ARCHIVE SURVEY REPORT

MIDLAND GOODS SHED

King's Cross, London

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RCHM
ENGLAND

THE MIDLAND GOODS SHED
KINGS CROSS
L.B. CAMDEN
LONDON N1

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SUMMARY

This area of the Great Northern Railway's King's Cross Goods Yard contains elements which date from the development of the site in 1850 but all the buildings and structures have been greatly altered, in some cases several times. The central 300ft long brick building known as the Midland Shed occupies the site, and retains some of the fabric of, Lewis Cubitt's 1850 Carriage Shed associated with the temporary 1850 passenger station of which some ironwork also survives. The Carriage Shed was heightened and converted into a Goods Shed for the Midland Railway *circa* 1857 and offices added, while the iron framed train shed of the temporary station was used as a potato warehouse. The potato warehousing was greatly extended to the east in 1864 with custom built trader facilities which have since been demolished. An accumulator tower for hydraulic power was added to the Goods Shed before 1888 when the intervening areas were roofed over utilising some elements of the 1851 train shed.

PREFACE

The present report has been compiled from a variety of sources including information supplied by Malcolm Tucker, the Inventory of the site commissioned by English Heritage from the Ironbridge Institute, London's Regeneration Consortium's Conservation Area Application No [CA2], Hunter & Thorne's *Change at King's Cross* and field reconnaissance in 1992 by RCHME staff. It was written by Keith Falconer in 1997, based on Robyn Burgess's 1992 notes.

DEVELOPMENT OF THE MIDLAND GOODS SHED

The building known as the Midland Goods Shed is sited approximately fifteen metres to the NE of the Railway Offices (Regeneration House). Rectangular in plan and constructed of yellow/brown London brick, the present building consists of several major phases largely within the original footprint of the building.

Phase One

The earliest building was one of the original group of 1850-1852 Goods Yard Buildings designed by Lewis Cubitt and Cubitt's own drawings show that it was originally used as a Carriage Shed for the temporary passenger terminus off Maiden Lane which opened in late 1850 [1]. The building is shown in outline only and it scaled 300 ft x 80 ft. Given its function as a carriage shed, it is likely to have been single-storied. If the ground floor east and west walls date from this phase (and this is no means certain) the shed was articulated by square headed panels separated by narrow piers and an examination of the brickwork suggests that it may have had wide doors on the east and west elevations but no low level windows. Its original south end was probably the present dividing north wall of the office block which has piers on its south side,[2] but the present north elevation has only two early rail track openings and thus is certainly not original as a carriage shed would have had multiple tracks as it was reputedly capable of holding 80 carriages[3]. No evidence of the original roof or the bearings for its trusses survive. It may be however that, given the similarities of treatment of the northern elevation with the rest of the walls and the presence of wide doorways of no obvious relevance to a carriage shed in the side walls, little if anything survives of the first phase and all the lower walls date to the second phase.

Phase Two - after 1852 and before 1866

At some date following the completion in 1852 of the main passenger station south of the Canal, the structure was converted into a general Goods Shed. This may have occurred around 1857 when the building was leased by the Midland Railway Company - but this unusual co-operative arrangement between rival railway companies was short-lived and ended *circa* 1862. A plan published in 1866 by W Humber, but probably drawing on earlier sources names the building 'Midlands Goods Sheds'[4] and shows outer walls with piers at 12½ ft centres approximately, 24 bays long (as today) plus offices added at the south end. The dimensions of this Midland Shed are the same as those of the earlier Carriage Shed and it may be that all the early brickwork dates to this phase.

Humber's plan shows two tracks running longitudinally almost whole length of the building, one on each side of a central line of columns with stub wall at either end. The columns are generally at 25 ft centres but there are two bays of 37½ ft one of which accommodates a cross road with turntables (seemingly a similar layout remained, but without the turntables, until the tracks were lifted circa

1980). Two one-bay doorways in north end for railtracks, and series of two-bay vehicular doorways approximately 20 ft wide at variable spacing in both side walls . No platforms are indicted on the plan, and the kerbs shown at south end suggest internal roadways down both sides. No cranes are shown (cf. the cranes shown in the main Goods Depot), so survey may be incomplete, or else the interior of the shed may have been stripped of fittings on departure of the Midland Railway. There is no indication of a stair on Humber's plan and it is uncertain whether there was and upper storage floor at this time.

The original cart openings were spanned by cast iron beams, some of which survive (with cast iron brackets to support sliding doors), either spanning openings or concealed within later brickwork.

The depiction of the office block at the south end differs greatly from Humber's plan to the 1871 OS 1:1000 map.[5] The earlier plan indicates a western block of four or five bays on the present building line and a narrower eastern section entered quite independently in fashion which may depict a yard. These buildings are only shown in light outline abutting the much more substantial Goods Shed and this may indicate that the offices were only single storey originally.

Phase Three - after 1865 and before 1871

The depiction of the Goods Shed on the 1871 OS map shows that the shed had undergone considerable changes since Humber's depiction. The internal railway lines had been shortened, the internal roadways dispensed with and platforms built. At this time the southernmost doors of the goods shed were bricked up to match existing walls, and windows inserted - evidence of the doors in cast iron lintels left in situ, including cast iron brackets to support former sliding doors. The 1871 OS map shows the new arrangement of platforms with cart bays recessed into them at each remaining side doors - similar to what survives today.

It may be the shed was heightened at this time to provide a transit area at ground level and storage above and discrepancies in the brickwork indicate that the building has indeed been heightened . Evidence of the heightening is at the southern end of the building where the bond changes above the string course, the panels are segmental headed rather than being flat as below. The brickwork which seems to a difference in colour between floors is in Flemish bond on the ground floor and English bond above. The heightening appears to have entailed the insertion of a floor from the outset, as indicated by the existence of loading doors on the first floor of the east and west elevations. The articulation of the brickwork for the doors indicates that there were always doors in this phase eg the fourteenth bay along from the south has a door on the west wall of the first floor which is differentiated on the exterior (as a narrower bay compared to the interior). The loading doors are not quite opposite each other. In the west wall from N they occur in the 7th bay (blocked), the 11th bay (a single door in a flat headed bay measuring only 2.38m externally cf. 3.15m other external panels) and in the 20th bay; in the east wall they occur in the 7th bay the 14th bay and the 21st bay. The

east and west elevations also had windows, with segmental heads employing two courses of header brick. The windows have cast iron glazing bars and frames. There is no indication of a stair on the OS map but an area the southern end of the eastern platform is partitioned off - perhaps for an office for platform staff or possibly at this time part of the south end of the Goods Shed was divided off as a bottle warehouse, and extra stanchions inserted to support new or strengthened upper floor as shown on 1906 GNR plan.[6]

The shed had a double gable roof, as evidenced by scars in the north and south elevations and as there is no evidence of redundant truss bearings it is supposed that the truss beams rested on the internal piers and that there was a central line of stanchions to support the valley for the two span roof.

By this time the offices at the south end of the shed were probably two storied as the 1871 map shows and arrangement similar in plan to that of today. The south front elevation is of seven bays, with segmentally headed windows (three courses of header brick) and sashes in each bay except in the central bay and the one to its west where there were two entrance doors on the ground floor. There was a further door in the eastern return bay and thus the ground floor had a divided function with three bays of offices to the west, the central entrance leading into a small lobby opposite a dog leg stair and to two bays of offices to the east, and a further separately entered office at the easternmost end. The 1871 map also shows a weighing machine on the south side of the offices but this now gone.

Phase Four - after 1871 and before 1888

The yards either side of the shed were roofed over in 1888 and before this several other very significant changes had made to the building. One of the most significant of the features not shown on the 1871 OS map but predating the yard roofing is the accumulator tower built against the eastern end of the north elevation. The Great Northern Railways main Goods Shed had been equipped with hydraulic power from the outset for working cranes, hoists and capstans. The accumulator tower at the Midland Shed would be a later addition, as the original function of the building as a carriage shed would not have required hydraulic power. Although the tower is not shown on the 1894 edition OS map structural evidence clearly indicates that it predates the 1888 roof as a column of 1888 is attached to a brick pier added to the already existing accumulator tower while a window in tower clearly predates curved roof on east side. The details of the tower are similar but not identical to the main shed to which it abuts. The brick is in English bond, whereas the main block to its south has mixed and Flemish bond brick. The plinth is also at a higher level and the tower does not have a string course. The engine to power the accumulator was housed in a room (secondary) in the main block to the south of the accumulator tower. The bed for the engine survives. A door on the south side of the accumulator tower gave access to this secondary engine room, now blocked.

The present accumulator itself may however be contemporary with the yard roofing as its guide rails which are of Great Western Railway bridge section rail bear the raised lettering 'E.V. STEEL. 11.88 GWR.' For further details and a cut-away section of the accumulator see the English Heritage Inventory pp 34-35.

Hunter & Thorne suggest that the accumulator tower was intended to drive hydraulic capstans serving the Midland Shed and to boost the power supply to the potato market sidings after they had been extended in 1864-5. Two hydraulic capstans survive, one towards the south end of the western side of the Midland Shed and the other in the yard to the north.

Possibly early in this period some new vehicular doorways were formed, two at the south end on the west side and one at the south end on the east side. These are resited and wider and slightly taller than the previous doorways. They are spanned by plate girders which are deeper than those installed after 1888, despite being of equal span and with less concentrated loading. This suggests a lower design stress and that they are possibly of wrought iron rather than steel construction and hence of an earlier date. Stiffeners and bolt holes in web of these girders at approximately eight feet centres and asymmetrical to doorways, suggest local strengthening to support the transverse floor beams of a former upper floor[7]. There is no provision for overhead sliding door gear, unlike the earlier doorways.

The most significant alteration before 1888 was, however, the replacement of the main structural elements of the interior of the building, associated with raising the upper floor to its present height. This involved replacing the central rank of columns with present eight cylindrical cast iron columns which, though more massive and taller, respect the spacing of the previous columns to accommodate cross-over tracks. The arrangement therefore perpetuates that shown on the 1871 OS map whereby the rank of columns separates two lines of track with flanking platforms. The present platforms are constructed of timber on brick bases and coated with bitumen. Each platform has inset cart loading bays opposite the door openings.

The columns have capitals formed by four simple rectangular projections springing from a roll band but bear no makers marks or dates. They support longitudinal and transverse fabricated 'I' section girders which are of deeper section for the longer spans. The outer ends of the transverse beams are either supported by cast iron columns of rectangular section bolted to the walls except where they bear over vehicle doorways. In the latter case they are longer and are inset in the brickwork above the fabricated girders spanning the doorways and the girders have more flanges plates to support the extra loading. This indicates that the girders over the doorways are contemporary with the floor girders. Any evidence of making good of the beams/joists of the earlier floor has been obscured by whitewash. The transverse floor girders carry two subsidiary longitudinals and there are timber structures between the girders which clearly relate to the pivots for loading cranes formerly located

on the platforms, opposite each loading bay.

The north western ground floor roof is the only place where the underside of the later first floor is visible. There is a trimmer in the north west corner, which suggests a trap may have been in this position or possibly indicates the site of a ladder-like stair. A large hatch is situated more centrally in this room (at about the fifth bay from the north) and to its north are large timbers making perhaps the frame for a hoist.

The raising of the floor caused all the loading doors on the upper floor to be reset higher and shortened and the fact that all the door cills have been heightened confirms that the internal structure predates 1888. In the seventh bay from the west there were originally loading doors - the east survives but the west has been blocked when the 1888 roof was built externally. The upper windows are now at floor level and are bricked up internally, but window frames remain on west side.

Contemporary with the heightening of the floors are the fireplaces at the south end of the first floor - there are identical fireplaces with truncated internal flues central to each of the two former gables. The presence of the fireplaces suggests offices at this end of the first floor and indeed 'a cluster of partitioned offices' survived until recently.[8]

The gutter between the twin roofs must have been supported by a central rank of columns but there is now no evidence of such arrangement.

The two storey office block attached to the southern end of the shed was probably heightened by a storey at this time. The heightening is evidenced by the brickwork on the second floor having a lighter appearance than that on the ground and first floors, and by a change in the style of the stair newel post from the first floor. The newel has a round form on plan up to the first floor, and is square in plan above. Hatches situated in the wall at the top of the stairs indicate that the building had an office function right up to the second floor. The roof trusses are of timber and have king posts with expanded heads and feet.

Phase Five - 1888

In 1888 trussed iron roofs were added externally on both sides of the building, spanning between the Midland Shed and adjoining buildings (see below).[9] At the north end, the two roofs share common supports and appear to be contemporary with one another. The roof on the west side has cast iron columns dated 1888 tied to existing brickwork behind, with new brick infilling as necessary . The roof on the east side bears onto stone corbels set into the brickwork, or on RSJs on similar corbels to span openings in the wall (including the accumulator tower) - these openings are not blocked up until later. All but one of the five upper loading doors became redundant in 1888 when they became obscured by these roofs.

Phase Six - after 1888

There have been several minor alterations subsequent to the roofing of the yard. The remaining vehicular doorways - three on the west and four on the east - have been enlarged. They were widened to approximately 23 feet and raised to 16 feet clear height, under steel plate girders. Earlier cast iron brackets in the adjoining walls, for sliding door gear, have been reset at higher level, requiring removal of existing string course. Corresponding brackets formerly fixed to the girder are indicated by groups of bolt holes at regular intervals. The girder nearest the north west corner interferes with the support for the 1888 roof truss; which is carried by additional web stiffeners in the girder and a cast iron bracket beneath. as the web stiffeners appear contemporary with the others in the girder this implies that the girder post-dates the truss and was designed to support it.[10]

Some windows were inserted in the ground floor after the raising of the door gear, these are segmentally headed (with cast iron glazing bars and frames) but differ from those on the first floor in that they are smaller yet have three courses of header brick.

Phase Seven - the 20th Century

While the shed remained in railway use, probably quite early in the century, the openings for railwagons in the north wall which were widened at platform level (evidenced by corbelling in to support the pre-existing CI beams over) and the platforms were extended north into the area under the 1888 roof. Additionally, at the north end of the east elevation a later door with concrete lintel was inserted. The offices at the southern end were also altered - at some stage the western ground floor door on the south elevation was blocked and replaced by two small windows.

More significantly, the upper floor was converted into a clear space when the previous two span roof was replaced by a single span roof on trusses of steel angles riveted to gusset plates. The north and south gables were extended to suit this and the scars of the earlier roof are still visible. The steelwork of the present roof trusses is by Colvilles, Scotland and may date to around 1957 as an aerial photograph of 1958 shows fresh brickwork on the northern gable.[11]

When railway use of the Goods Yard ceased the Midland Shed and its adjoining roofed over yards were used for road based storage and dispatch of magazines etc with minimal alteration to the buildings.

THE POTATO MARKET

Little appears to survive of the potato market as at the survey of March 1992. As Hunter & Thorne recount soon after temporary passenger station closed (when the main line opened in 1852), its buildings and roofs were adapted and extended for use by the potato trade.[12] With the increase in the potato trade increased the wooden huts which had served as offices to begin were replaced in 1864-5 with 39 small warehouses, each with their own siding capable of holding up to four wagons, plus cellar space for storage. The sidings were reached by an elaborate series of turntables on the lines in the old station - an arrangement shown on the 1871 OS map. Subsequently a roof added over the warehouse roadway in 1896-7 and the yards either side the Midland Shed were roofed over in 1888 to further accommodate the trade. This set of roofs encasing the Midland Shed on three sides were fabricated by Andrew Handyside & Co to give additional cover for the potato market as part of a broader scheme to provide facilities competitive with those of the Midland Railway's potato depot at Somers Town.

The larger of the Handyside roofs, between the Midland Shed and the wall of the eastern transit shed, consists of a series of Warren truss girders supporting transverse roofs with wrought iron trusses. The roof is carried on nineteen D-section cast iron columns that stand against the walls of the adjacent sheds; because of the oblique angle at which the roof abuts the Midland shed, the brickwork here has been stepped out to receive the D-section columns, each column bears an oval maker's mark reading 'A HANDYSIDE & CO. 1888. DERBY AND LONDON'. The columns support I-section fabricated diamond lattice girders of three standard types for spans of different lengths, only the girder at the north west corner of the Midland shed is of an individual design.

On the other side of the shed where the span covered is less, the trusses form a continuous curved gable; their line of support on the outer side incorporates eighteen of the spandrel beams from the old passenger station on the same curved line as the boundary of the passenger station (a four further spandrels are embedded in the remains of the potato market). The roof is divided into transverse bays by the main girders and each bay has a gabled roof, each truss is constructed of T-section iron bar and wrought iron rods, some of the trusses are truncated because of the angle at which the roof meets the Midland Shed. Almost all the columns of the former station have been replaced by steel stanchions but at least one early cast iron column appears to have survived.

The potato trade at Kings Cross peaked after the First World War and not just potatoes but turnips, peas, celery, cabbage etc and even fish for Billingsgate Market. Potatoes and coal remained the principal commodities and were dealt with in such quantities that special buildings had to be provided for them - most of the other goods passing through Kings Cross made no separate claims to attention.

GOODS OFFICE BLOCK (REGENERATION HOUSE)

The Goods Offices dating from 1850 have been taken over and refurbished as the site headquarters of the London Regeneration Consortium - these have been extensively refurbished inside and out, retaining the cantilevered stairs with decorative cast iron balusters

NOTES

1. The building is shown as a 'Carriage Shed' on a plan of the Temporary Passenger Station (Institution of Civil Engineers Library, 624.91 Upper Library: 'Great Northern Railway. London Terminus ... Iron Roofs': Folio volume of lithographed drawings signed by Lewis Cubitt, 30.3.1850).

2. Info Malcolm Tucker.

3. Michael Hunter and Robert Thorne, *Change at King's Cross* (London, 1990), 100.

4. 'On Railway Stations', Minutes of Proceedings of Institution of Civil Engineer, Volume 25 (1865-6), Plate II).

5. Ordnance Survey 5 ft to 1 mile, London Sheet VII 23, surveyed 1871.

6. Info Malcolm Tucker.

7. *Ibid.*

8. Stephen Duckworth and Barry Jones, *King's Cross Development Site: An Inventory of Architectural and Industrial Features.* Report for English Heritage, November 1988, 33.

9. PRO RAIL 236/362 refers.

10. Info Malcolm Tucker.

11. Duckworth and Jones, *op.cit.*, 33.

12. PRO RAIL 236/276/2: Reports of Joseph Cubitt 1853 - Hunter and Thorne, *op.cit.*, 103.

The National Monuments Record contains all the information in this report – and more: original photographs, plans old and new, the results of all RCHME field surveys, indexes of archaeological sites and historical buildings, and complete coverage of England in air photographs.

The Royal Commission on the Historical Monuments of England gathers information on England's heritage and provides it through the National Monuments Record

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