HOLDEN CONSERVATION LTD

Natural History Museum

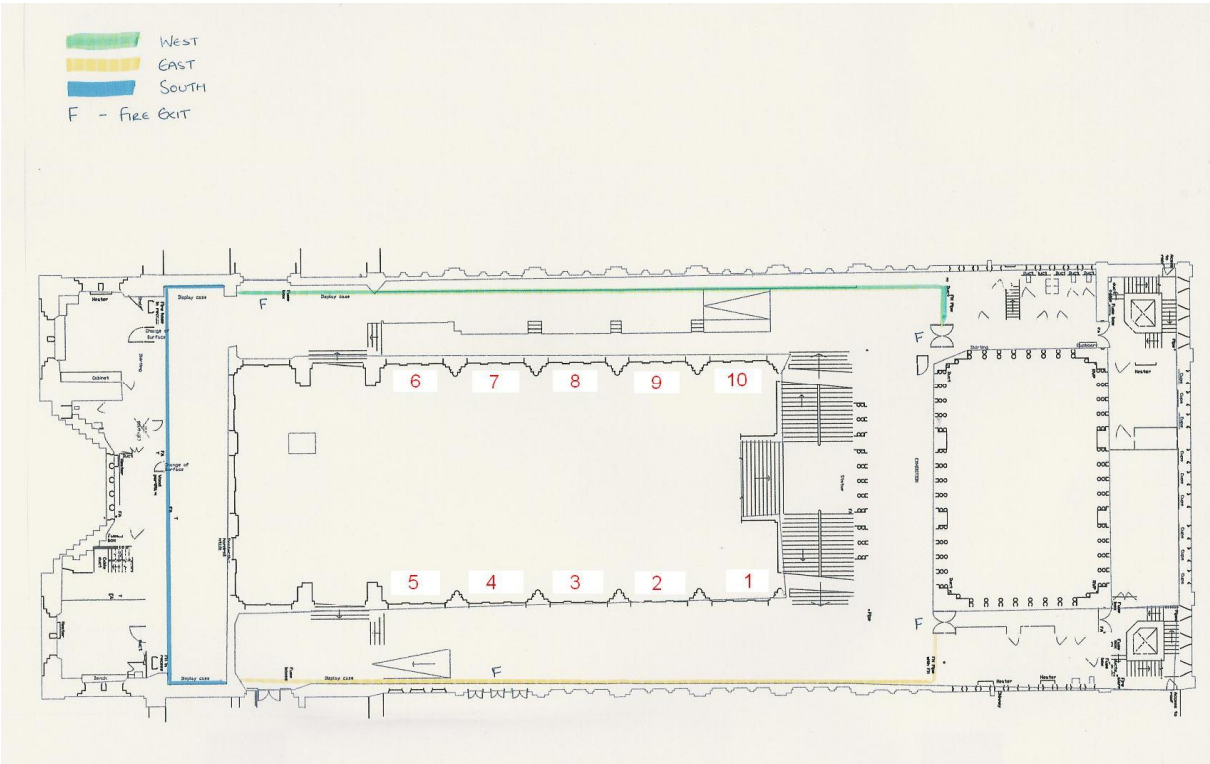
Terracotta Walls

Central Hall, Wonder Bays

by
Holden Conservation Ltd.
6 Warple Mews
Warple Way
London
W3 0RF

October 2010

Plan of Areas Treated – Wonder Bays



Terracotta bays before conservation treatment



Bay 1



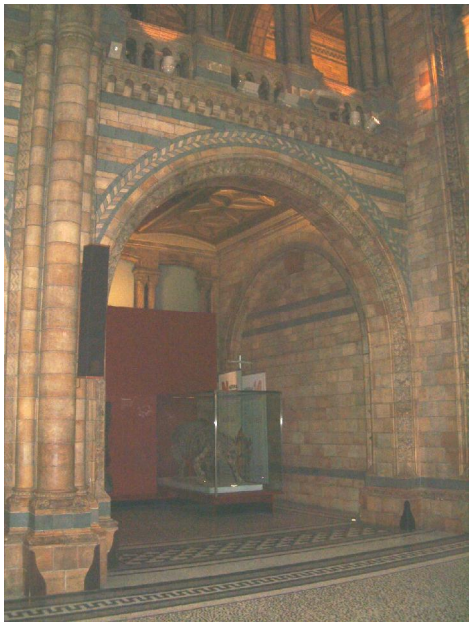
Bay 2



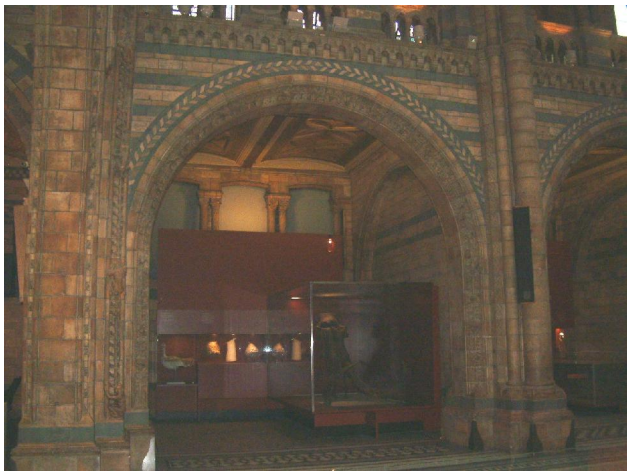
Bay 3



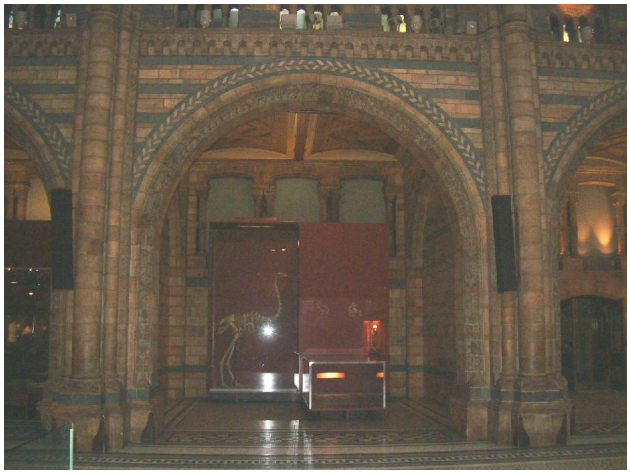
Bay 4



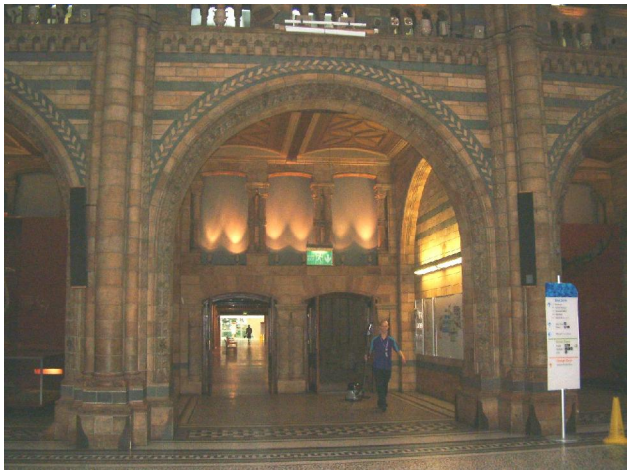
Bay 5



Bay 6



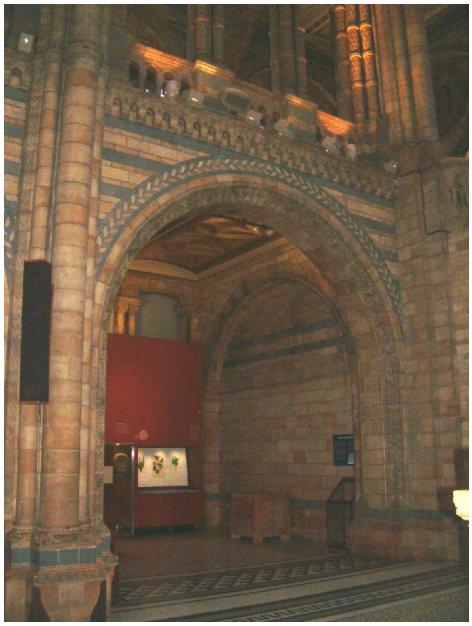
Bay 7



Bay 8



Bay 9



Bay 10

Conservation Treatment

Cleaning

All the terracotta was cleaned with a bristle brush and vacuum cleaner to remove the loose dust. This ensured the Arte Mundit, type 2 adhered well to the surface of the terracotta, allowing the poultice to work.

Arte Mundit, type 2 was brushed onto the terracotta to a thickness of 3mm with bristle brushes.

After 24 hours the latex film was peeled off the terracotta by hand and the excess dirt cleaned off the terracotta with the use of bristle brushes, sponges and water.

Repairs

It was decided that the oldest and possibly original fixings and fixing positions should be left in situ. Therefore only the more recent fixings were removed and repairs undertaken.

The plastic and wood plugs were removed with the use of a drill and the holes filled with a hydraulic lime mortar.

The larger repairs were back-filled with a hydraulic lime backing mortar, made up of 3 parts sharp sand to 1 part St Astier hydraulic lime NHL 3.5.

A top layer of hydraulic lime mortar, to match the basic colour of the terracotta, was then applied to the repairs.

The small repairs were also filled with the same mortar.

The mortar used was;
1 part – St Astier hydraulic lime NHL 3.5
1 part – building sand
1 part - silver sand
1 part – Bath stone dust (sieved to 300µm)
¼ part – brick dust (sieved to 300µm)
¼ part – slate stone dust

The repairs were then toned with acrylic paints to match the pointing and terracotta.

Casts

The five missing bird heads from within the cleaned areas of the Wonder bays were replaced with cement mortar casts.

A silicone putty press mould was taken of each different bird head from the complete figures within the original terracotta.

Cement mortar casts was made of the bird heads. This specific mortar mix was used to ensure the best strength, colour and detail was obtained in the mortar from the casting process.

The mortar mix used was; 1 part – white cement
1 part - building sand (sieved to 300µm)
1 part – silver sand (sieved to 300µm)
½ part – Bath stone dust (sieved to 300µm)
¼ part – brick dust (sieved to 300µm)
¼ part – grey cement



The cement cast, having been released from its silicone putty mould.

Each cast head was sanded to ensure the best possible fit to the original terracotta body.



A missing bird head prior to conservation.



The terracotta body and the mortar head were both drilled to enable a 4mm threaded stainless steel pin to be used as a dowel to fix the cast to the terracotta.



Each cast head was attached to its terracotta body with a 4mm threaded stainless steel pin and polyester resin.



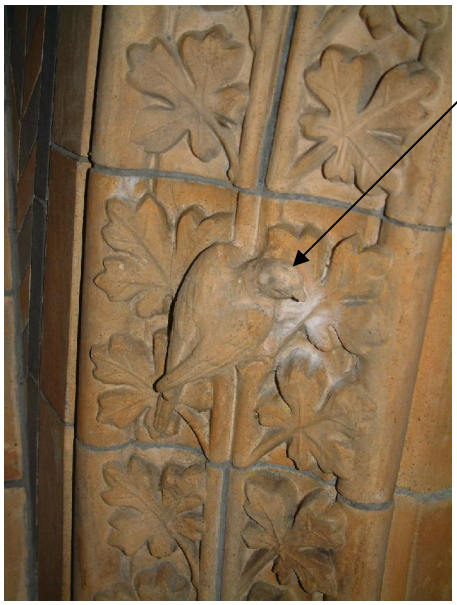
The joint was then filled with the hydraulic lime mortar to match the terracotta.



The cement mortar cast head attached to the terracotta body, the joint between the cast and original terracotta having been filled with hydraulic lime mortar to match the terracotta.

The mortar was then toned with acrylic paints to match the terracotta.

Terracotta after conservation treatment



Another replaced bird's head having been toned to match the terracotta.



Bay 9 after cleaning.