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associates

UCL

Gower Street
London
WC1E 6BT

Sprinkler Main Pipe to Riser Options Report

Prepared for UCL Slade School of Fine Art (North Wing)

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Project: Slade School of Fine Art (North Wing)

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Revision History:

Revision	Date Issued	Comment	Prepared By	Reviewed By	Approved By
01	13/02/20		Subiraj Doraisingam		

OSBORN
associates

Osborn Associates Ltd
South Barn, Crockham Park, Crockham Hill, Edenbridge. Kent. TN8 6SR
Tel: +44 1732 860460
Email: admin@osbornassociates Ltd
www.osbornassociates.com

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1 INTRODUCTION

Further to Osborn Associates Sprinkler Concept Design Report Phase 2, this report details the options available to install the main feed pipework from the new Student Centre to the Slade School of Arts.

2 SPRINKLER SYSTEM SUMMARY

The Sprinkler System design summary will be as follows:

i) The system will be a 'wet type system' for the Slade School of Arts and a pre-action deluge type system for the external store area.

ii) The water supply to the Sprinkler System will be from the Pump Room located at basement level 2 of the New Student Centre Building.

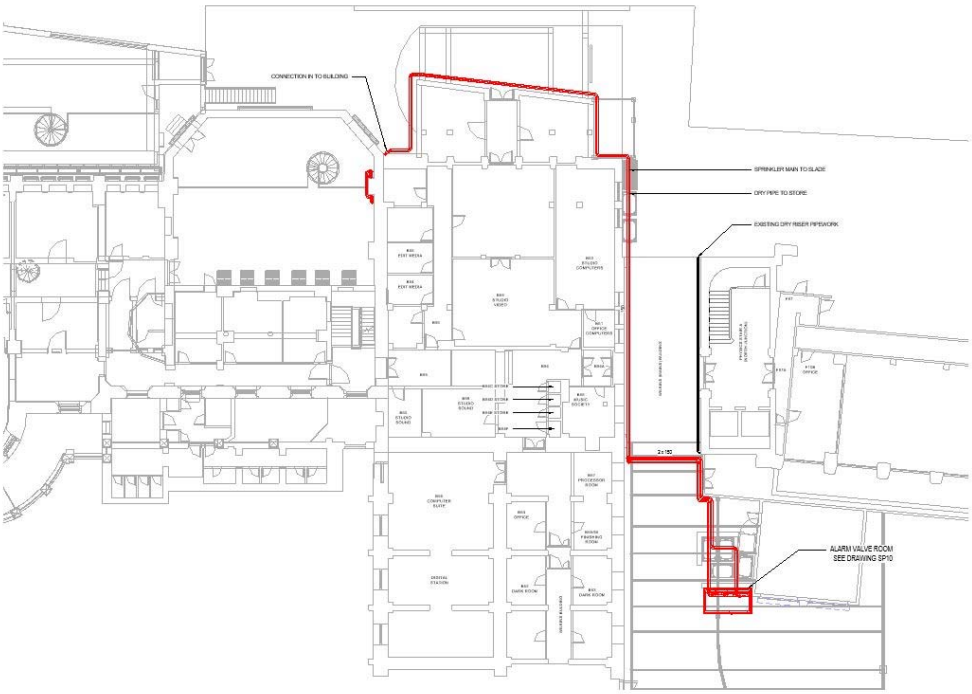
iii) The connection between the pump discharge header will be on the basement level and run through the service tunnel 'C' as per drawing number 1955-SP-TU-01, 1955-SP-TU-02 and 1955-SP-TU-03

iv) The pipe will rise from the tunnel and connect into the alarm valve located in an enclosure located at lower ground level of Wilkins Building service yard as shown on drawing number 1955-SP-AV-01 and 1955-SP-AV-02.

v) There are three options available to feed the Sprinkler System for the Slade School of Art to two possible riser positions. The options are detailed with preference in chronological order.

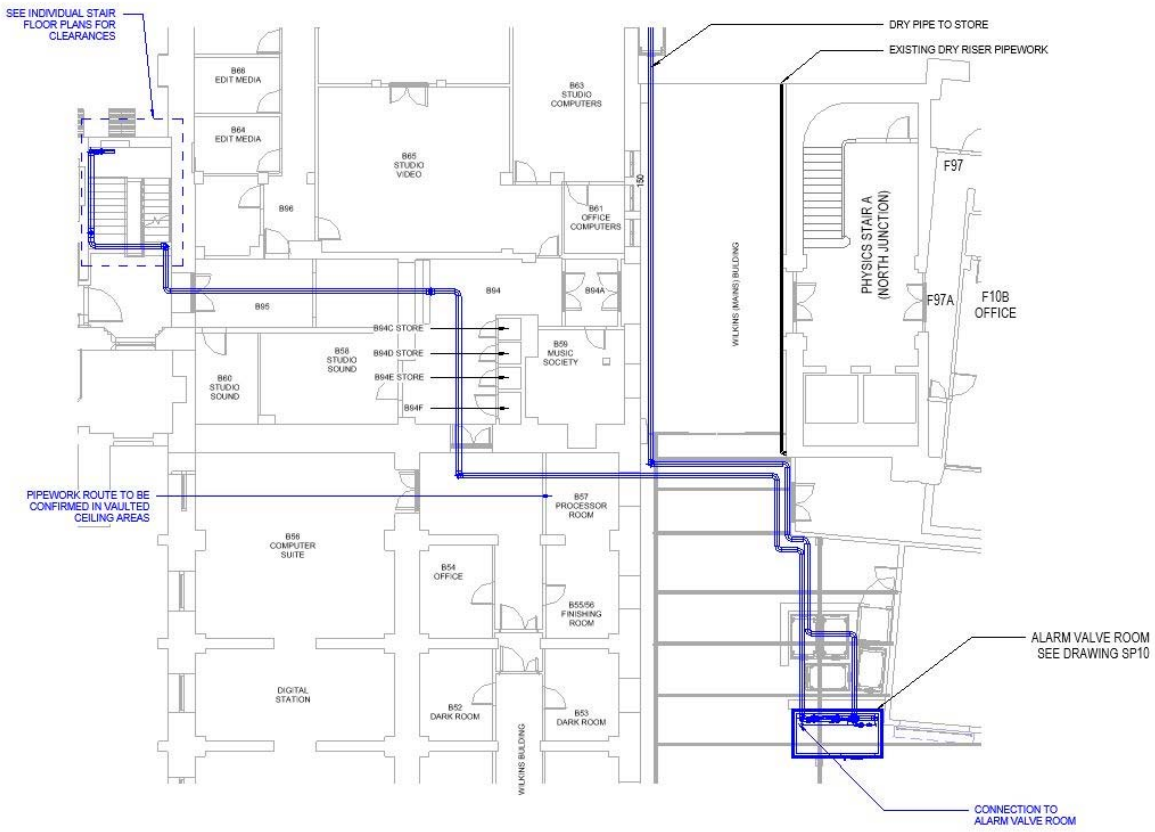
2.1 OPTION 1

The 150mm feed main is taken through the Wilkins Building yard driveway and through the back as per detail below. There are two feed mains along this route. One to feed the Sprinkler System to the inside of the building and the other to feed the material store located outside the building. The 150mm feed then enters the building to a riser position as shown and feeds the zones of Sprinkler System for each floor. Hydraulically this is the best option as there are a limited number of bends and this would enable the friction losses to be within tolerance. This would also enable the use of the water supplies available at the new Student Centre. Please refer to drawing number 1955-SP-OP1-01 and 1955-SP-OP1-02.



2.2 OPTION 2

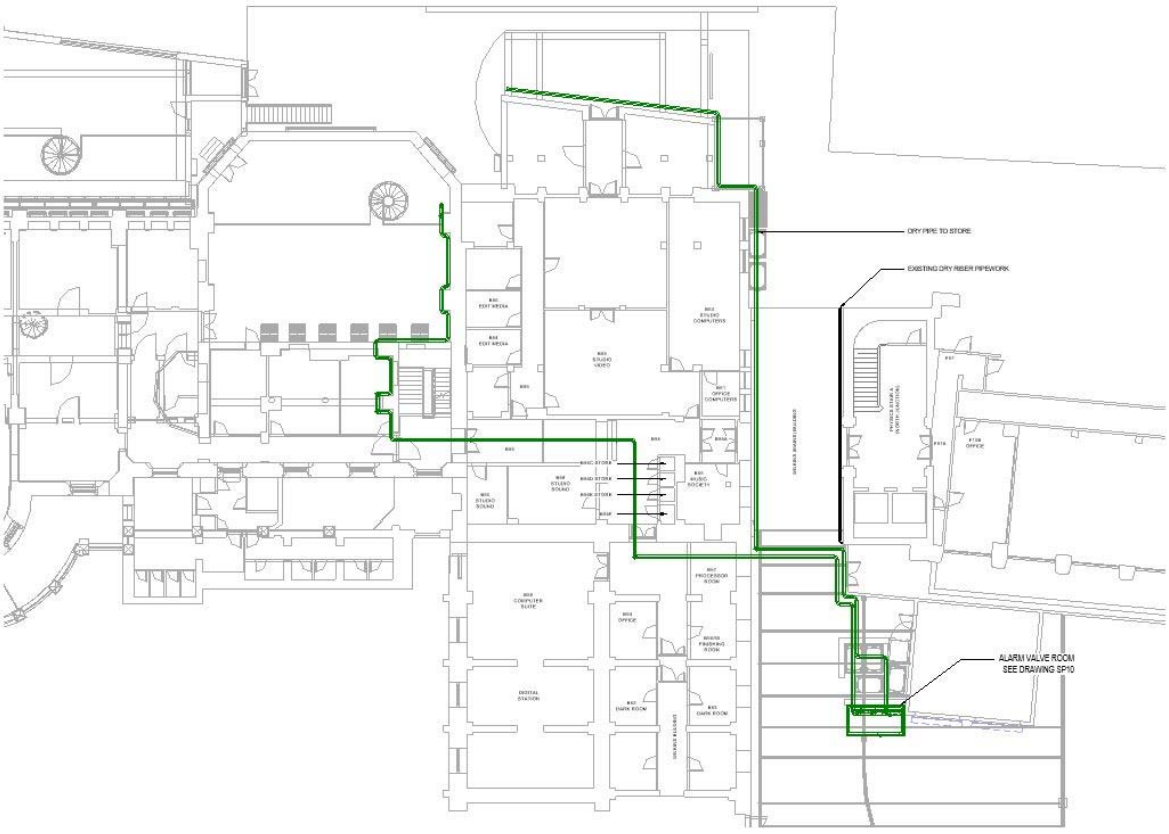
The 150mm feed main for the inside of the building is proposed to be run as per detailed below, locating a riser within the staircase to feed the Sprinkler System for each level of this building. This option has a shorter route but the position of the riser in the staircase obstructs the escape passage and is located within 1,000mm landing clearance. Please refer to drawing number 1955-SP-OP2-01 and 1955-SP-OP2-02. The feed to the external storage store remains outside the building.



2.3 OPTION 3

The 150mm feed main for the inside of the building is proposed to run through the corridors of this building until it reaches the proposed riser. Please see details below.

This option creates a number of bends and exceeds the friction losses tolerance available to be able to use the existing new Student Centre Sprinkler System water supplies. Please refer to drawing number 1955-SP-OP3-01 and 1955-SP-OP3-02. The feed to the external storage store remains outside the building.



3 RECOMMENDATIONS

Following the site survey, discussion with the Conservation Officer, completion of hydraulic calculation and the available water supply, Option 1 is the recommended option to progress with the Sprinkler installation design.

4 DRAWING SCHEDULE

Drawing No.	Drawing Title
1955-SP-AV-01	Service Yard Alarm Valve Room Arrangement
1955-SP-AV-02	Service Yard to Alarm Valve Room Sprinkler Pipework Details
1955-SP-OP1-01	Service Yard to Slade Sprinkler Pipework Option 1 – Sheet 1 of 2
1955-SP-OP1-02	Service Yard to Slade Sprinkler Pipework Option 1 – Sheet 2 of 2
1955- SP-OP2-01	Service Yard to Slade Sprinkler Pipework Option 2 – Sheet 1 of 2
1955-SP-OP2-02	Service Yard to Slade Sprinkler Pipework Option 2 – Sheet 2 of 2
1955- SP-OP3-01	Service Yard to Slade Sprinkler Pipework Option 3 – Sheet 1 of 2
1955-SP-OP3-02	Service Yard to Slade Sprinkler Pipework Option 3 – Sheet 2 of 2
1955-SP-TU-01	Tunnels and Switchrooms Sprinkler Pipework Sheet 1 of 2
1955-SP-TU-02	Tunnels and Switchrooms Sprinkler Pipework Sheet 2 of 2
1955-SP-TU-03	Sprinkler Pipe Extents Wilkins Service Yard Tunnels and Switchrooms