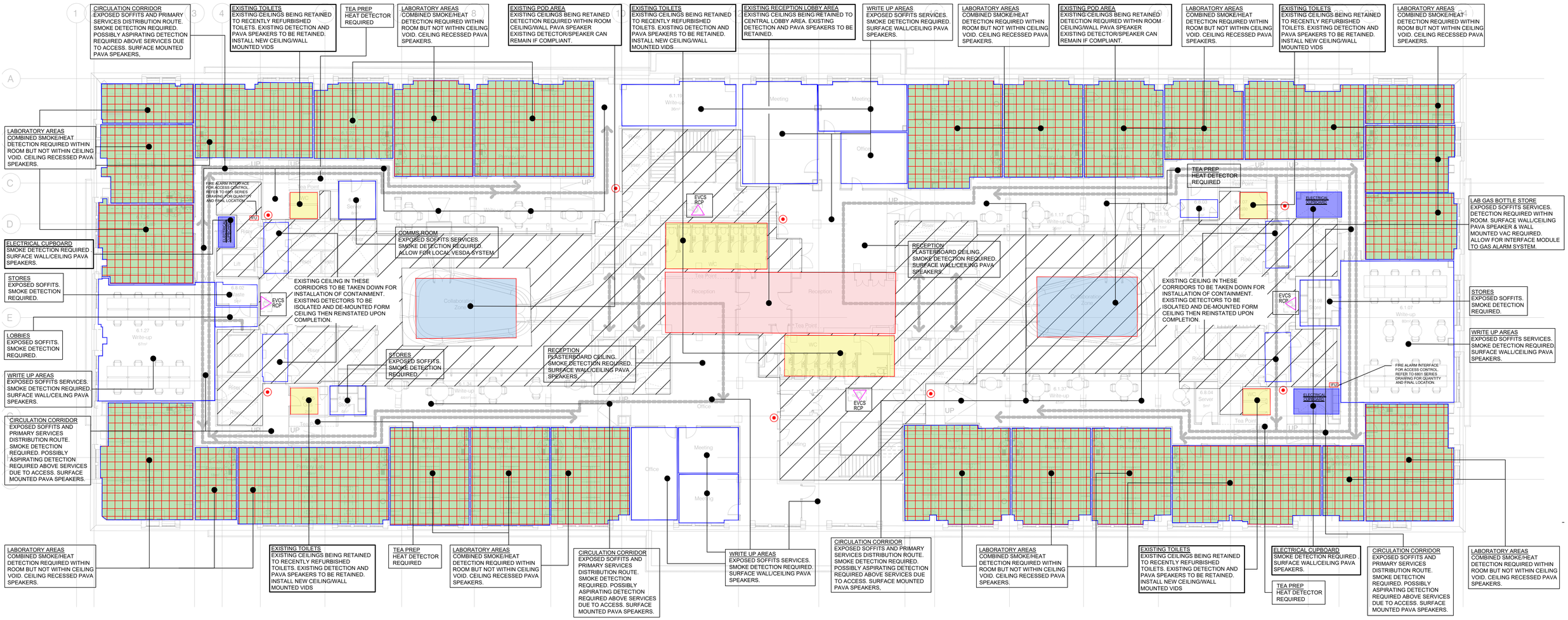

FIRE DETECTION AND ALARM SYSTEM - DESIGN NOTES.

1. THE DETAILED DESIGN OF THE FIRE ALARM SYSTEM SHALL BE A CONTRACTOR DESIGN PORTION (CDP) UNDER THE CONTRACT. THE ELECTRICAL CONTRACTOR SHALL APPOINT THE NOMINATED SPECIALIST FIRE ALARM CONTRACTOR AS A SUB-CONTRACTOR TO THEM. NOMINATED SPECIALIST CONTRACTOR: PACIFIC FIRE & SECURITY LTD, CONTACT Martin Andrews E:Martin.Andrews@pacific-uk.co.uk T:0870 850 8404, M:07759128403

2. THE NOMINATED SPECIALIST FIRE ALARM CONTRACTOR SHALL BE RESPONSIBLE FOR THE ENTIRE DESIGN, DETAILING, SUPPLY, INSTALLATION, TESTING AND COMMISSIONING OF THE COMPLETE FIRE DETECTION AND ALARM INSTALLATION TO THE MOST CURRENT EDITION OF THE APPLICABLE STANDARDS AND REGULATIONS, TOGETHER WITH ALL PLANNING AND MANAGEMENT NECESSARY TO ENSURE A LOGICAL, EFFICIENT AND SATISFACTORY EXECUTION OF THE WORKS.

3. THE APPOINTED SPECIALIST FIRE ALARM CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING ALL RELEVANT INFORMATION REQUIRED FOR APPROVAL BY THE STATUTORY AUTHORITIES. THIS INFORMATION SHALL BE SUBMITTED TO KJ TAIT ENGINEERS FOR REVIEW PRIOR TO SUBMISSION.

4. AS PART OF THE TENDER DOCUMENTATION KJ TAIT ENGINEERS HAVE PROVIDED A SYSTEM SPECIFICATION AND DESIGN INTENT/SCOPE DRAWINGS FOR THE DESIGN INTENT OF THE FIRE DETECTION AND ALARM SYSTEM. THESE INDICATE CERTAIN PRINCIPLES WHICH SHALL FORM PART OF THE CONTRACTOR'S DESIGN AND SHALL BE READ IN CONJUNCTION WITH ALL OTHER ASSOCIATED MEP SPECIFICATION SYSTEM DRAWINGS AND SPECIFICATION. IF ANY DISCREPANCIES ARISE BETWEEN THE VARIOUS SYSTEM DESCRIPTIONS WHICH IMPACT THE DESIGN OF THE FIRE DETECTION AND ALARM SYSTEM, THESE SHALL BE BROUGHT TO THE ATTENTION OF KJ TAIT ENGINEERS.

5. THE FIRE ALARM CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING DESIGN DRAWINGS. ALL DESIGN DRAWINGS SHALL BE FULLY CO-ORDINATED WITH THE ARCHITECT'S AND STRUCTURAL ENGINEER'S DRAWINGS AND SHALL FULLY DETAIL THE DESIGN OF THE INSTALLATION. THE DESIGN DRAWINGS SHALL SUBSTANTIATE IN ALL RESPECTS THE DESIGN CALCULATIONS WHERE APPROPRIATE.

6. THE SPECIALIST FIRE ALARM CONTRACTOR SHALL BE RESPONSIBLE FOR REVIEWING THE M&E SERVICES DRAWINGS, ARCHITECTURAL CEILING PLANS & STRUCTURAL BEAM PLANS TO ENSURE ALL DEEP CEILING VOIDS AND DOWNSTAND BEAMS ARE TAKEN INTO ACCOUNT WHEN DESIGNING THE DETECTOR COVERAGE.

7. THE SPECIALIST FIRE ALARM CONTRACTOR SHALL INCLUDE FOR ALL NECESSARY FIRE ALARM INTERFACE RELAY MODULES FOR ANCILLARY SYSTEMS INCLUDING THE EXTENDED ACCESS CONTROL SYSTEM AND NEW MECHANICAL PLANT. REFER TO THE RELEVANT DRAWINGS FOR DETAILS.

8. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE CORRECT SETTING OUT OF THE WORKS AND SHALL PROVIDE FULLY DETAILED AND CO-ORDINATED WORKING DRAWINGS. THE WORKING DRAWINGS SHALL BE BASED ON THE DESIGN DRAWINGS AND SHALL TAKE INTO ACCOUNT ALL DRAWINGS APPLICABLE TO OTHER DISCIPLINES, TRADES AND SERVICES, SITE CONSTRAINTS AND ALL MODIFICATIONS WHICH MAY HAVE OR WILL TAKE PLACE TO THE BUILDINGS OR INSTALLATIONS.

RADIO PAGER SYSTEM DESIGN NOTES:

1. FIRE ALARM SPECIALIST CONTRACTOR TO INCLUDE FOR THE PROVISION OF A RADIO PAGER SYSTEM LINKED TO THE FIRE ALARM/PAVA SYSTEM TO COVER THE 7TH FLOOR AREA. THE SYSTEM SHALL BE COMPLETE WITH RADIO BASE STATIONS TO PROVIDE COVERAGE TO THE ENTIRE TENANT DEMISE FOR PERSONS WHO ARE HARD OF HEARING AND POTENTIAL LONE WORKING.

2. LOCATION OF RADIO PAGER BASE STATIONS TO BE DETERMINED BY THE CONTRACTOR TO PROVIDE FULL FLOOR COVERAGE. THESE SHALL GENERALLY BE LOCATED WITHIN RISERS WHERE POSSIBLE. INCLUDE FOR POWER SUPPLY.

3. INCLUDE FOR THE PROVISION OF 20NO RADIO PAGERS WITHIN THE PROPOSALS.

FIRE ALARM VISUAL ALERT DEVICES (VADS) RISK ASSESSMENT:

1. THE PRIMARY MEANS OF FIRE ALERT FOR OCCUPANTS SHALL BE VIA A SEPARATE PAVA SYSTEM UTILIZING SPEAKERS LOCATED THROUGHOUT THE BUILDING.

2. IT IS NOT ANTICIPATED THAT A SIGNIFICANT NUMBER OF PEOPLE WHO ARE DEAF OR HAVE A HEARING IMPAIRMENT WILL BE PRESENT WITHIN THE BUILDING

3. WITHIN THE BUILDING AREAS PEOPLE WHO ARE DEAF OR HAVE A HEARING IMPAIRMENT WILL NOT BE IN ISOLATION AND WILL BE EVACUATED BY THE BUILDING SECURITY STAFF & TENANT FIRE MARSHALS.

4. WHERE PEOPLE WHO ARE DEAF OR HAVE A HEARING IMPAIRMENT COULD BE IN ISOLATION SUCH AS TOILET FACILITIES, BS EN 54-23 COMPLIANT VADs SHALL BE INSTALLED WITHIN ALL TOILET FACILITIES.

5. IT IS ALSO PROPOSED TO INCLUDE FOR A RADIO PAGER SYSTEM WITHIN THE 7TH FLOOR FOR LONE WORKERS WITH HEARING IMPAIRMENT WHO COULD BE IN ISOLATION.

6. IT IS NOT PROPOSED TO INSTALL BS EN 54-23 COMPLIANT VADs OR SUPPLEMENTARY VISUAL INDICATION DEVICES TO PROVIDE BLANKET COVERAGE THROUGHOUT THE BUILDING

7. IT IS NOT ANTICIPATED THAT ANY STAFF WILL BE DEAF OR HAVE A HEARING IMPAIRMENT, IN THE FUTURE IF THIS IS THE CASE, THESE MEMBERS OF STAFF WILL HAVE A DEDICATED PERSONAL EVACUATION PLAN IN PLACE BY THE BUILDING MANAGEMENT.

8. BS EN 54-23 VADs SHALL BE INSTALLED TO SUPPLEMENT THE PAVA DUE TO HIGH AMBIENT NOISE IN THE FOLLOWING AREAS:
   - IDENTIFIED LONE WORKER AREAS
   - ALL TOILET & SHOWER ACCOMMODATION
   - MAIN PLANT AREAS,

8. BS EN 54-23 VADs SHALL ALSO BE INSTALLED WITHIN ESCAPE STAIR DISABLED PERSONS REFUGE SPACES TO AVOID CONFLICT WITH HIGH DBA LEVELS AND EMERGENCY VOICE COMMUNICATION SYSTEMS.

PUBLIC ADDRESS / VOICE ALARM DESIGN NOTES:

1. THE DESIGN OF THE PAVA SYSTEM SHALL BE A CONTRACTOR DESIGN PORTION (CDP) UNDER THE CONTRACT. THE ELECTRICAL CONTRACTOR SHALL APPOINT THE NOMINATED SPECIALIST FIRE ALARM CONTRACTOR AS A SUB-CONTRACTOR TO THEM. NOMINATED SPECIALIST CONTRACTOR: PACIFIC FIRE & SECURITY LTD, CONTACT Martin Andrews E:Martin.Andrews@pacific-uk.co.uk T:0870 850 8404, M:07759128403

2. REFER TO PACIFIC DRAWINGS FOR FULL DETAILS OF THE PAVA SYSTEM INCLUDING SCHEMATIC AND SPEAKER LAYOUTS.

3. THE EXISTING PAVA SYSTEM SHALL BE RETAINED, EXTENDED AND RECONFIGURED TO SUIT THE REFURBISHMENT WORKS/AREAS.

4. THE PA/VA SYSTEM SHALL BE INSTALLED TO MEET THE REQUIREMENTS OF ALL RELEVANT SECTIONS OF;
   BS EN 50849:2017 SOUND SYSTEMS FOR EMERGENCY PURPOSES.
   BS 5839-8:2013 CODE OF PRACTICE FOR THE DESIGN, INSTALLATION COMMISSIONING AND MAINTENANCE OF VOICE ALARM SYSTEMS
   BS 6259:2015 CODE OF PRACTICE FOR THE DESIGN, PLANNING, INSTALLATION, TESTING AND MAINTENANCE OF SOUND SYSTEMS
   BS6259 PLANNING AND INSTALLATION OF SOUND SYSTEMS.

5. THE PA/VA SYSTEM SHALL BE WIRED IN ENHANCED CATEGORY 2C2.5 PRYSMIAN FP200 PLUS CABLE WITH LSZH WHITE SHEATH TO MATCH EXISTING.

6. PA/VA CABLES SHALL GENERALLY BE RUN ON DEDICATED FIRE/PAVA CABLE TRAY OR CONDUIT CONTAINMENT. ALL CABLES IN FRONT OF HOUSE AREAS WILL BE CONTAINED WITHIN CONDUIT/TRUNKING. WHERE CABLES WHICH REQUIRE FIXING TO THE BUILDING FABRIC SHALL BE SUPPORTED BY CLIPS AND SCREWS COMPLIANT WITH BS5839-1: 2017.

7. ALLOW FOR BLACK MATTING TO BE FITTED TO CABLE TRAYS TO OBSCURE CABLES FROM BEING VISIBLE FROM BELOW.

FIRE ALARM INSTALLATION NOTES:

1. ALL ELECTRICAL WORKS SHALL BE CARRIED OUT IN ACCORDANCE WITH IET WIRING REGULATIONS BS7671:2018 18th EDITION AND LATEST AMENDMENTS.

2. FIRE ALARM INSTALLATION SHALL COMPLY WITH BS5839-1:2017. THE EXISTING FIRE ALARM SYSTEM CATEGORY IS L2. AS PART OF THE PROJECT ALL AREAS BEING REFURBISHED/FITTED OUT SHALL BE PROVIDED WITH ENHANCED COVERAGE TO CATEGORY L1 WITH ANY MINOR DEVIATIONS RECORDED IN THE SYSTEM DESIGN&COMPLETION CERTIFICATES. THE FIRE ALARM SYSTEM SHALL BE ANALOGUE ADDRESSABLE.

3. THE EXISTING FIRE ALARM SYSTEM SHALL BE RETAINED OPERATIONAL IN ITS ENTIRETY. THE FIRE ALARM SYSTEM LOOPS SHALL BE EXTENDED AND RECONFIGURED AS REQUIRED TO SUIT THE PROPOSED REFURBISHMENT WORKS/AREAS. A NEW GRAPHICAL FRONT END MANAGEMENT SYSTEM SHALL BE INSTALLED UNDER THE CONTRACT TO PROVIDE ENHANCED ALARM AND EVACUATION MANAGEMENT WITHIN THE BUILDING. THE FIRE ALARM GRAPHICAL FRONT END SHALL ALSO ALLOW INTEGRATION WITH THE FUTURE CONVERGED DIGITAL BUILDING NETWORK SYSTEMS.

4. THE FIRE ALARM CAUSE & EFFECT WILL BE IN ACCORDANCE WITH THE EXISTING BUILDING FIRE STRATEGY REQUIREMENTS. THE CAUSE & EFFECT WILL OPERATE ON A SINGLE STAGE, EVACUATION WITH NO GRACE PERIOD.

5. THE FIRE ALARM SYSTEM SHALL BE WIRED IN ENHANCED CATEGORY 2CORE 2.5 PRYSMIAN FP200 PLUS CABLE WITH LSZH RED SHEATH. ALL CABLES SHALL BE MINIMUM EUROCLASS RATING OF Cca-s1a-d1-a1.

6. FIRE ALARM CABLES SHALL GENERALLY BE RUN ON DEDICATED CABLE BASKET OR CONDUIT CONTAINMENT. FIRE ALARM CABLES WHICH ARE INSTALLED ONTO CABLE CONTAINMENT SYSTEMS TO BE SECURED BY MEANS OF BLACK COVERED STEEL CABLE TIES. ALLOW FOR BLACK MATTING TO BE FITTED TO CABLE TRAYS TO OBSCURE CABLES FROM BEING VISIBLE FROM BELOW.

7. IN THE EVENT OF FIRE ACTIVATION THE SERVICES TO LABS AND THE ASSOCIATED SPECIALIST GASES SHUTDOWN VALVE WOULD ONLY BE INTERRUPTED BY THE ACTIVATION OF THE OF THE LOCAL LAB ROOM FIRE DETECTION DEVICES. EXACT INTERFACE REQUIREMENTS TO BE CONFIRMED.

8. FIRE ALARM TO INTERFACE TO THE ACCESS SYSTEM. ALL ACCESS DOORS TO OPEN ON FIRE ALERT

9. FIRE ALARM SYSTEM TO INTERFACE TO LIGHTING CONTROL TO BRING LIGHTING TO 100% ON FIRE ALERT.

10. ALL WIRING EQUIPMENT AND ACCESSORIES SHALL BE FLUSH MOUNTED WITH THE EXCEPTION OF PLANT AREAS WHERE THEY SHALL BE SURFACE FIXED.

11. ZONE ISOLATORS ARE NOT SHOWN. ALLOW 1No. PER 20 LOOP DEVICES.

12. FINAL LOCATIONS OF ALL IFU's TO DOOR ACCESS CONTROLLERS/ SECURITY, MECHANICAL SERVICES AND LIFTS TO BE AGREED WITH SPECIALIST CONTRACTORS.

13. ALL DEVICES TO BE LABELED WITH LOOP AND ADDRESS NUMBER.

14. FINAL VESDA ASPIRATING PIPEWORK DESIGN SHALL BE CARRIED OUT BY THE FIRE ALARM ASPIRATING SYSTEM SPECIALIST MANUFACTURER.

15. EXISTING CORES SMOKE VENTILATION SYSTEMS SHALL BE RETAINED OPERATION DURING THE WORKS.

CAUSE & EFFECT STRATEGY:

1. THE EXISTING CAUSE & EFFECT OPERATION HAS BEEN CONFIRMED BY THE MAINTENANCE CONTRACTOR TO BE A SINGLE STAGE EVACUATION WITH AN INVESTIGATION PERIOD OF 2 MINUTES WITH FURTHER DELAY OF 4 MINUTES. THE COMPLETE BUILDING EVACUATES IN EVENT OF CONFIRM ALARM.

2. THE PROPOSED CAUSE & EFFECT OPERATION DESCRIBED IN THE MARSHALL FIRE REPORT IS TO BE A TWO STAGE PHASED EVACUATION AS DESCRIBED BELOW.

2.1. WHERE UPON ACTIVATION OF A SINGLE DETECTOR A 2 MINUTE INVESTIGATION PERIOD COMMENCES, IF THE INVESTIGATION DELAY BUTTON IS PRESSED ON THE MAIN FIRE PANEL WITHIN THIS TIME A FURTHER 4 MINUTE INVESTIGATION TIME IS STARTED (6 MINUTES TOTAL INVESTIGATION PERIOD).

2.2. IF EITHER THE 2 OR 4 MINUTE TIMERS EXPIRE OR A SECOND DETECTOR IS ACTIVATED ANYWHERE IN THE BUILDING THEN THE FLOOR OF ORIGIN AND THE FLOOR ABOVE GO INTO EVACUATION MODE ALONG WITH GROUND FLOOR AND ALL BASEMENT FLOORS BELOW. ALL OTHER FLOORS GO INTO ALERT MODE.

2.3. AFTER A FURTHER 2 MINUTE PERIOD THE REMAINING FLOORS CHANGE FROM ALERT TO EVACUATION MODE.

2.4. OPERATION OF ANY SINGLE MANUAL BREAKGLASS CALL POINT OR SPRINKLER (BASEMENT LEVEL) AT ANYTIME WILL CANCEL ANY INVESTIGATION PERIOD AND COMMENCE THE EVACUATION SEQUENCE AS DESCRIBED ABOVE.

3. WARNING OF A FIRE AND ALERT AND EVACUATION IS PROVIDED THROUGHOUT THE BUILDING VIA THE PAVA SYSTEM DESIGNED AND INSTALLED IN ACCORDANCE WITH BS5839-8. WITHIN THE HERITAGE AREAS ON LEVEL 3 & 4 ALERT IS VIA CONVENTIONAL ELECTRONIC SOUNDERS AND VISUAL INDICATION BEACONS.

4. IT IS PROPOSED THAT SUBJECT TO CONFIRMATION FROM THE BUILDING MANAGEMENT & SECURITY OPERATIONS TEAM THAT THERE WILL BE SUFFICIENT ON SITE SECURITY STAFF TO UNDERTAKE INVESTIGATIONS THEN THE EXISTING CAUSE & EFFECT OPERATION SHALL BE RECONFIGURED TO THE PHASED EVACUATION AS DESCRIBED ABOVE. THE REPROGRAMMING OF THE CAUSE & EFFECT SHALL BE CARRIED OUT BY THE FIRE ALARM SPECIALIST CONTRACTOR.

5. IF IT IS NOT CONFIRMED THAT THERE WILL BE SUFFICIENT SECURITY STAFF DURING OCCUPIED HOURS OR ANY PERIODS OUT OR NORMAL HOURS WHERE THERE IS A REDUCED SECURITY PRESENCE AND INVESTIGATIONS ARE UNABLE TO TAKE PLACE THEN THE TIME DELAY (INVESTIGATION PERIODS) SHALL BE ISOLATED AND THE CAUSE & EFFECT SHALL REVERT TO THE EXISTING SINGLE STAGE EVACUATION STRATEGY WITH INVESTIGATION PERIOD.

LEGEND:

- EXPOSED CONCRETE SOFFIT AREAS (NO CEILINGS). ALL M&E SERVICES SHALL BE SURFACE/EXPOSED WITHIN THESE AREAS. SMOKE DETECTORS/SPEAKERS TO BE COORDINATED WITH MECHANICAL SERVICES & LIGHTING. NOTE DOWNSTAND BEAMS ARE CELLULAR TYPE.
- SUSPENDED 600x600mm GRID CEILING WITH VOID OF LESS THAN 800mm ABOVE. NO VOID DETECTION REQUIRED. DETECTORS TO BE COORDINATED WITH GRILLES & LUMINAIRES.
- PLASTERBOARD CEILING WITH VOID GREATER THAN 800mm. DETECTION POSSIBLY REQUIRED BOTH BELOW CEILING AND WITHIN VOID
- ELECTRICAL RISER / DISTRIBUTION BOARD CUPBOARD. PLASTERBOARD CEILING OR SOFFIT NO CEILING VOID OVER 800mm.
- PLASTERBOARD CEILING WITH VOID NO GREATER THAN 800mm. DETECTION REQUIRED BELOW CEILING.
- SUSPENDED 600 x 600 GRID CEILING WITH VOID POSSIBLY GREATER THAN 800mm. DETECTION REQUIRED BOTH BELOW CEILING AND WITHIN VOID.
- EXISTING CORE AREAS ARE GENERALLY OUTWITH THE REFURBISHMENT SCOPE/WORKS AREAS WITH THE EXCEPTION OF NEW EVCS SYSTEMS BEING INSTALLED. EXISTING FIRE ALARM DEVICES, EQUIPMENT, CABLING AND PAVA SPEAKRES, CABLING ETC SHALL ALL BE RETAINED AND PROTECTED . FIRE ALARM/PAVA SYSTEMS SPECIALIST CONTRACTOR SHALL ALTER/RECONFIGURE EXISTING SYSTEMS LOOP CABLING AS REQUIRED. CABLE ROUTES TO TAKE COGNISANCE OF HERITAGE FINISHES ETC.
- FAP — MAIN FIRE ALARM PANEL
- BREAK GLASS CALL POINT
- IFU — FIRE ALARM INTERFACE UNIT TO ANCILLARY SYSTEM
- EVCS RCP — NEW WIRELESS EVCS REFUGE CALL POINT INSTALLED WITHIN EXISTING ESCAPE STAIR AONE AS PART OF THE CONTRACT, 2 WAY SPEECH STAINLESS STEEL FINISH WITH "T" COIL TYPE "B" STANDARD CALL POINT AS PER KTP OR DEAFALERTER KJT SPECIFICATION ADD NOTE ABOUT CABLING ETC DUE TO HERITAGE
- EVCS MCS — EVCS MASTER CONTROL STATION. 2WAY SPEECH TO INDIVIDUAL CALL POINTS. CALL INDICATORS AND DIGITAL CALL ID DISPLAY. WITH SEMI RECESSING MOUNTING KIT.

S4 - P01	26/01/24	STAGE 3 CAT -B ISSUE	MZ	SH
SUIT- REV	DATE	DESCRIPTION	DRN	CHK

STATUS

STAGE 3

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