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Report No. 4RS-JP-193302-R671476

**MANAGEMENT ASBESTOS SURVEY  
KINGS CROSS STATION  
PLATFORMS 5 AND 6 INVERTS - PICCADILLY LINE  
ES12122**

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Issue Date: 22<sup>nd</sup> January 2020

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## **0. Executive Summary**

### **0.1 Survey Details**

**Reason for Survey:** In order to comply with the Control of Asbestos Regulations 2012, the client Mr. Paul Hewitt, Transport for London, Hazardous Materials Professional Services requested a management survey be carried out of Kings Cross Station, Platforms 5 and 6 Inverts - Piccadilly Line.

**Location:** Kings Cross Station, Platforms 5 and 6 Inverts - Piccadilly Line

**Date of Survey:** on 16<sup>th</sup>/17<sup>th</sup> January 2020

**Lead Surveyor:** [REDACTED]

### **0.2 Summary of Asbestos Containing Materials**

- Platform 5 Invert, Piccadilly Line
  - Braided cables known to contain Chrysotile asbestos, Figure 1 - Material assessment rating: Low
  - Small westinghouse boxes presumed to contain Chrysotile asbestos, Figure 2
  - Ten core box presumed to contain Chrysotile asbestos, Figure 3
- Platform 6 Invert, Piccadilly Line
  - Braided cables known to contain Chrysotile asbestos, Figure 4 - Material assessment rating: Low
  - Ten core box presumed to contain Chrysotile asbestos, Figure 5

**1. Introduction**

4-RAIL Services were requested by Mr. Paul Hewitt, Transport for London, Hazardous Materials Professional Services to undertake an asbestos survey of Kings Cross Station, Platforms 5 and 6 Inverts - Piccadilly Line.

A Management Survey of asbestos containing materials was undertaken in the following areas:

- Platform 5 Invert
- Platform 6 Invert

The survey was undertaken during engineering hours on 16<sup>th</sup>/17<sup>th</sup> January 2020. The lead surveyor was [REDACTED].

**1.1 References**

HSE (2013) Managing and working with asbestos. L143. Control of Asbestos Regulations 2012. Approved Code of Practice and guidance.

**1.2 Document Issue**

REPORT REVISION	ISSUE DATE	REVISION DETAILS
INITIAL	22 <sup>nd</sup> January 2020	-

## **2. Sampling Strategy**

- 2.1 Sampling for asbestos containing materials was carried out in accordance with the procedures described in HSE Document HSG264 *Asbestos, The Survey Guide* and 4-RAIL Services Ltd in-house procedure 4R-E200.
- 2.2 The following materials were *known to contain asbestos* prior to the survey commencing and hence were not sampled:
  - Braided cables
- 2.3 Each material suspected of containing asbestos was sampled and returned to the laboratory for analysis. The location where the sample was taken should be marked on plans provided by the Client prior to the survey, with an appropriate extent of asbestos. Labelling of all sampling locations will be labelled if agreed in advance with the client.
- 2.4 Electrical equipment was not surveyed since it was considered live. However, assumptions may have been made as to possible asbestos containing materials within electrical units based on the experience of the surveyor. There is always the possibility that further asbestos containing materials may be present within live electrical equipment.
- 2.5 When materials are sampled as asbestos, no further attempt is made to identify materials below those sampled since investigation would lead to unnecessary disturbance of the hazardous material.
- 2.6 Where rooms were surveyed, walls were identified as follows : the first wall on the left on entrance into a room was identified as Wall 1, the next separate wall in a clockwise direction, was identified as Wall 2, and so on, with the final Wall number being that where the entrance door was located.

## **3. Limitations of Surveying**

- 3.1 Although assigned surveyors have extensive experience in locating and sampling asbestos containing materials, there may be occasions whereby asbestos is not identified due to its location within a building. For example, some asbestos containing materials may have been used in the construction of a building that have been sealed in with concrete. Hence, they will only be located during demolition or refurbishment of the premises.
- 3.2 Further examples of other areas of potential asbestos are listed in Appendix 1.

## **4. Analysis of Samples**

- 4.1 Samples taken were analysed in-house in accordance with HSE Document HSG 248 *Asbestos: The analysts' guide for sampling, analysis and clearance procedures* and 4-RAIL Services Ltd in-house procedure 4R-E220. 4-RAIL Services is accredited by the United Kingdom Accreditation Service (UKAS) for testing of asbestos in bulk materials (UKAS Testing Body 1931).
- 4.2 Samples will be retained for a period of six months unless otherwise requested by the Client.
- 4.3 Analysed samples will be disposed of by a registered waste carrier in accordance with Hazardous Waste Regulations 2005.

## **5. Material Assessment**

Each sample suspected of containing asbestos was awarded a material assessment score based on the following variables:

- Product Type;
- Current Condition;
- Surface Treatment; and
- Asbestos Type.

Appendix 2 classifies the material assessment variables.

## **6. Accessibility**

Each material is given an accessibility rating for information only. This is a value based on how easily the suspect material can be accessed.

## **7. Results**

- 7.1 A total of four samples were taken for analysis. No samples were found to contain asbestos. An additional three samples were considered to be identical to materials sampled previously. There were two materials known to contain asbestos and three materials presumed to contain asbestos.
- 7.2 Figures 1 – 5 show materials confirmed to contain asbestos, known and presumed of containing asbestos, together with their material assessment and accessibility ratings.
- 7.3 Appendix 3 contains the site survey sheets detailing all areas surveyed and results of analysis for all samples taken.
- 7.4 Appendix 4 contains station plans indicating the areas surveyed.

## **8. Conclusion**

### **8.1 Platform 5 Invert, Piccadilly Line**

Braided cables known to contain Chrysotile asbestos, Figure 1 - Material assessment rating: Low

### **8.2 Platform 5 Invert, Piccadilly Line**

Small westinghouse boxes presumed to contain Chrysotile asbestos, Figure 2

### **8.3 Platform 5 Invert, Piccadilly Line**

Ten core box presumed to contain Chrysotile asbestos, Figure 3

### **8.4 Platform 6 Invert, Piccadilly Line**

Braided cables known to contain Chrysotile asbestos, Figure 4 - Material assessment rating: Low

### **8.5 Platform 6 Invert, Piccadilly Line**

Ten core box presumed to contain Chrysotile asbestos, Figure 5

## **9. Recommendations**

- 9.1 Maintain the condition of the materials confirmed, known or presumed to contain asbestos to prevent fibre release by implementing a full risk assessment and programme for re-inspection at periodic intervals, ahead of any cleaning works within the invert. As discussed in Section 5 & 6. Material Assessment & Accessibility, the Client is advised to review and thus amend as required prior to the inclusion of actions within an asbestos management plan.
- 9.2 Work towards compiling more detailed information relating to asbestos components within the specific electrical equipment on site. Where electrical isolation has not been provided to allow internal inspections of such equipment, these items will require confirmation prior to any refurbishment/modernisation/demolition works commencing.
- 9.3 Confirm the asbestos content of presumed materials before undertaking any refurbishment/modernisation/demolition works, or assume that they contain asbestos.
- 9.4 Undertake work involving asbestos containing materials in a controlled manner in accordance with the *Control of Asbestos Regulations 2012*. The licensing regulations do not apply to materials in which the asbestos fibres are firmly linked in a matrix, but nevertheless, all work must comply with HSE Approved Code of Practice L143 2<sup>nd</sup> edition – *Managing and Working with asbestos*. In accordance with Transport for London policy, a licensed asbestos removal contractor must be used.
- 9.5 Asbestos materials are defined as hazardous waste under the Hazardous Waste Regulations 2005. A requirement of these regulations is that any hazardous waste produced is transported by a registered carrier and a consignment note is retained.

**FIGURE 1: KNOWN ASBESTOS IN BRAIDED CABLES IN PLATFORM 5 INVERT, PICCADILLY LINE - DESCRIPTION & RESULT OF ASSESSMENT (SAMPLE REF. K1 (1))**



Sample Number	K1 (1)
Location	Platform 5 Invert, Piccadilly Line
Material Description	Braided cables
Material Comment	To cable run on track wall side, running throughout
Quantity	>10 no
Product Type	Medium density
Current Condition	Slight damage
Surface Treatment	Unencapsulated medium density
Asbestos Type	Known Chrysotile
Material Assessment Rating	Low
Accessibility	Low
Further Comment	Not applicable

**FIGURE 2: PRESUMED ASBESTOS IN SMALL WESTINGHOUSE BOXES IN PLATFORM 5 INVERT, PICCADILLY LINE - DESCRIPTION & RESULT OF ASSESSMENT (SAMPLE REF. P1 (1))**



Sample Number	P1 (1)
Location	Platform 5 Invert, Piccadilly Line
Material Description	Small westinghouse boxes
Material Comment	To wall trackside
Quantity	2 no
Product Type	-
Current Condition	-
Surface Treatment	-
Asbestos Type	Presumed Chrysotile
Material Assessment Rating	-
Accessibility	-
Further Comment	Not applicable

**FIGURE 3: PRESUMED ASBESTOS IN TEN CORE BOX IN PLATFORM 5 INVERT, PICCADILLY LINE - DESCRIPTION & RESULT OF ASSESSMENT (SAMPLE REF. P1 (2))**



Sample Number	P1 (2)
Location	Platform 5 Invert, Piccadilly Line
Material Description	Ten core box
Material Comment	To wall trackside
Quantity	1 no
Product Type	-
Current Condition	-
Surface Treatment	-
Asbestos Type	Presumed Chrysotile
Material Assessment Rating	-
Accessibility	-
Further Comment	Not applicable

**FIGURE 4: KNOWN ASBESTOS IN BRAIDED CABLES IN PLATFORM 6 INVERT, PICCADILLY LINE - DESCRIPTION & RESULT OF ASSESSMENT (SAMPLE REF. K1 (2))**



Sample Number	K1 (2)
Location	Platform 6 Invert, Piccadilly Line
Material Description	Braided cables
Material Comment	To cable run on track wall side, running throughout
Quantity	>10 no
Product Type	Medium density
Current Condition	Slight damage
Surface Treatment	Unencapsulated medium density
Asbestos Type	Known Chrysotile
Material Assessment Rating	Low
Accessibility	Low
Further Comment	Not applicable

**FIGURE 5: PRESUMED ASBESTOS IN TEN CORE BOX IN PLATFORM 6 INVERT, PICCADILLY LINE - DESCRIPTION & RESULT OF ASSESSMENT (SAMPLE REF. P1 (3))**



Sample Number	P1 (3)
Location	Platform 6 Invert, Piccadilly Line
Material Description	Ten core box
Material Comment	To wall trackside
Quantity	1 no
Product Type	-
Current Condition	-
Surface Treatment	-
Asbestos Type	Presumed Chrysotile
Material Assessment Rating	-
Accessibility	-
Further Comment	Not applicable

### **Appendix 1: Other Areas of Potential Asbestos**

Every possible effort is made by all surveyors to ensure the contents of each survey report are as comprehensive as possible. However, there may be occasions when asbestos containing materials are overlooked due to their location within the building structure or due to restricted access.

#### **1. Electrical Boxes**

Visual assessments will be made if possible, but a full survey inclusive of sampling can only be undertaken if electrical equipment is isolated.

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**Appendix 2: Material Assessment & Accessibility Variables**

PARAMETER	DESCRIPTION	RATING	EXAMPLES
Product Type	Asbestos reinforced composites	1	Plastics, resins, mastics, roofing felt, vinyl floor tiles, semi-rigid paints or decorative finishes, asbestos cement.
	Medium density insulating materials	2	Asbestos insulating boards, mill boards, other low density insulation boards, asbestos textiles, gaskets, ropes or woven textiles, asbestos paper and felt.
	High density insulating materials	3	Thermal insulation e.g. pipe and boiler lagging, sprayed asbestos, loose asbestos, asbestos mattresses and packing.
Current Condition	Good condition	0	No visible damage.
	Slight damage	1	A few scratches or surface marks, broken edges on boards, tiles, etc.
	Moderate damage	2	Significant breakage or several small areas of damage revealing loose fibres.
	Extensive damage	3	High levels of damage. Visible asbestos debris.
Surface Treatment	Asbestos reinforced composites	0	Plastics, resins, mastics, roofing felt, vinyl floor tiles, semi-rigid paints or decorative finishes, bituminous Cellactite.
	Encapsulated medium density materials and bonded materials	1	Encapsulated asbestos insulation board (AIB), asbestos cement.
	Unencapsulated medium density or encapsulated highly friable materials	2	Untreated AIB, encapsulated lagging/spray.
	Unencapsulated highly friable materials	3	Untreated lagging/spray.
Asbestos Type	Chrysotile	1	Cable insulation, fuse backing material
	Amphibole excluding crocidolite	2	Ceiling Tiles, Soffits
	Containing Crocidolite *	3	Cable Insulation
Accessibility	Very Low	0	Usually inaccessible areas
	Low	1	High level areas, difficult to access
	Medium	2	Mid level areas, with varying degrees of possible access
	High	3	Low level areas, easy to access

\* Presumed or strongly presumed asbestos containing materials are recorded as Crocidolite unless there is reasoned argument to suggest otherwise.

Four parameters (product type, current condition, surface treatment & asbestos type) are **added** to arrive at an overall **material assessment factor** between 2 and 12. Accessibility is not required to be used in this calculation.

Material Assessment Score	10+	High potential for release fibre
	7-9	Medium potential for fibre release
	5-6	Low potential for fibre release
	<4	Very low potential for fibre release

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**Appendix 3: Survey Site Sheets**

SURVEY DATE	LEAD SURVEYOR	ANALYST	ANALYSIS DATE
16 <sup>th</sup> /17 <sup>th</sup> January 2020	Name: [REDACTED]	Name: [REDACTED]	20 <sup>th</sup> January 2020
	Signed: [REDACTED]	Signed: [REDACTED]	

**MANAGEMENT ASBESTOS SURVEY - KINGS CROSS STATION - PLATFORMS 5 AND 6 INVERTS - PICCADILLY LINE - ES12122**

Ref No.	Area Surveyed		Material Description	Quantity (m <sup>2</sup> )	Product Type	Current Condition	Surface Treatment	Accessibility	Asbestos Type	Comments and Recommendations	Figure
	Location	Room/Plant No									
	Platform 5 Invert	Piccadilly Line	Concrete	Throughout	-	-	-	-	-	To floor and wall	-
	Platform 5 Invert	Piccadilly Line	Concrete and metal beams	Throughout	-	-	-	-	-	To ceiling	-
	Platform 5 Invert	Piccadilly Line	Tunnel rings	Throughout	-	-	-	-	-	To floor and wall, platform wall side	-
193302/160120/01	Platform 5 Invert	Piccadilly Line	Cable ducts	>4 no	-	-	-	-	0	To end of platform, cable present, arrival end	-
193302/160120/02	Platform 5 Invert	Piccadilly Line	Tunnel ring caulking	Throughout	-	-	-	-	0	To tunnel rings of floor and wall, platform side	-
K1 (1)	Platform 5 Invert	Piccadilly Line	Braided cables	>10 no	2	1	2	1	K1	To cable run on track wall side, running throughout	Figure 1
As 193302/160120/01	Platform 5 Invert	Piccadilly Line	Cable ducts	>4 no	-	-	-	-	0	To end of platform, cable present, departure end	-
P1 (1)	Platform 5 Invert	Piccadilly Line	Small westinghouse boxes	2 no	-	-	-	-	P1	To wall trackside	Figure 2
P1 (2)	Platform 5 Invert	Piccadilly Line	Ten core box	1 no	-	-	-	-	P1	To wall trackside	Figure 3
	Platform 5 Invert	Piccadilly Line	PVC cables, metal pipes and conduits	Throughout	-	-	-	-	-	Throughout	-
	Platform 5 Invert	Piccadilly Line	Note	-	-	-	-	-	-	Braided cables running to Platform 6 through small cross passage 30m	-
	Platform 6 Invert	Piccadilly Line	Concrete	Throughout	-	-	-	-	-	To floor and wall	-

Material Description	Product Type	Current Condition	Surface Treatment	Accessibility	Asbestos Type
W = Wall PW = Partition wall C= Ceiling F = Floor FC = False ceiling AFC = Above false ceiling CA = Cable	1.Composite 2.Medium density 3.Highly friable	0.Good condition 1.Slight damage 2.Moderate damage 3.Extensive damage	0.Composite 1.Encapsulated medium density and bonded materials 2.Unencapsulated medium density or treated highly friable 3.Untreated highly friable	0.Very Low 1.Low 2.Medium 3.High	P = presumed SP = strongly presumed K = known 0.Non-asbestos 1.Chrysotile 2.Amphibole excluding Crocidolite 3.Crocidolite

**MANAGEMENT ASBESTOS SURVEY - KINGS CROSS STATION - PLATFORMS 5 AND 6 INVERTS - PICCADILLY LINE - ES12122**

Ref No.	Area Surveyed		Material Description	Quantity (m <sup>2</sup> )	Product Type	Current Condition	Surface Treatment	Accessibility	Asbestos Type	Comments and Recommendations	Figure
	Location	Room/Plant No									
	Platform 6 Invert	Piccadilly Line	Concrete and metal beams	Throughout	-	-	-	-	-	To ceiling	-
	Platform 6 Invert	Piccadilly Line	Tunnel rings	Throughout	-	-	-	-	-	To floor and wall, platform wall side	-
193302/160120/03	Platform 6 Invert	Piccadilly Line	Cable ducts	>4 no	-	-	-	-	0	To end of platform, cables present, arrival end	-
193302/160120/04	Platform 6 Invert	Piccadilly Line	Tunnel ring caulking	Throughout	-	-	-	-	0	To tunnel rings of floor and wall, platform side	-
K1 (2)	Platform 6 Invert	Piccadilly Line	Braided cables	>10 no	2	1	2	1	K1	To cable run on track wall side, running throughout	Figure 4
As 193302/160120/03	Platform 6 Invert	Piccadilly Line	Cable ducts	>4 no	-	-	-	-	0	End of platform, cables present, departure end	-
	Platform 6 Invert	Piccadilly Line	PVC cables, metal pipes, beams and conduits	-	-	-	-	-	-	Throughout	-
As 193302/160120/03	Platform 6 Invert	Piccadilly Line	Cable ducts	3 no	-	-	-	-	0	To wall trackside	-
P1 (3)	Platform 6 Invert	Piccadilly Line	Ten core box	1 no	-	-	-	-	P1	To wall trackside	Figure 5

Material Description	Product Type	Current Condition	Surface Treatment	Accessibility	Asbestos Type
W = Wall PW = Partition wall C= Ceiling F = Floor FC = False ceiling AFC = Above false ceiling CA = Cable	1.Composite 2.Medium density 3.Highly friable	0.Good condition 1.Slight damage 2.Moderate damage 3.Extensive damage	0.Composite 1.Encapsulated medium density and bonded materials 2.Unencapsulated medium density or treated highly friable 3.Untreated highly friable	0.Very Low 1.Low 2.Medium 3.High	P = presumed SP = strongly presumed K = known 0.Non-asbestos 1.Chrysotile 2.Amphibole excluding Crocidolite 3.Crocidolite

## **Appendix 4: Site Plans**

### KEY



Asbestos identified in sample taken, known, or presumed material



No asbestos detected in sample taken



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