.</p>