

**APPENDIX VI**

**Typical bridge roost sites**

**Figure 1: Roost sites in stone bridges**

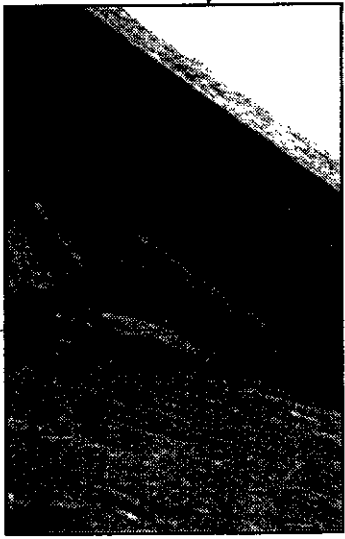
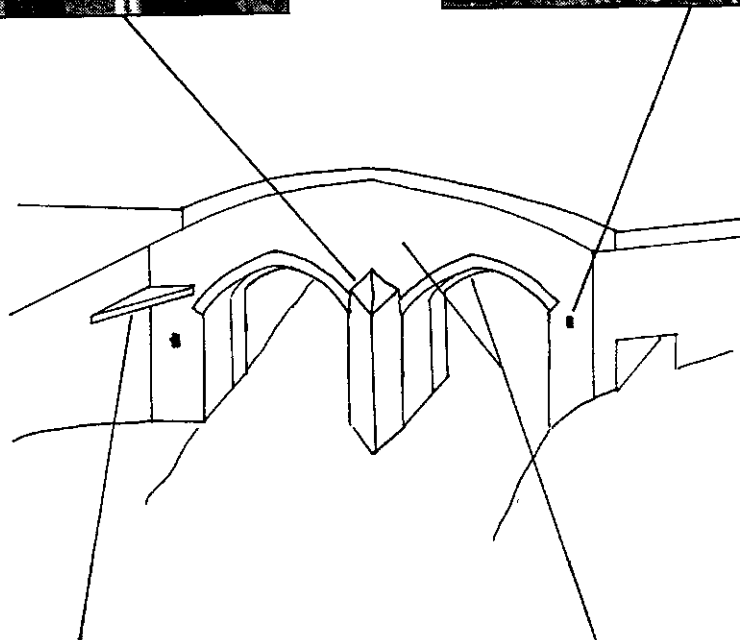
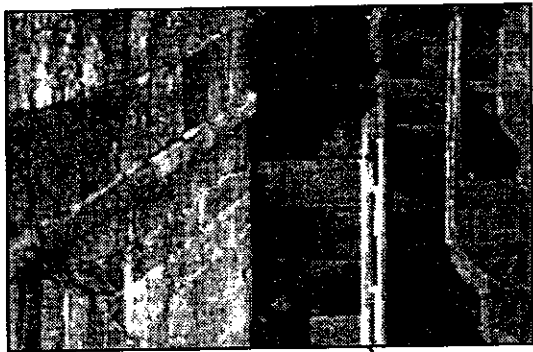
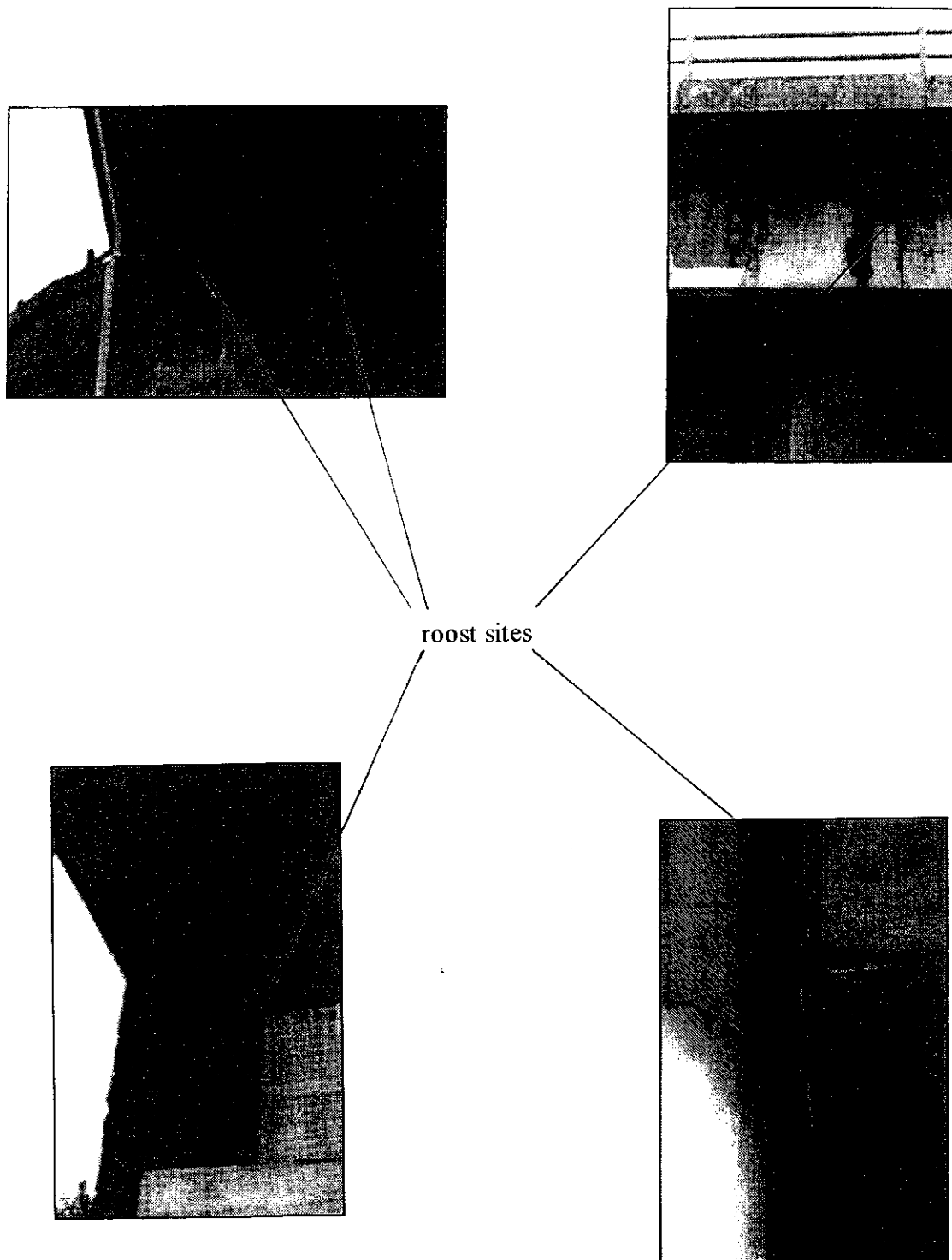


Figure 2: Roost sites in concrete bridges



## APPENDIX VII

### Diagrams of artificial roosts and conservation techniques

Figure 1: Bat roost crevice created during Cambeck Footbridge construction (horizontal section through abutment)

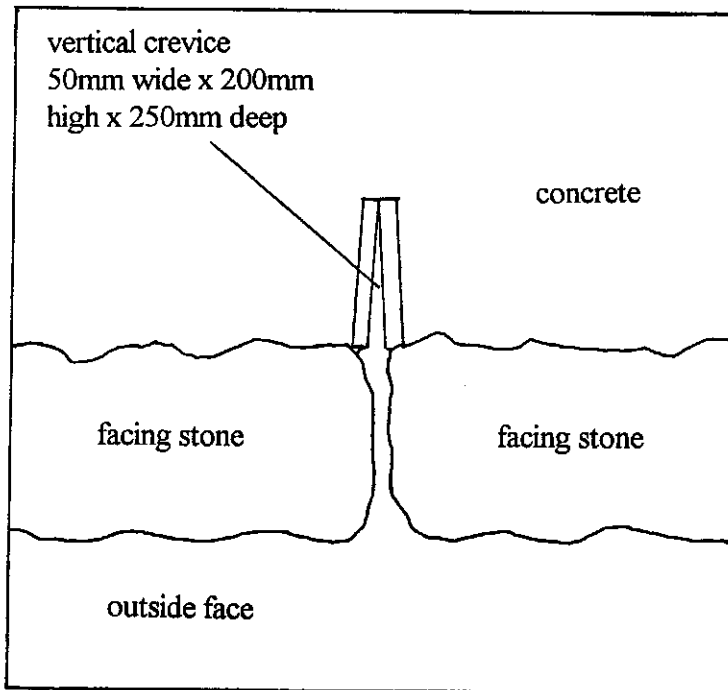
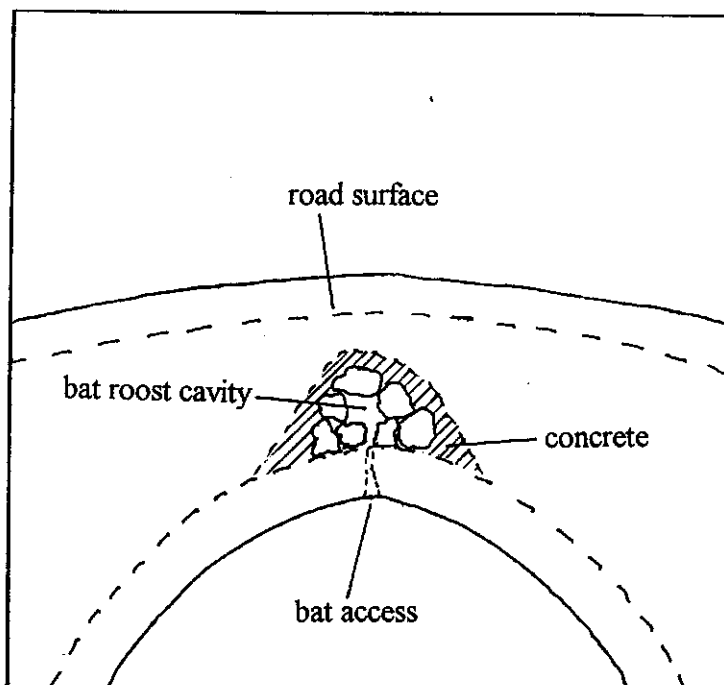
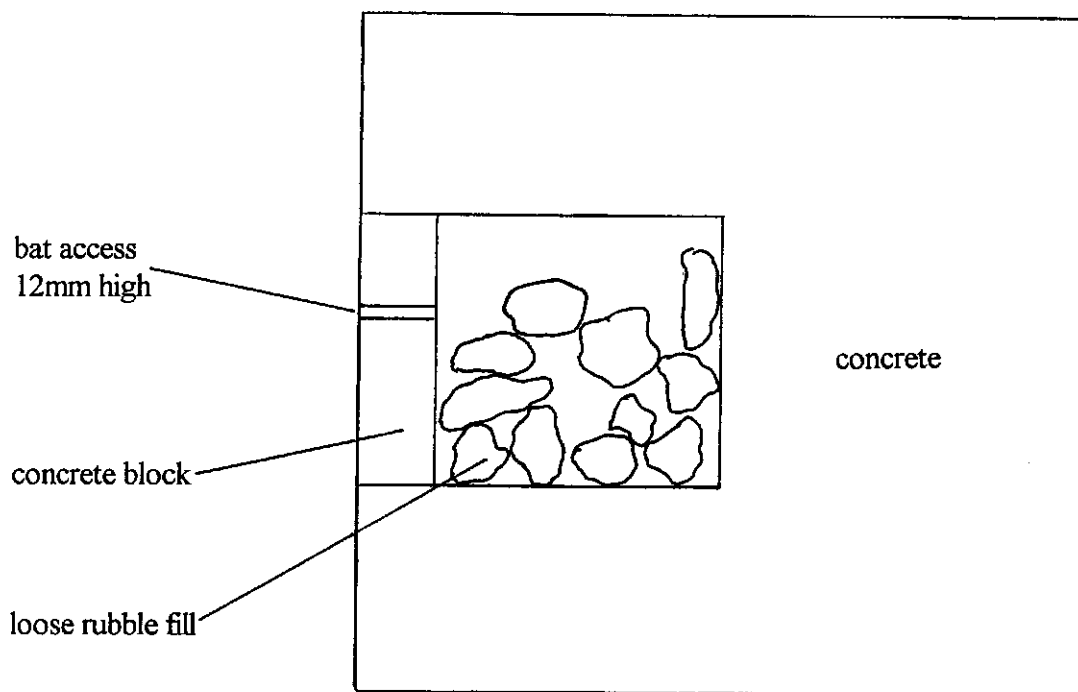


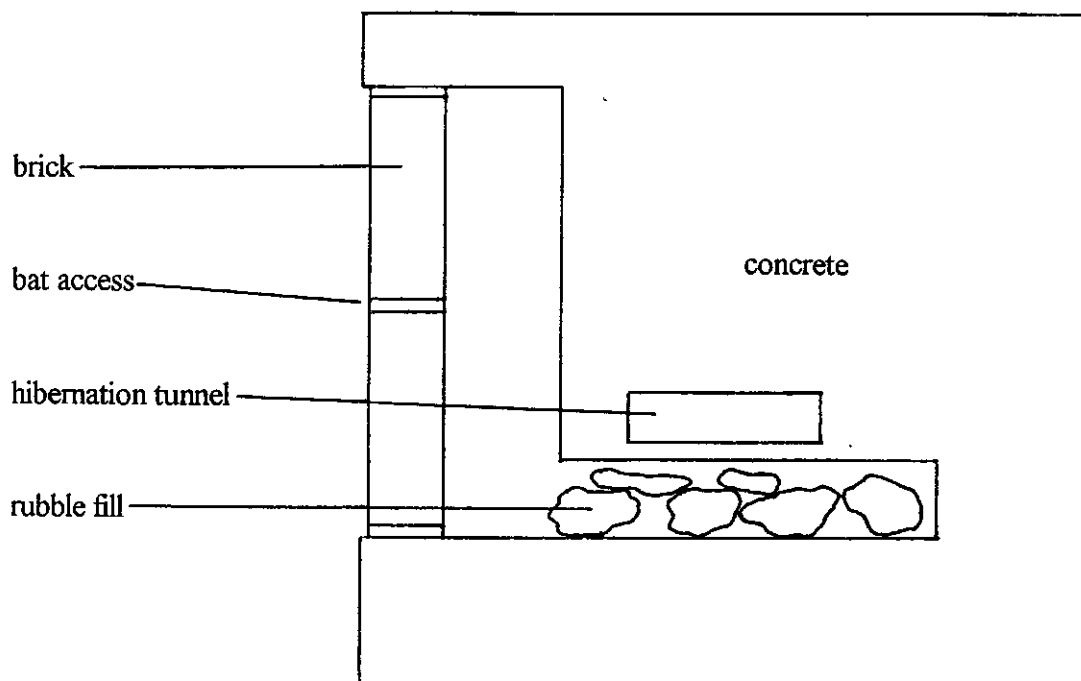
Figure 2: Details of bat roost cavity created at Garsdale Church Bridge during saddling works (designed by Billington and Donnison)



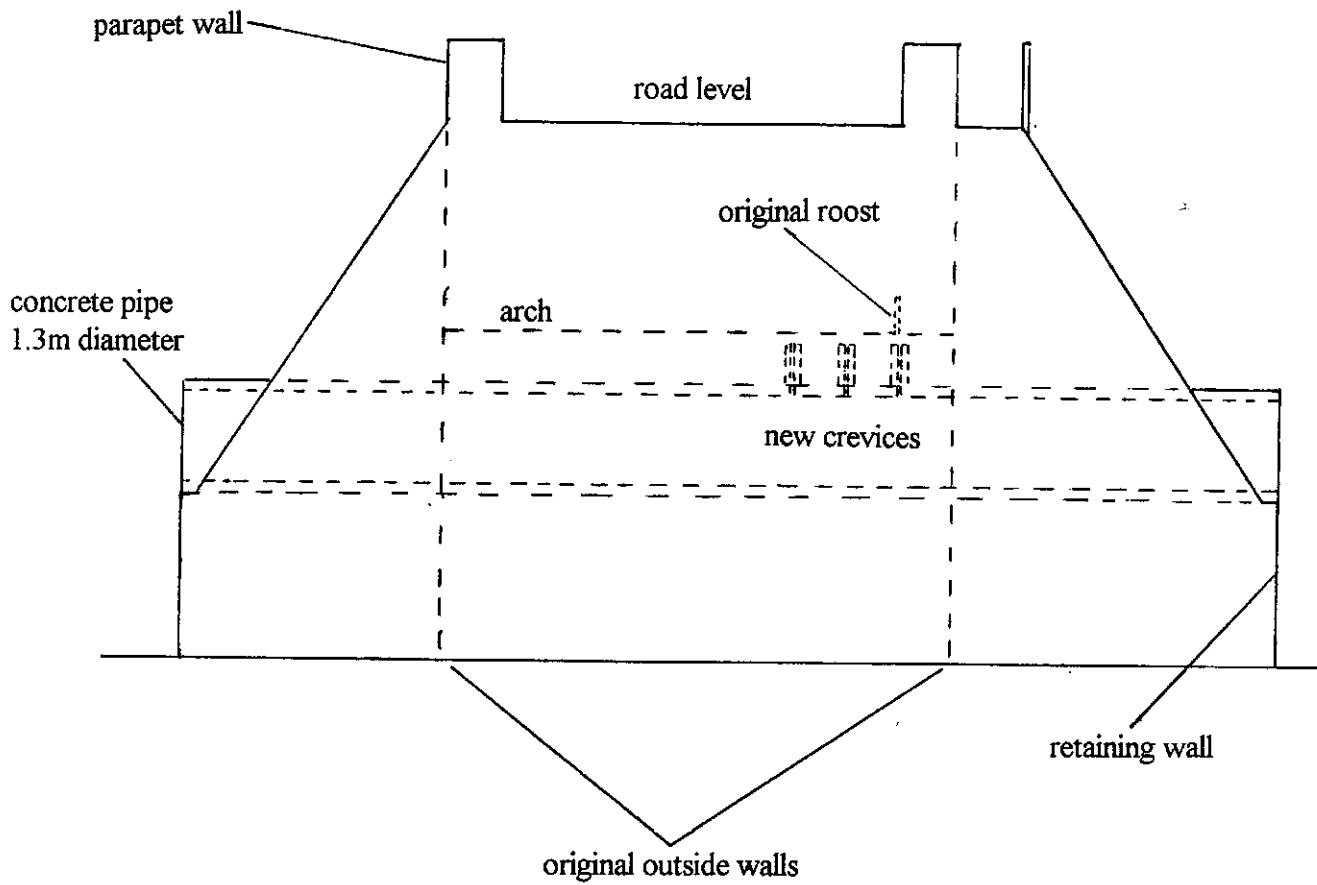
**Figure 3: Vertical section of bat roost built into a Forest Enterprise bridge abutment (taken from Whittaker, unpub.)**



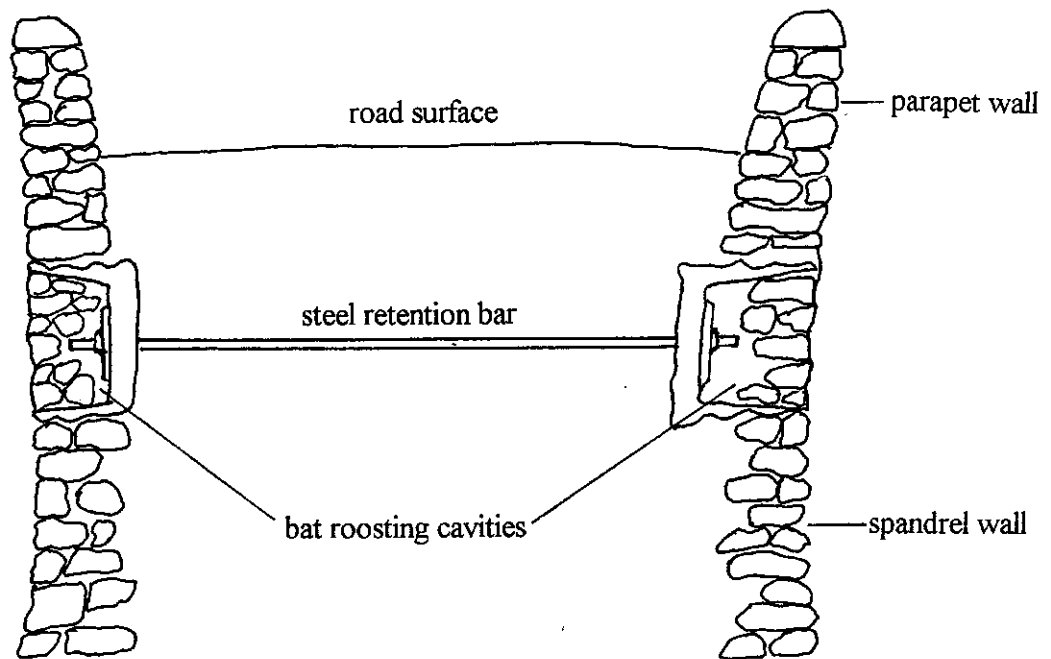
**Figure 4: Design modification of Figure 3 (taken from Whittaker, unpub.)**



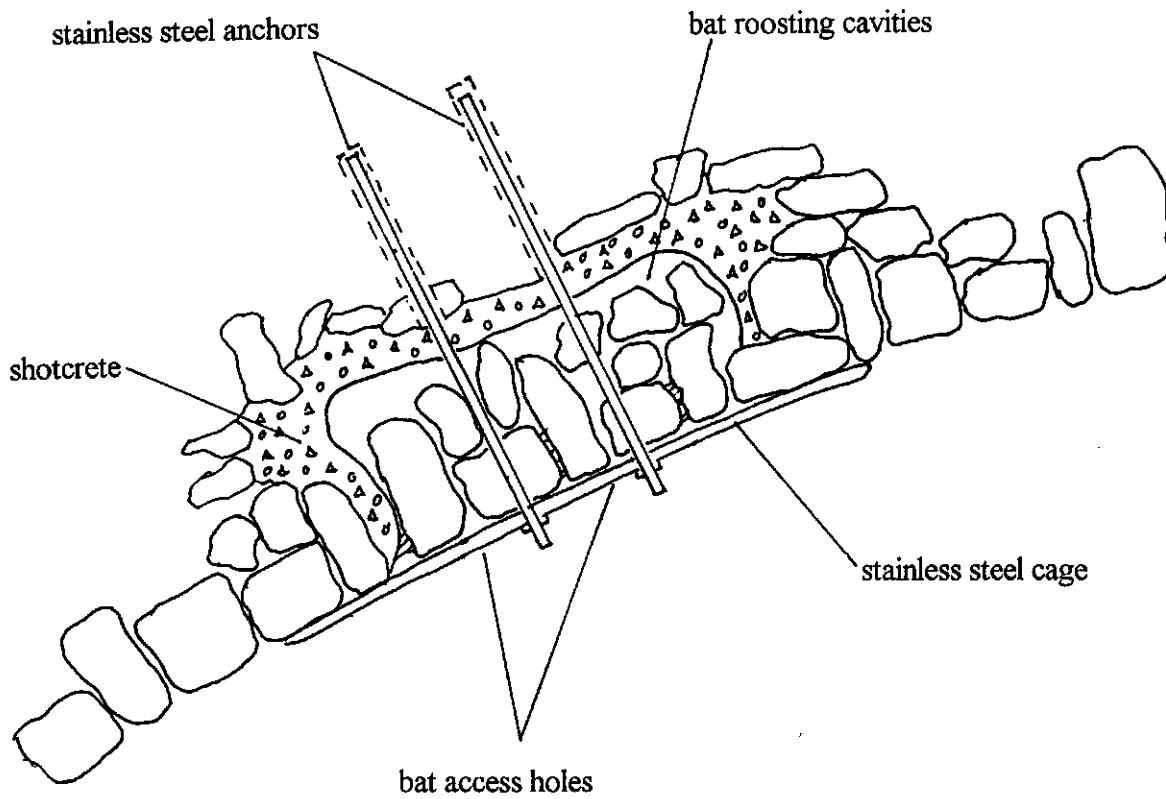
**Figure 5: Vertical cross-section of Kirkby Stephen Station/Croglin Bridge infilling showing bat flight tube and replacement roosting crevices**



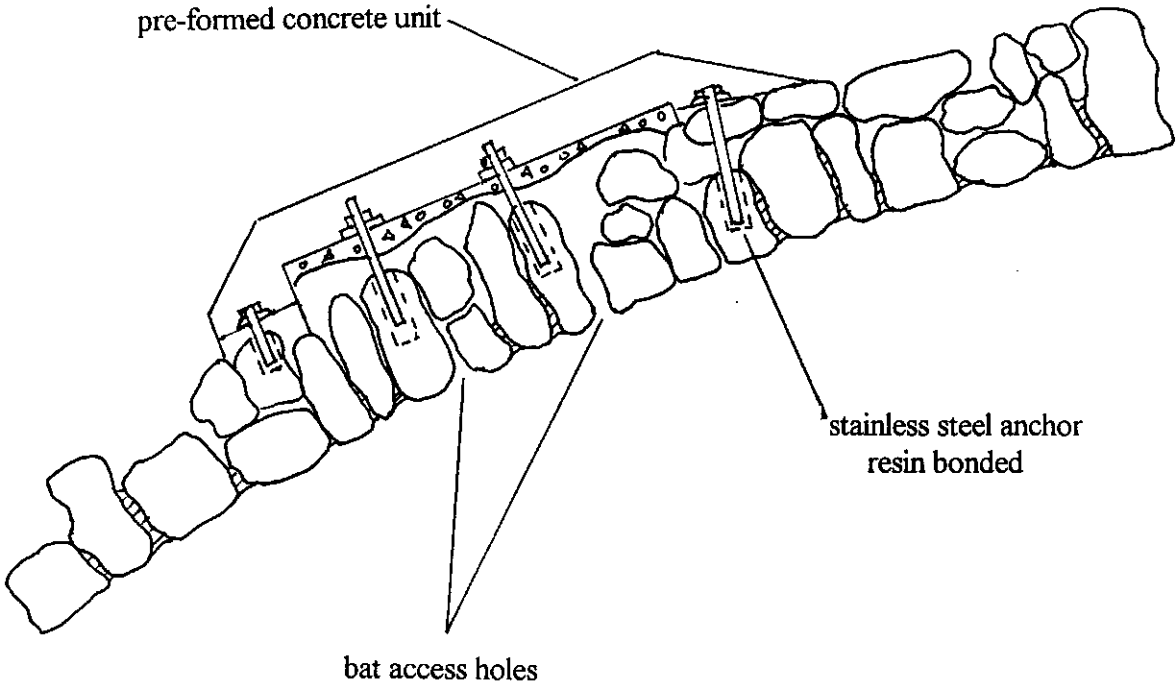
**Figure 6: Vertical cross-section of bat roosting cavities created during spandrel wall retention works (taken from Turner, 1995).**



**Figure 7: Vertical cross-section of bat roosting cavities constructed by excavating into the underside of the archway (taken from Turner, 1995)**



**Figure 8: Details of pre-formed roost unit fitted over arch stones during saddling works (taken from Turner, 1995).**





## **APPENDIX VIII**

### **Comment on The Conservation of Bats in Bridges Project and bridge roost conservation from Cumbria County Council**

Cumbria County Council, in line with its commitment to caring for the environment made a financial contribution to this survey organised by English Nature and allowed the two nominated inspectors free access, for non-destructive inspection, to all Council owned structures on the highway network.

The Council has a duty under The Wildlife and Countryside Act 1981 to protect wildlife and its habitat, where that does not conflict with the Councils obligation to maintain a safe highway network.

To furthering both of these, sometimes conflicting, requirements a number of approaches have been adopted by the Council with the approval of English Nature, these include measures such as early erection of scaffolding to enable survey work and exclusion of bats temporarily by sheeting of the scaffolding to prevent bats returning. As a cheaper alternative to sheeting the scaffold, packing the roost entrances with newspaper has proved very effective on recent contracts. See Appendix VII for details of artificial roosts and conservation techniques.

The Council policy is to protect existing roost sites and to provide suitable roost sites in new bridges, where this can be done without prejudice to the structural integrity of the structure and at reasonable additional cost.

## **APPENDIX IX**

### **Contact addresses for artificial roost suppliers**

c/o Andrew Mcleish (Shwegler bat boxes)  
1 Leigh Manor, Minsterley, Shropshire. SY5 ODS  
Tel. 01743 891660

G. Billington (concrete bat boxes)  
Greena, North Stainmore, Kirkby Stephen, Cumbria. CA17 4EA  
Tel. 017683 41027

Marshalls Clay Products (bat access bricks and bat roost bricks)  
Quarry Lane, Howley Park, Woodkirk, Dewsbury, West Yorkshire. WF12 7JJ  
Tel. 01132 203536

Norfolk Bat Group (Bat-zzz-brick)  
The Barn Cottage, Wheelers Lane, Seething, Norfolk. NR15 1EJ