

Inspection of Decorative Wall Panelling and Wooden Sprung Floor to the Assembly Room at Hornsey Town Hall

Commercial in Confidence

A Report To:

Ardmore Construction Group Limited

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London

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Author: Nick Clifford
Client: ARDMORE CONSTRUCTION GROUP LIMITED

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1 Introduction

This report was produced in response to an enquiry from Ardmore Construction Group Limited (the Client) regarding the condition assessment of various timber items at the Hornsey Town Hall redevelopment site.

BM TRADA Contract Agreement TC 19432 was proposed and agreed, and BM TRADA to receipt of a copy of the Agreement, signed and dated by the Customer, as formal notification to proceed.

2 Scope of Work

To attend site at Hornsey Town Hall to carry out an inspection of exposed and accessible decorative timber panelling, and the supporting timbers, in the Assembly Room at the site.

The inspection will be carried out using techniques including visual examination, borescope examination, probing and tap testing. Note that the inspection may require holes (max 6mm diameter) to be drilled in the panels for inspection of supporting timbers.

To provide a written report summarising our findings.

Prior to the site visit it was agreed with the Client that the timbers supporting the wooden sprung floor in the Assembly Room to be included in the inspection, where the timbers were accessible.

3 Limitations

- 1 The findings of this report are based solely upon the information and evidence provided and made available to BM TRADA by the Client and/or the Client's representative(s) at the time that this report was written. Should subsequent information be made known to us we reserve the right to amend our findings.
- 2 Any information or evidence provided to BM TRADA for the preparation of this report by the Client or the Client's representative(s), or by any third party, has been taken by us at face value, unless we state specifically that we have validated it and include in this report evidence of such validation.
- 3 This report cannot be used for any purpose other than that for which it is expressly authorised within the contract under which it has been agreed and produced.
- 4 All advice offered by BM TRADA is offered on the basis that it represents the principles of good practice and that it has not necessarily been validated by BM TRADA.
- 5 Statements which appear in this report, which address current or likely future risks, and which project or estimate outcomes, are based on reasonable assumptions from empirical evidence. Such statements by their nature involve uncertainties, which themselves carry the risk that actual outcomes may differ materially from any predicted outcomes. BM TRADA does not guarantee or warrant any projections or estimates of risks or outcomes contained within this report.

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- 6 Any contracted rights to confidentiality will be considered null and void should the report be modified in any way by any party without express permission of BM TRADA.

4 Procedures and Referencing

The inspection was carried out on 19th November 2019 by Mr Nick Clifford, Senior Technical Consultant for BM TRADA.

For the purposes of orientation in this report the stage was taken as being at the east end of the Assembly Room.

The decorative wooden panelling and softwood supports were examined using the techniques outlined in Section 2. above.

Panels were referenced sequentially as shown in the drawings in Appendix I.

Visual examination behind the panelling was carried out via existing openings, or via holes from absent or damaged panels.

The sprung wooden flooring was examined visually from beneath the stage at the east end of the floor, and via a hatch in the north-west corner of the inspection area, where floorboards had been lifted in order to repair damaged joists. Removal (by others) of 2-3 bricks from a honeycomb dwarf wall beneath the floor in the north-west corner provided access for a visual inspection of the nearby floor timbers by torchlight.

5 Observations

5.1 Decorative Wood Panelling and Supports

5.1.1 Panel Construction

The panelling comprised decorative tropical hardwood-veneered raised panels, with tropical hardwood quadrant beading, on tropical hardwood laminboard backing panels. Bands between the raised panels comprised a decorative tropical hardwood veneer on laminboard.

The panels were supported by vertical softwood studs and horizontal softwood rails. Panel junctions did not appear to align with the softwood supports. There were no visible joints in the decorative face veneers, and no visible fixings. It appeared that the laminboard panels had been affixed to the softwood supports, with the raised panels and veneer between them being installed subsequently, and finally the quadrant beading installed, prior to coating with a varnish or lacquer.

5.1.2 Condition

The panels have been subjected to prolonged water ingress to the north and south elevations, resulting in deterioration ranging from minor damage to surface coatings, to panels being entirely decayed.

Panel damage was categorised as follows:

- A.** Fungal decay present in panelling and delamination of decorative face veneer and backing panels.
- B.** Delamination to the decorative face veneer and backing panel, but without fungal decay.
- C.** Delamination to the decorative face veneer and/or damage to the quadrant beading.
- D.** Water damage and/or de-bonding of the surface coating.
- E.** Generally good condition with only minor indentations or scratches.

Table 1. Summary of damage to decorative panels – South Elevation

Panel ref	Condition Category		Panel ref	Condition Category		Panel ref	Condition Category		Panel ref	Condition Category
1	C		13	A		25	E		37	E
2	C		14	A		26	E		38	C
3	E		15	A		27	E		39	C
4	B		16	C		28	D radiator		40	C*
5	C		17	D radiator		29	D		41	C*
6	C		18	C		30	D		42	D*
7	C		19	C		31	D		43	D*
8	C		20	E		32	D		44	D radiator
9	C		21	E		33	D radiator		45	D
10	A radiator		22	E		34	D		46	D
11	C		23	D radiator		35	C		47	D
12	A		24	C		36	C		48	C

*Panel bellied out.

Table 2. Summary of damage to decorative panels – North Elevation

Panel ref	Condition Category		Panel ref	Condition Category		Panel ref	Condition Category		Panel ref	Condition Category
49	A		62	B		75	D		88	A
50	A		63	C		76	D		89	A
51	A		64	C		77	D radiator		90	A
52	A		65	D radiator		78	C		91	A
53	A		66	C		79	C		92	A
54	A		67	C		80	C		93	A
55	A		68	C		81	C		94	C radiator
56	A		69	D		82	C		95	A
57	A		70	E		83	D		96	A
58	A		71	E		84	E radiator		97	A
59	A radiator		72	E		85	A			
60	A		73	C		86	C			
61	A		74	D		87	C radiator			

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Wherever the panels had been affected by fungal decay the softwood timber supports were also decayed.

Where fungal decay was present, all moisture content readings were above the fungal decay threshold for timber, indicating that wherever it was present the fungal decay was active at the time of inspection. Elsewhere, moisture content readings were below 20%, which is too dry for fungal decay to occur.

5.2 Sprung Wooden Flooring

5.2.1 Floor construction

The floor comprised t&g hardwood strips (believed by BM TRADA to be maple based on the gross features of the wood) supported on cross-battens spanning between longitudinal joists. The timber floor structure is supported by steel cross-members and longitudinal steels, with a 'sprung' bracket at the connection of the steel cross-members with the longitudinal steels.

At the north and south edges of the sprung flooring the floor structure varies in that hardwood floorboards (not maple) are supported on joists spanning between two honeycomb sleeper walls (an inner sleeper wall and an outer sleeper wall) at each elevation.

5.2.2 Condition

There was fungal decay to the north bearing ends of 12x floor joists at the east end of the north elevation. Where the joists were decayed the underlying wall plate of the outer sleeper wall was also decayed. The decay extended for up to 1000mm from the north ends, but did not extend as far as the wall plate on the inner sleeper wall. Moisture content readings were above the fungal decay threshold for timber, indicating that the decay was active at the time of inspection.

At the west end of the north elevation there was a similar extent of fungal decay, to the north ends of the joists and the wall plate of the north outer sleeper wall. The decay extended for up to 1000mm from the north ends of the joists, but did not extend as far as the wall plate on the north inner sleeper wall. Moisture content readings were above the fungal decay threshold for timber, indicating that the decay was active at the time of inspection. Several decayed timbers had been cut back and replaced. However, the decay extended further east along the wall than the 'repaired area' and repair works are required to a further 4x joists and the underlying wall plate of the north outer sleeper wall.

There was fungal decay to the south bearing ends of 4x floor joists adjacent to ventilation grill C. Where the joists were decayed the underlying wall plate of the south outer sleeper wall was also decayed. The decay extended for up to 1000mm from the south ends of the joists, but did not extend as far as wall plate on the south inner sleeper wall. Moisture content readings were above the fungal decay threshold for timber, indicating that the decay was active at the time of inspection.

There was visible evidence of on-going wetting and mould growth to the wall plate of the south outer sleeper wall, extending between the east end and the decayed joists adjacent to ventilation grill C.

There was no close access to the floor structure at the west end of the south elevation. Only visual assessment was possible, from within the room beneath the stage at the east end of the floor i.e. from a distance of many metres. Based on a darker appearance of the wall plate and the location, where water ingress had caused the decorative panelling above to belly out, it is likely that the wall plate to the south outer sleeper wall is affected by, or currently at risk from, the development of fungal decay to a similar extent that the structural floor timbers have been affected elsewhere where prolonged water ingress continues i.e. decay to the ends of say 4 to 10 joists, probably extending no further than 1m from the south outer sleeper wall, and with the underlying wall plate also decayed.

6 Discussion and Recommendations

6.1 Decorative Wood Panelling and Supports

Extensive remedial works are required ranging from complete replacement of panels and supports, to repair of minor scratches and indentations

Table 3. Recommended remedial works based on panel damage category.

Remedial work item	Panel Damage Category				
	A	B	C	D	E
Complete replacement of panel or part of panel due to fungal decay	*				
Repair or replacement of softwood supports due to fungal decay	*				
Repair or partial replacement of backing panel	*	*			
Repair or replacement of decorative face veneer and or quadrant beading	*	*	*		
Complete or partial renovation of surface coating	*	*	*	*	
Localised repair of minor scratches and indentations (i.e. wear and tear)	*	*	*	*	*

Much of the panelling will need to be removed for panel repair and or replacement of softwood support timbers. However BM TRADA were unable to establish the location of the laminboard panel junctions, which have been obscured by the decorative face veneer. Where laminboard panel junctions were visible on their rear faces, they did not align with the raised panel borders so BM TRADA believe that the raised panels span across the laminboard panel junctions.

6.2 Sprung Wooden Flooring

The sprung wooden flooring was generally in a serviceable condition. Fungal decay had affected the bearing ends of various joists and repairs are required. The decay extended a maximum of 1000mm from the outer honeycomb sleeper wall but did not extend as far as the inner honeycomb sleeper walls. The sprung floor construction had not been affected, rather the decay had only affected the conventionally constructed parts at the perimeter of the 'sprung floor'.

BM TRADA recommends that decayed timbers are cut back to sound wood and repaired in accordance with instruction by a structural engineer. Ensure that all timbers have a moisture content no greater than 20% before closing-up.

7 Conclusions

Based on the findings of our inspection BM TRADA conclude the following:

- The sprung wooden flooring was in a serviceable condition although fungal decay had affected the bearing ends of several joists in the conventionally constructed areas around the perimeter of the sprung wooden flooring.
- The decorative wooden wall panelling requires extensive renovation works. Some panels and support timbers require complete replacement due to extensive fungal decay while other panels require relatively minor remedial works.
- The fungal decay was active at the time of inspection due to on-going rainwater ingress.

8 Authorisation

	Issued by:	Under the authority of:
Signature:		
Name:	Nick Clifford	Philip O'Leary
Title:	Senior Technical Consultant	Head of Timber Consultancy

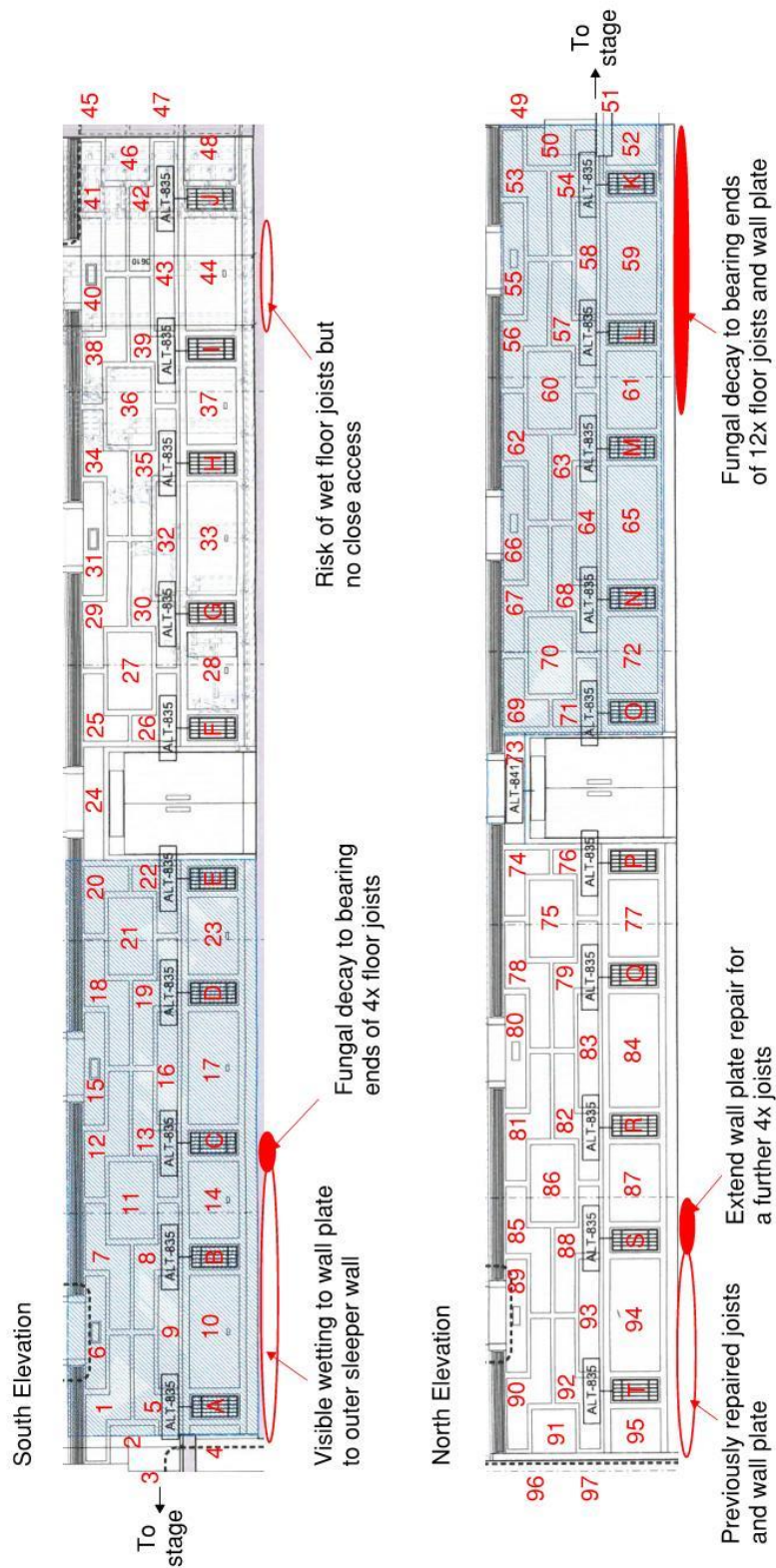
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Appendix – Drawing

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Fig 1. Assembly Room panel and ventilation grill references



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