

DIOCESAN ADVISORY COMMITTEE

SCHEDULE OF DOCUMENTS

1. **Summary Report for Cleaning Trials for Reredos - including cleaning proposal** (Holy Trinity Church Bengo, Reredos Cleaning Faculty .docx)

TO THE CHANCELLOR OF
THE DIOCESE OF ST ALBANS

26/05/2023

VIEWED by the St Albans Diocesan
Advisory Committee

Holy Trinity Church, Bengo

Summary Report for Cleaning Trials

Introduction

Cleaning trials were carried out on February 4th 2023, to the stone and terracotta detailing of the reredos, to establish the safest methods and materials for cleaning and rinsing. The reredos possibly dates from the dedication of the church in 1855; aside from previous intervention of pointing and mastic repairs it is likely that, owing to the nature of the dirt and patinas, the reredos may not have previously been cleaned. **(Figure 1).**

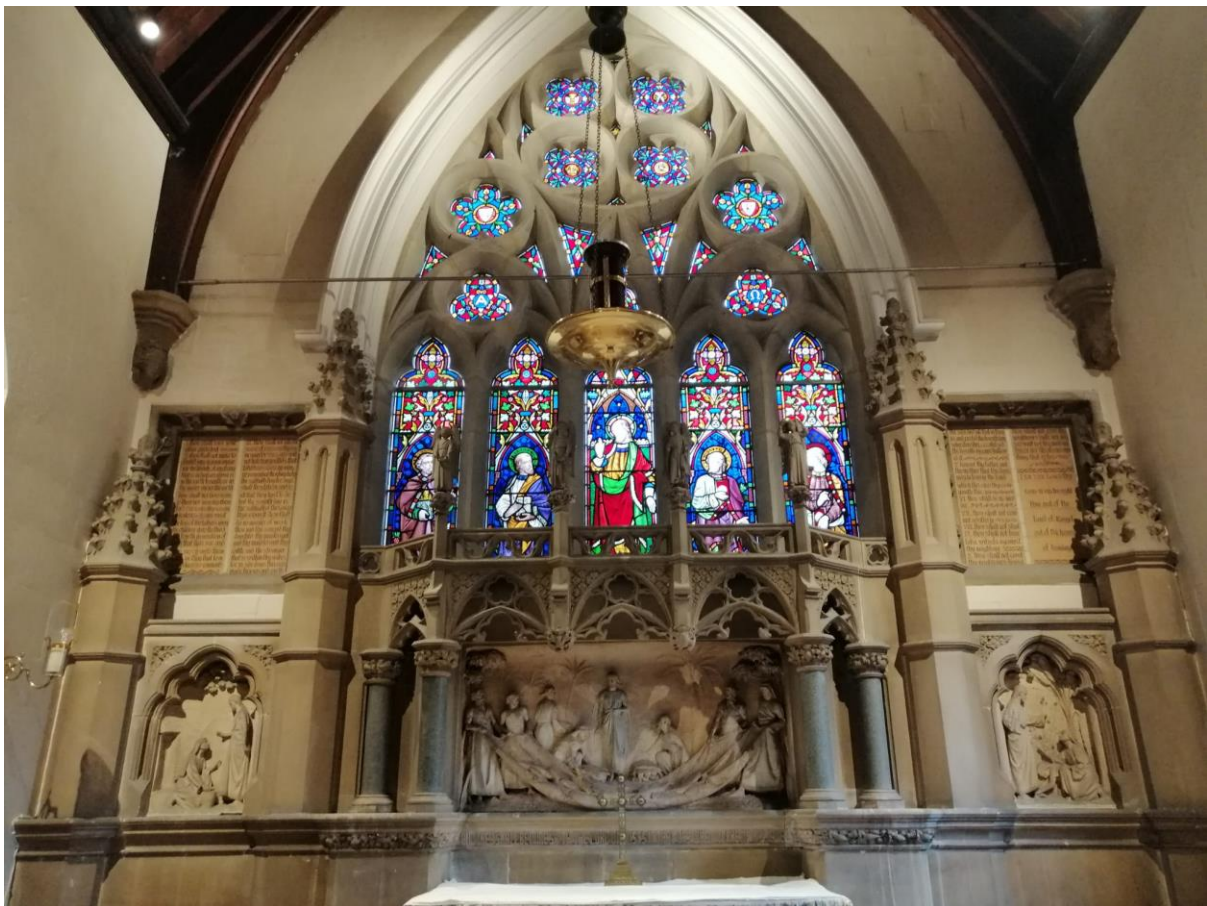


Figure 1. General frontal view of the chancel reredos.

Observations

- Vertical run-off lines of accumulated condensation moisture is present upon much of the lower dado level ashlar masonry detailing through absorption of the low acidity moisture. These lines are pitted due to the acidity, which also increases the porosity and partial dirt migration into the stone by dissolution of carbonates. **(Figures 2 & 3).** After cleaning, these

lighter lines may be patinated with dilute casein/mineral pigment distemper to match surrounding patinas.

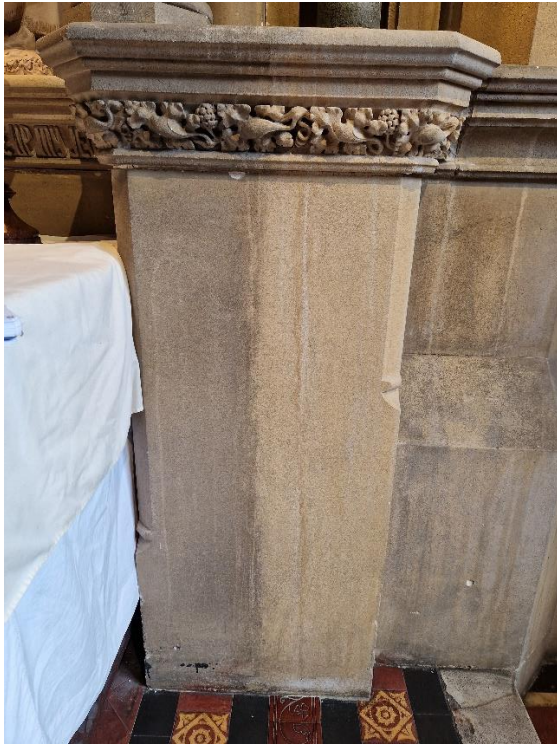


Figure 2. Cleaned right side of base.



Figure 3. Condensation run-off pitted corrosion.

• The Purbeck Marble shafts have slight pitted corrosion which reduces the original high lustre polish. The softer micro-calcite binder between the harder crystalline mineral inclusions tend to precipitate from the pore spaces, due to the ambient surface condensation moisture deposits. (**Figure 4**).



Figure 4. Surface pitting to shafts.

A Renaissance wax was applied after cleaning to restore the lustre and colour, whilst providing future condensation protection. **(Figures 5 & 6).**



Figure 5. Renaissance wax sheen detail.



Figure 6. Lustre upon buffed shaft.

- The right-side terracotta relief panel has losses to the hand of Christ and thumb of the kneeling figure. **(Figure 7).**
- The left side panel has digits of both Christ and Kneeling figure missing. **(Figure 8).**

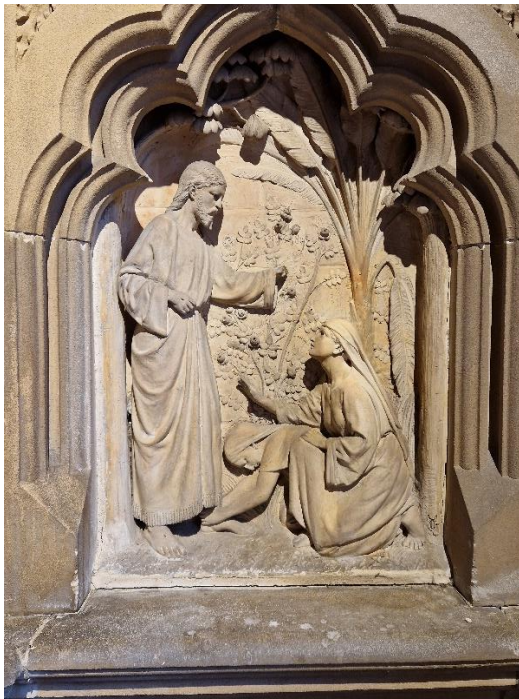


Figure 7. Right side panel.



Figure 8. Left side panel.

- The line of stone carved angels upon the upper pierced frieze have a range of mechanical damage losses from previous incidents.

The left side figure (**Figure 9**), has loses to part of the left hand and front central detail of the crown.



Figure 9. Losses to angel detailing.

The second figure from the left shows part of the left bicep area missing, the upper left wingtip, and part of the bud-finial right side. (**Figures 10,11**).



Figure 10. Losses to upper arm and wingtip.



Figure 11. Damage to finial bud.

The third figure from the left reveals loss to both forearms . **(Figure 12).**



Figure 12. Forearm losses, with dowel fixing holes .

These losses may be repaired and re-integrated by a mixture of mortar repairs and moulding/casting of selected detailing.

- Pointing to joints has become dislodged due possibly to early rotational settlement/deflection. Figure 13 illustrates this to a joint line and shear movement above the left side inscription panel. **(Figure 13).**

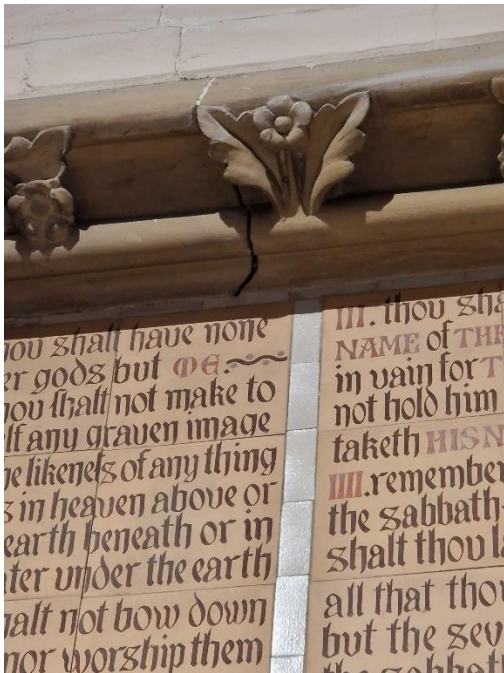


Figure 13. Fissure and pointing loss to left niche panel.

Localised pointing losses or disruption has occurred to horizontal and perpendicular joints. (Figures 14, 15, 16, 17, 18, 19).



Figure 14.

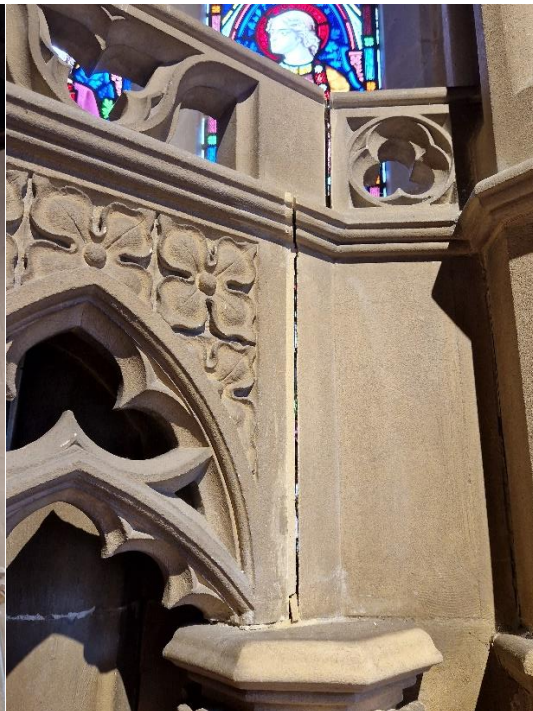


Figure 15.

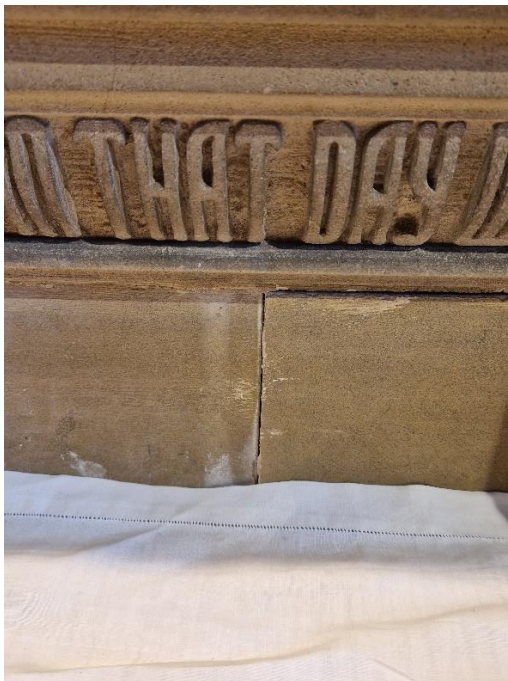


Figure 16.



Figure 17.

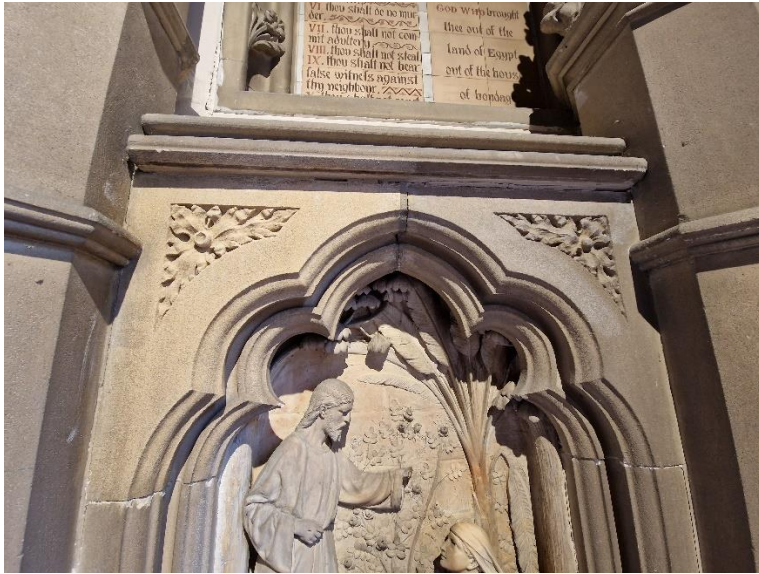


Figure 18.



Figure 19.

- The condition of the terracotta panels is good and sound. Surface and condensation fixed dirt have tended to remain adsorbed onto the surfaces, primarily to upper-facing detailing. The artisan-craftsperson have manufactured the surface using fired slip colours of light ochre, pale red terracotta and deeper red ochre terracotta, modulated in such a way as to distinguish space in the landscape, figures, architecture, clouds, and atmosphere. **(Figures 20, 21).**



Figure 20. Range of nuanced fired slip patinas.



Figure 21. Detail of central Christ figure.

Cleaning Trials

In order to separate soiling from the stone and terracotta, and to remove deterioration products that may be harmful to the porous materials, aqueous washing was trialled with chelators surfactants and redox functional materials.

The pH of the solutions remained at between 7.5 and 8.0: 0.25% solution of citrate; 0.25% solution of ammonium bicarbonate; 0.1% solution of Orvus paste surfactant as an emulsifier with citrate for more hydrophilic sebum handling surface deposits. The Orvus paste has the property of complete rinsing, and is used on historic textiles and bronze sculpture in the conservation sector.

Dry cleaning with soft pH neutral Akapad sponges and vacuuming is a precursor to the aqueous method of cleaning. A range of historic patinas to both stone and terracotta were retained from these processes. (Figures 22-28, and Figures 2 and 7 above).



Figures 22 and 23. Cleaning trial to complex surfaces of terracotta.

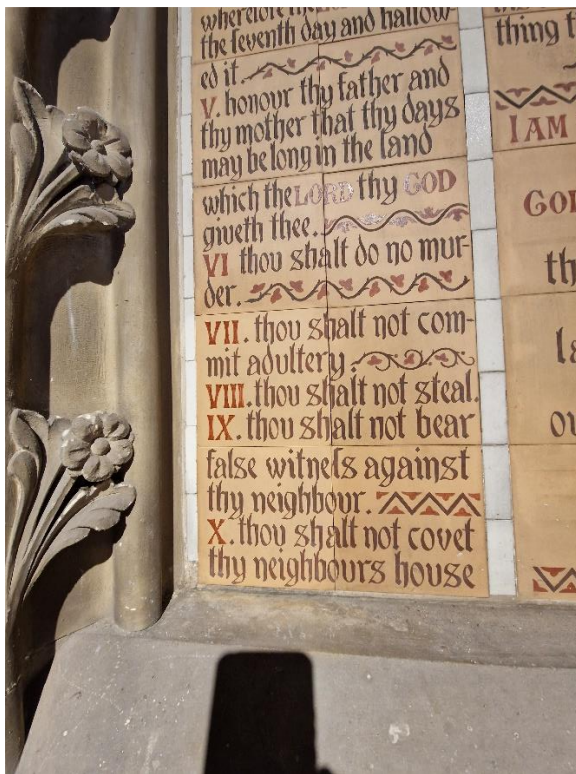


Figure 24. Lower left-side tiles cleaned.



Figure 25. Stone pier and spandrel to panel cleaned.



Figure 26. Shaft capital part cleaned.



Figure 27. Detail of revealed colour variation.



Figure 28. Part cleaned shaft base and shelving.

Project Estimate

• Wall and floor protection. Vacuum clean.	£ 264.00
• 4 Chancel bosses, 2 chancel/nave junction bosses.	£ 981.00
• 2 inscription terracotta panels.	£ 161.00
• Central terracotta panel.	£ 337.00
• Terracotta side panels.	£ 166.00
• 4 cupolas.	£ 785.00
• Angels, frieze, and tracery.	£ 628.00
• 4 capitals, shafts, and blind niches.	£ 244.00
• 4 piers to cupolas from G Level.	£ 790.00
• Altar side table.	£ 205.00
• Inscription panel central panel and ashlar to G Level.	£ 244.00
• Pointing.	£ 249.00
• Losses: left panel, 2 thumbs	£ 47.00
Right panel, 1 thumb, 1 hand.	£ 107.00
Bullnose/torus moulding to left side frieze.	£ 44.00

Angels: Left hand to left side angel.	£ 49.00
Left upper arm, wing, and leaf-bud capital.	£ 130.00
2 forearms.	£ 234.00

Sub-total **£5,665** (+ vat). (Labour **£5,375**; materials **£290.00**).

Provision for font clean: labour **£656.00**; materials **£55.00**.

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February 2023