

APPENDIX 5 Permit to Work Protocols



PERMIT TO WORK PROCEDURE

PURPOSE

The purpose of this Permit Procedure is to set out a step by step approach for Contractors /Suppliers to follow when completing the Permits Form. This is to ensure that works carried out within IWM premises are done so safely and achieve legal and best practice compliance. The permit to work system herein has been developed in line with HSE Guidance on Permit-to-Work Systems HSG250. This procedure links with the Authorisation to Work Procedure. No works shall commence without prior authorisation by an agreed Approver.

INTRODUCTION AND DEFINITION

The Procedure will define roles and responsibilities and provide a step by step guide, in the form of a flow chart, for Permits to Work to be authorised.

A permit to work system is a formal written document used to control certain types of work that are potentially hazardous. It is a document which specifies the work to be done and the precautions to be taken. They allow work to start only after safe procedures have been defined and they provide a clear record that all foreseeable hazards have been considered. The permit to work is time bound and must be signed off by an agreed Approver. [Refer to flow chart]

Permit to Work Forms appended hereto included:

Hot Work Permit to Work Procedure IWM2 Work At Height / Roof Access Permit to Work Procedure IWM3 Confined Space Access Permit to Work Procedure IWM4 Electrical Work Permit to Work Procedure IWM5 Excavation Permit to Work Procedure, IWM6

Flow Chart:

The flow chart to follow for all Permits to Work is the same but the hazards will differ.

Roles and responsibilities can be found at Appendix 1. Relevant documentation Appendix 2



Permit to Work Flow Chart Relates to IWM 2,3,4,5,6





ROLES AND RESPONSIBILITIES PROJECT MANAGER

A person given the authority and responsibility to manage a project on a day-today basis, to deliver the required output within agreed constraints. This person may be a permanent employee of IWM, an embedded contractor or a contractor. [These responsibilities are in addition to those set out in the Authorisation to Work Procedure.]

- a) Select reduced risk alternative to hot work, where practicable.
- b) Ensure contractor/supplier completes permit to work form/s, as required by RAMS, and pass to Approver for scrutiny.
- c) Receive approval from Approver and notify relevant persons about commencement of work.
- d) During routine monitoring of works, will suspend permit and contact Approver if the work environment, work task or activities change, such that the RAMS cease to be applicable.
- e) If and when Approver allows work to resume, will continue to carry out routine monitoring activity.

APPROVER

A person given the authority and responsibility for managing a defined area of an IWM branch; the Approver may also act as a Project Manager. [These responsibilities are in addition to those set out in the Authorisation to Work Procedure.]

- a) Is authorised to approve and reject Permits to Work.
- b) Will scrutinize permit to work form for adequacy and compliance with good practice.
- c) Will suspend permit and contact Project Manager if the work environment, work task or activities change, such that the RAMS cease to be applicable.
- d) Approve or reject an application for resumption of works following a suspension.
- e) Will ensure effective communication with Project Manager during the period of the works.



CONTRACTOR / SUPPLIER

The Contractor/Supplier can be one of the following:

Embedded contractor: a company or individual who is contracted directly by IWM, and authorized to act on their behalf, within certain pre-agreed limits. **Contractor**: An individual or company, external to IWM, who is instructed to carry out defined Works.

Service Provider: persons carrying out **Works**, whether IWM employees or contractors.

[These responsibilities are in addition to those set out in the Authorisation to Work Procedure.]

- a) Complete and provide the Project Manager with Permit to Work form/s as indicated by site specific RAMS.
- b) Ensure their own employees and sub-contractors comply with the terms of the permits to work.
- c) Copy of Authorisation and associated permits to be displayed at the work area
- d) Prevents unauthorized access to the work area and places appropriate signage
- e) Must suspend work and notify the Project Manager if changes occur to the work or environment, beyond that addressed in the RAMS



APPENDIX 2

RELEVANT DOCUMENTATION

- Authorisation of Work Procedure
- Authorisation of Work Form IWM1
- Hot Work Permit to Work Procedure IWM2
- Work At Height / Roof Access Permit to Work Procedure IWM3
- Confined Space Access Permit to Work Procedure IWM4
- Electrical Work Permit to Work Procedure IWM5
- Excavation Permit to Work Procedure, IWM6



APPENDIX 6 Record Drawings



Notes: 1. This drawing outlines cable and speaker locations to be reviewed in conjunction with project area installation plan. No design responsibility is implied or shall be assumed by Munro Wilson Ltd, acceptance of this drawing by the designer shall constitute transfer of responsibility. 3. Cables to be marked *Voice Alarm Circuit xx* at 8m intervals using indelible marker. Key Plan RCS5FT/EN CE5 5" Recessed Ceiling Speaker CE8 RCS8FT/EN 8" Recessed Ceiling Speaker CB PBC6T/EN Cabinet Speaker CL MCS20T/EN Column Speaker



Key	Cable	Route	

REV:	DESCRIPTION:	BY:	DATE:									
А	Client Issue	MM	20/04/16									
В	Incorporating UKAE Comments	MM	12/05/16									
С	Additions, speaker rotations	MM	16/05/16									
D	Incorporating UKAE Comments	MM	17/05/16									
STAT	STATUS: Client Review											

..\..\..\Munro Wilson\Branding\Logo\PE MunroWFinal.jpg

CLIENT:

.\IWM Logo.jpg DESIGN/PM: .\UKAE Logo.png SITE: Imperial War Museum Lambeth Road London SE1 6HZ PROJECT TITLE: IWM/VPS/1337 - PAVA Cable and Speaker Installation DRAWING TITLE: Speaker Locations and Cable Routes - Level 4 CHECKED BY: ATE: 7/05/2016 MM JTS DRAWING NO: PROJECT NO EVISION: 109 005











 $\land \land$ P3/L9/07 P3/L9/08

	FIRE PROTECTION
SYMBOL	DESCRIPTION
۲	BREAK GLASS UNIT
(SD)	SMOKE DETECTOR (CV - WITHIN VOID)
© ⊲	SMOKE DETECTOR c/w SOUNDER
Ð	HEAT DETECTOR
€®⊲	HEAT DETECTOR c/w SOUNDER
<u>ل</u>	FLASHING BEACON
	SOUNDER BEACON
вт≯	BEAM SMOKE DETECTOR TRANSMITTER
→BR	BEAM SMOKE DETECTOR RECEIVER
RI	REMOTE INDICATOR
PSU	POWER SUPPLY UNIT
INT	INTERFACE MODULE
FAP	FIRE ALARM PANEL
FAR	FIRE ALARM REPEAT PANEL
DH	WALL MOUNTED PAD TYPE MAGNETIC DOOR HOLD OPEN
TXR	TRANSFORMER RECTIFIER
LR	LINE RELAY
I/O	INPUT / OUTPUT INTERFACE MODULE
ASD	ASD PANEL
ø	PULLCHORD SWITCH
R	RESET UNIT
*	OVERDOOR LAMP BUZZER
DRI	DISABLED REFUGE INTERCOM POINT
DRP	DISABLED REFUGE ALARM PANEL

FACILITI	ES MANAC	BEMENT			
FIRE SA	FETY		PERIAL	WAR MUS	EUMS
Description					
	Fire	Alarm Layo	ut		
Building:				Lev	el:
IMPERIAL	WAR MUSE	UMS - LONDO	N	4	ŀ
Facilities Ma Walnut Tree LONDON SE	nagement Walk E11 6DN	T F	el: 0 ax: (20 7840 020 7840	9601 9616
COPYRIGH	T©	DO NOT S	CAL	.E DRAW	/ING
	DII	MENSIONS MU	ST E	BE VERIF	FIED
Design:	Drawn: B.J.P.	Checked:	Ap	proved:	
Scale:	Date:	Drawing No.			Rev.
1:150@A1	28.01.15	IWML-FS-I	FAL	-4-002	



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DO NOT SCALE DRAWING

DIMENSIONS MUST BE VERIFIED

Scale:

1:100@A3

08.12.16

Drawing No.

IWML-BS-SEB-L-4-001



		SWITCH SYMBOLS
	SYMBOL	DESCRIPTION
	o nG	20A ONE WAY SWITCH (nG INDICATES NUMBER C
RGENCY CONVERSION PACK	🗸 nG	20A TWO WAY SWITCH (nG INDICATES NUMBER C
	€ [™] nG	20A INTERMEDIATE SWITCH (nG INDICATES NUM
ERGENCY CONVERSION PACK	K ● nG	20A KEY SWITCH (nG INDICATES NUMBER OF GAI
IGHTER	×	SCENE SETTING CONTROL PAD (DIMMING SYSTE
ENCY DOWNLIGHTER	*	INFRA RED SWITCH / SENSOR
	•1	ONE WAY PULL CORD SWITCH
	DP • nG	20A DOUBLE POLE SWITCH (nG INDICATES NUMB
	2) 1) 1) 1)	OVER DOOR WARNING LIGHT
	PC	PHOTO CELL
	(is)	INFRA RED SWITCH / SENSOR
	● R	DISABLED ALARM RESET
	DA	DISABLED ALARM INDICATOR (BLUE LAMP)
	S DA	DISABLED ALARM WARNING PUSH / PULL
	4 5	45A DP PULL CORD SWITCH FOR ELECTRIC SHOW
	DO	DIMMER SWITCH
	PSU	POWER SUPPLY UNIT
	+ C	LIGHTING SWITCH CIRCUIT TO CENTRAL SWITCH

	SWITCH SYMBOLS
SYMBOL	DESCRIPTION
nG	20A ONE WAY SWITCH (nG INDICATES NUMBER OF GANGS)
nG	20A TWO WAY SWITCH (nG INDICATES NUMBER OF GANGS)
€ [*] nG	20A INTERMEDIATE SWITCH (nG INDICATES NUMBER OF GANGS)
K ● nG	20A KEY SWITCH (nG INDICATES NUMBER OF GANGS)
×	SCENE SETTING CONTROL PAD (DIMMING SYSTEM)
~	INFRA RED SWITCH / SENSOR
•^1	ONE WAY PULL CORD SWITCH
DP ● nG	20A DOUBLE POLE SWITCH (nG INDICATES NUMBER OF GANGS)
:) <u></u> :-	OVER DOOR WARNING LIGHT
PC	PHOTO CELL
k k k k k k k k k k k k k k k k k k k	INFRA RED SWITCH / SENSOR
∎ R	DISABLED ALARM RESET
DA	DISABLED ALARM INDICATOR (BLUE LAMP)
ه DA	DISABLED ALARM WARNING PUSH / PULL
4 5	45A DP PULL CORD SWITCH FOR ELECTRIC SHOWER
D o	DIMMER SWITCH
PSU	POWER SUPPLY UNIT
C	LIGHTING SWITCH CIRCUIT TO CENTRAL SWITCH BANK



BUILDING SERVICES

Facilities Management Lambeth Road London SE1 6HZ

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Tel: 020 7091 3106 Fax: 020 7840 9616

Building: Level: IMPERIAL WAR MUSEUMS LONDON 4 Design: Checked: Approved: Drawn: B.J.P. Scale: Drawing No. 09.12.16 IWML-BS-SEB-SP-4-001 1:100@A3

T/C	TIME SWITCH
WH	WATER HEATER
FH	FAN HEATER
FC	FAN CONTROLLER
1	ISOLATOR
ъ	SHAVER SOCKET
SH	ELECTRIC SHOWER
Ē	BS4343 PLUG / SOCKET (a = RATING IN AMPS)
_ · _ · _	MULTI COMPARTMENT TRUNKING IN FLOOR TRENCH
<u> </u>	FLUSH FLOOR TRUNKING
	DADO TRUNKING (3 COMPARTMENT)
D	FLUSH MOUNTED FLOOR OUTLET INSPECTION BOX (D = 200mm DEEP BOX)
	FLUSH MOUNTED 3 COMPARTMENT FLOOR BOX WITH 2 No. TWIN SWITCHED SOCKET OUTLETS, TWIN RJ45 OUTLET AND BLANK DOUBLE GANG PLATE FOR AV OUTLETS.
0	EPO, KEY RESET WITH HINGED PROTECTIVE COVER
	FLOOR BOX IN CONSERVATION AREA
CC	CABLE CHAMBER IN CONSERVATION AREA
XH	COOKER OUTLET
8	CEILING EXTRACTOR FAN

	LEGEND	
	ICT CABINET	
\square	AV AND DATA POINTS	
	SECURITY	







SCHEDULE OF CIRCUIT DETAILS FOR THE INSTALLATION

Board	Details	;		<u> </u>														
то	BE COMP	PLETE	D IN EVERY CAS	E	ONLY	TO BE C	OMPLET	ED IF T	HE DIST	RIBUTIO OF TH	N BOARD	IS NOT COL ATION	NNECTE	DDIREC	TLY TO	THE OR	IGIN	
Location	n of 4t	th Flo	or Section		Supply distribut	io ion	N/A					1	As	sociated	RCD (if a	any)		
Board		ocum Aorlin	ients Gerini		board is	from	2 Nominal Volt				BS		BS(EN)					
	[Iv		Gennj			10363	3		NOTIN	ai voitay	e 400	V RCD	No of	N/A				
Distribu	tion D	B Do	cuments		Overcu	rent prot	ective de	evice for t	the distrik	oution cire	cuit							
designa	ition			_	Type BS	S(EN)	N/A			Rating	N/A	A RCD	RCD Rating N/A				mA	
Circuit	t Details	5																
								Ci	rcuit	Max per-		Overcurrent	protectiv	e device		RCD		
number and phase		Cir	cuit designation		Type of wiring	Refe- rence method	No of points served	conduc Live mm ²	cpc mm ²	mitted disc- onnec- tion times	BS	(EN)	Type No	Rating	Short circuit capa- city	Op. current	Max per- mitted Zs	
1/L1	Lights Fron	nt Filing	Area		D	В	10	2.5	2.5	0.4	6089	в МСВ	С	10	10	N/A	1.84	
1/L2	Lights Corri	idor			D	В	16	2.5	2.5	0.4	6089	B MCB	С	10	10	N/A	1.84	
1/L3	Lighst E13,	, E15 &	E17		D	В	13	2.5	2.5	0.4	6089	B MCB	С	10	10	N/A	1.84	
2/L1	Lights Fron	nt Filing	Area		D	В	10	2.5	2.5	0.4	6089	B MCB	С	10	10	N/A	1.84	
2/L2	Power E20	& E21			D	В	4	2x2.5	2x2.5	0.4	6089	B MCB	С	32	10	N/A	0.58	
2/L3	Power E13	3			D	В	3	2x2.5	2x2.5	0.4	6089	B MCB	С	32	10	N/A	0.58	
3/L1	Lights E16 & E18				D	В	6	2.5	2.5	0.4	6089	B MCB	С	10	10	N/A	1.84	
3/L2	Lights Plan	ntroom		D	В	2	2.5	2.5	0.4	6089	B MCB	С	10	10	N/A	1.84		
3/L3	Water Heat	ter Kitch	nen		D	В	1	2.5	2.5	0.4	6089	B MCB	С	16	10	N/A	1.15	
4/L1	Amp Lift Mo	otor Ro	om		D	В	1	2.5	2.5	0.4	6089	B MCB	С	10	10	N/A	1.84	
4/L2	SPARE				-	-	-	-	-	-		-	-	-	-	-	-	
4/L3	Power E19), E17 &	. E15		D	В	7	2x2.5	2x2.5	0.4	60898 MCB		С	32	10	N/A	0.58	
5/L1	Fan Colls E	=9->E12			D	В		6.0	6.0	0.4	6089	B MCB	С	16	10	N/A	1.15	
5/L2	SPARE				-	-	-	-	-	-		-	-	-	-	-	-	
5/L3	Plant Supp				0	В	1	2.5	2.5	0.4	6089	BMCB	В	20	10	N/A	1.84	
6/TP	Lishts Filin	ny 			F	C	1	10.0	SWA	0.4	6089	B MCB	C	32	10	N/A	0.58	
7/L1	Lights Filing		Area		D	В	15	2.5	2.5	0.4	6089	B MCB	C	10	10	N/A	1.84	
7/L2	Lights E19	α E21				В	8	2.5	2.5	0.4	6089		C	10	10	N/A	1.84	
7/L3	Lights E12	& F1/				В	8	2.5	2.5	0.4	6089			10	10	N/A	1.84	
8/L1	Power Corr					В	6	2.5	2.5	0.4	6089			10	10	N/A	1.84	
8/L2	Heater In K	Kitchen				В	5	2x4.0	2x4.0	0.4	6089			32	10		0.58	
9/1 1	Power E18	& E16				B	6	4.0 2x4 0	4.0 2x4 0	0.4	6089		C	32	10		0.58	
9/1 2	Power Plan	ntroom I	Roof			B	2	2x4.0	2x4.0	0.4	6089	BMCB	C C	32	10	N/A	0.58	
W/iripe										0.1							0.00	
	-0000			-		-		_		-	- 1	0				<u> </u>		
	A	A B C				D		E		ŀ	-	G		Н		0		
	PVC/PV cables	/C S	PVC cables in metallic conduit	PVC cab in non-met condu	les PVC cab in allic metall it trunkir		les PVC cables in c non-metallic g trunking		bles etallic ing	PVC/SWA XL cables d		XLPE/SWA cables	CPE/SWA Mineral insulated cables cables		ed	Other		

SCHEDULE OF CIRCUIT TESTS FOR THE INSTALLATION

Board	lests															
ONLY T	O BE CON DIR	IPLETED IF	THE DISTR HE ORIGIN	N OF THE IN	OARD IS N ISTALLATIO	OT CONN ON	IECTED		TE	EST INSTRUMENTS (SERIAL NUMBERS) USED						
Zs	0.07	Ω	Operating times of		At I $_{\Delta}$ n	N/A	ms	Earth fa loop impedar	ult nce 10	1118207		RCD	101118	207		
lpf	4.3	kA	RCD (if any	y)	At 5I Δ_n	N/A	ms	Insulatio	n 10	1118207		Other	N/A			
Correct polarity	supply	✓	Phase seq	uence confir	med	N/	Ά	Continui	ty 10	1119207		Other	NI/A			
confirme	ed		(where app	nopnate)				Contanda	10	1110207		Outor	IN/A			
Details	of circu	iits and/o	r equipn	nent vuln	erable to	o dama	ige									
N/A																
Circuit	Tests															
		Circ	cuit Impeda Ω	nces			Insulation	resistanc	e	р		R	CD operati times	ng	E	
Circuit number and	Rin	g final circuits	s only end)	All ci (At lea	rcuits ist one umn	Live/	Live/	Live/	Earth/	I a r	Maximum measured earth fault	At	At	utton tion	marks ntinuatio	
phase	r1 (Line)	r _e (Neutral)		to be co	mpleted)	Live MO	Neutral	Earth	Neutral	i t	loop impedance		51 Δ_{n}	Test bu opera	Re see co	
1/L1	N/A	N/A	N/A	0.69	N/A	N/A	LIM	>299	>299	y	0.79				NO	
1/L2	N/A	N/A	N/A	0.65	N/A	N/A	LIM	>299	>299		0.75				NO	
1/L3	N/A	N/A	N/A	0.45	N/A	N/A	LIM	>299	>299	-	0.55			+	NO	
2/L1	N/A	N/A	N/A	0.65	N/A	N/A	LIM	>299	>299	-	0.75				NO	
2/L2	0.62	0.62	0.56	0.18	N/A	N/A	LIM	>299	>299	~	0.28				NO	
2/L3	0.58	0.58	0.58	0.16	N/A	N/A	LIM	>299	>299	1	0.26				NO	
3/L1	N/A	N/A	N/A	0.44	N/A	N/A	LIM	>299	>299	1	0.54			+	NO	
3/L2	N/A	N/A	N/A	0.57	N/A	N/A	LIM	>299	>299	1	0.67			+	NO	
3/L3	N/A	N/A	N/A	LIM	N/A	N/A	LIM	>299	>299		LIM				NO	
4/L1	N/A	N/A	N/A	LIM	N/A	N/A	LIM	>299	>299		LIM				NO	
4/L2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
4/L3	0.78	0.78	0.71	0.35	N/A	N/A	LIM	>299	>299	1	0.42				NO	
5/L1	N/A	N/A	N/A	LIM	N/A	N/A	LIM	>299	>299		LIM				NO	
5/L2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
5/L3	N/A	N/A	N/A	LIM	N/A	N/A	LIM	>299	>299		LIM				NO	
6/TP	N/A	N/A	N/A	0.03	N/A	LIM	LIM	>299	>299	1	0.11				NO	
7/L1	N/A	N/A	N/A	0.73	N/A	N/A	LIM	>299	>299	1	0.83				NO	
7/L2	N/A	N/A	N/A	0.62	N/A	N/A	LIM	>299	>299	1	0.68				NO	
7/L3	N/A	N/A	N/A	0.29	N/A	N/A	LIM	>299	>299	1	0.37				NO	
8/L1	N/A	N/A	N/A	0.46	N/A	N/A	LIM	>299	>299	1	0.56				NO	
8/L2	0.46	0.46	0.43	0.19	N/A	N/A	LIM	>299	>299	4	0.28				NO	
8/L3	N/A	N/A	N/A	0.25	N/A	N/A	LIM	>299	>299	1	0.34			<u> </u>	NO	
9/L1	0.53	0.53	0.54	0.17	N/A	N/A	LIM	>299	>299	1	0.23			<u> </u>	NO	
9/L2	0.20	0.20	0.23	0.13	N/A	N/A	LIM	>299	>299	1	0.22				NO	
Tested	Ву															
Signa	ature			Rese				Position Electrical Test Engineer								
Name Susheel Dave Mohan							Date of testing		17/12/2	015						
	A wheels of	1110010		4.70b E -1061	-0010 0 0 DI	10.0								Deres	004 -4 044	

SCHEDULE OF CIRCUIT DETAILS FOR THE INSTALLATION

TO BE Location of Distribution	e complet		SE	ONLY	TO BE C	OMPLET	ED IF TI	HE DIST	RIBUTIO	N BOARD IS	NOT CON	NECTE	D DIREC	TLY TO	THE OR	
Location of Distribution	of 4th F	Joor Section							OF TH	IE INSTALLA	TION					
Diotribution	Doci			Supply t distribut	o ion	N/A						As	sociated	RCD (if a	any)	
Board	[Mer	lin Gerinl		board is No of ph	from	3 Nominal Voltage 400					BS(E	BS(EN) N/A				
Distribution			-11	Overcur	rent prote	ective de	vice for t	he distrik	oution cire	cuit	RCD No of N/A Poles					
board designation	on DBL	Jocuments		Type BS	B(EN)	N/A Rating N/A				N/A _A	RCD Rating N/A				mA	
Circuit D	Details								Mox						1	
Circuit number and phase		Circuit designation		Type of wiring	Refe- rence method	No of points served	Cir conduc	rcuit tors csa	per- mitted disc- onnec-	Ov BS(E	ercurrent N)	Type	e device Rating	Short circuit capa-	Op.	Max per- mitted
							mm ²	mm ²	times			No	А	city kA	ΙΔ _n	2s Ω
9/L3 ^{U1}	Jntraced Circui	t		D	В	LIM	2.5	2.5	0.4	60898	MCB	С	16	10	N/A	1.15
10/L1 P	ower E12 & E	14		D	B	7	2x4.0	2x4.0	0.4	60898		C	32	10	N/A	0.58
10/L2 F	an Coils E15	>F20			В		4.0	4.0	0.4	60898		C	16	10	N/A	1.15
10/L3	Power Front Fil	ing Area			B	2	4.0 2v4.0	4.0 2v4.0	0.4	60898			32	10	N/A	0.58
11/L 2 PC	ower Door Ma	igs		ס	B	1	2.5	2.5	0.4	60898	MCB	C C	6	10	N/A	3.06
11/L3 SF	PARE			-	-	-	-	-	-	-		-	-	-	-	-
12/L1 SF	PARE			-	-	-	-	-	-	-		-	-	-	-	-
12/L2 SF	PARE			-	-	-	-	-	-	-		-	-	-	-	-
12/L3 SF	PARE			-	-	-	-	-	-	-		-	-	-	-	-
Wiring C	Code															
	A B (C		П		F		F	=	G		Н		0	
	A B C PVC/PVC proceeding process proce		PVC cabl in non-meta condui	cables PVC cabl n netallic metallic nduit trunkin		les PVC cabl in ic non-meta ng trunkin		bles etallic ing	PVC/ cab	SWA)	XLPE/SWA cables		Mineral insulated cables		Other	

SCHEDULE OF CIRCUIT TESTS FOR THE INSTALLATION

Board ⁻	Tests							1							
ONLY T	O BE CON DIR	IPLETED IF	THE DISTR THE ORIGIN	N OF THE IN	OARD IS N ISTALLATI	OT CONN ON	IECTED		TE	ST INSTR	UMENTS (SEF	RIAL NUM	BERS) US	ED	
Zs	0.07	Ω	Operating times of		At I $_{\Delta}$ n	N/A	ms	Earth fai	ult 10	1118207		RCD	101118	207	
lpf	4.3	kA	associated RCD (if any	y)	At 5I Δ_n	N/A	ms	Insulatio	n 10	1118207	,	Other	N/A		
Correct polarity	supply	✓	Phase seq (where app	uence confir propriate)	med	N	/A	Continui	ty 10	1118207		Other	N/A		
	ed of oirou	uite and/a	r oquipa	ootyulo	oroblo t	o domo			, 10	1110207					
	OF CITCU	ins and/o	requipri	ient vun		o dama	ige								
14/7															
Circuit	Tests					•									
		Circ	cuit Impeda Ω	nces			Insulation	resistanc	e	p o	Maximum	R	CD operati times	ng	n
Circuit number	Rin	g final circuit	s only	All ci (At lea	rcuits ist one	Live (Live	Line (E a sthe	a	measured earth fault	At	At	tton	narks ntinuat
phase	(116			to be co	mpleted)	Live/ Live	Neutral	Earth	Neutral	i	loop impedance	ΙΔn	51 Δ n	est bu operat	Rer Gee col
	r ₁ (Line)	r _n (Neutral)	r ₂ (cpc)	(R _{1 +} R ₂₎	(R ₂)	ΜΩ	ΜΩ	ΜΩ	MΩ	y	Ω	ms	ms	Ĕ Ŭ	N I
9/L3	N/A	N/A	N/A	LIM	N/A	N/A	LIM	>299	>299		LIM			<u> </u>	NO
10/L1	0.42	0.42	0.41	0.16	N/A	N/A		>299	>299		0.26				NO
10/L2								>299	>299						
10/L3	N/A	N/A	N/A		N/A	N/A		>299	>299						
11/L1	0.57	0.57	0.55	0.18				>299	>299	~	0.28			<u> </u>	
11/L2	N/A	N/A	N/A	LIM	N/A	N/A	LIM	>299	>299		LIM				NO
11/L3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
12/L1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
12/LZ	-	-	-	-	-	-	-	-	-	-	-	-	-		-
12/L3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
														<u> </u>	
														+	
														+	
														+	
														+	-
Tested	By														
Signa	ature			812-2	~			Positio	n	Electric	al Test Eng	ineer			
						Date of	f								
Name	е	Sush	eel Dave	Mohan				testing		17/12/2	015				







FACILIT	IES MANA	GEMENT	W	M
BUILDIN	IG SERVIC	ES E	AFERGAL E	IUSEUNS
Description				
		Lighting		
Building: IMPERIAL WAR MUSEUMS - LONDON				evel: 4
Facilities Ma Lambeth Ro London SE	anagement bad 1 6HZ	Tel: 020 7091 3106 Fax: 020 7840 9616		
COPYRIGH	HT© DI	DO NOT S MENSIONS MU	SCALE DRA	WING
Design:	Drawn: B.J.P.	Checked:	Approved:	
Scale: 1:100@A1	Date: 12.05.17	Drawing No. IWML-BS	-L-4-002	Rev.