

Technical Appendix D –

Adaptive Management Options (AMO's)

Should monitoring indicate that mitigation measures are not as effective as expected, the local LHB colony is declining (subject to regional or national trends) or the mitigation features are degrading it is important to identify AMO's which can be implemented early to rectify issues (rectification measures). It is not possible to provide an exhaustive list as to a large degree it will depend on the specifics of the impacts/issues to be rectified. Should measures be necessary it may well be a combination AMO's that could be utilised to cover different aspects and timeframes. Not all measures will be appropriate and will depend on the specific circumstances. The following table (D1) provides a summary of the main generic AMO's available.

The Section 106 agreement, completed prior to planning permission P0663/15/OUT, identifies roles and responsibilities for 'rectification measures' principally in 1.12, 5.2, 6.3, 8.6, schedules 1 – 5 and schedule 11.

The following criteria are used:

Effectiveness timescale :

Short (S) within a year

Medium (M) 1- 5 years

Long (L) 5 + years

Temporary (T) 0-5years expected life span

Permeant (P) 5 years + expected life span

Table D1

Adaptive management option (AMO)	Feature relevance				Effectiveness timescale	Tem / Perm	Key delivery partners
	Road	Habitat	Roosts	Flightlines			
Defensive planting Planting with species such as Blackthorn, Holly, Gorse, Hawthorn etc to create thick 'uncomfortable environments' to deter disturbance by people.		✓	✓	✓	M-L	P	HCA / Developers FoDDC GCC FC
Security fencing Install security fencing around roost sites			✓		S-L	P	HCA / Developers FoDDC FC
Additional planting Undertake additional shrub and tree planting to maintain connectivity or habitat. Depending on the size of the planting material, from whips to heavy standards, effectiveness can range from short to long term	✓	✓	✓	✓	S-L	P	HCA / Developers FoDDC GCC FC
Dissuasive lighting Illuminate areas to make them less attractive to LHB and therefore alter flightlines to safe or more beneficial areas.	✓			✓	S-M	T/P	HCA / Developers GCC FoDDC
Lighting Control Negotiate changes to lighting such as duration, location and extent and/or installation of lighting barriers such as planting and fencing to control light spill	✓	✓	✓	✓	S-L	T/P	HCA / Developers FoDDC GCC FC
Vegetation clearance / management Undertake vegetation clearance to make areas less / more attractive to LHB, there by improving flightlines or alter flightlines to safe or more beneficial areas.	✓	✓		✓	S	T/P	HCA / Developers FoDDC GCC FC

Adaptive management option (AMO)	Feature relevance				Effectiveness timescale	Tem / Perm	Key delivery partners
	Road	Habitat	Roosts	Flightlines			
Flightline barrier fencing Install temporary or permanent barriers such as brash lines / chestnut pailing / close boarded fencing to maintain / create new flightline connectivity.	✓		✓	✓	S-L	T/P	HCA / Developers FoDDC GCC FC
Disturbance barrier fencing Creation of barriers by fencing / brash / tree felling to alter informal recreation routes away from more sensitive areas	✓	✓	✓	✓	S	T/P	HCA / Developers FoDDC GCC FC
Adaptive entrances Potential for disturbance or predation to affect roost sites. Potential to create additional roost entrances or provide extended covered entrances			✓		S-L	P	HCA / Developers FoDDC FC
Disturbance to bat 'underpass' locations Disturbance cause by people 'hanging around' in underpass location at night. Alter ground conditions to make environment un-attractive such wet or muddy	✓			✓	S-M	T/P	HCA / Developers FoDDC GCC
Signage and interpretation Information on site and provided to local communities explain the importance of the area for bats and any identified sensitivities		✓	✓	✓	S-M	T/P	HCA / Developers FoDDC Other Forum
Investigative Survey Detailed survey and assessment to identify the functionality or un-functionality of an area /feature for bats	✓	✓	✓	✓	S	T	HCA / Developers FoDDC GCC FC