PLANNING & HERITAGE/ DESIGN & ACCESS STATEMENT

STRENGTHENING OF EXISTING LANDINGS

to the

STUDENTS STAIRCASE

within the

MANSION HOUSE
HILLINGDON COURT
VINE LANE
HILLINGDON
MIDDX, UB10 0BE

for

ACS INTERNATIONAL SCHOOLS LTD
HEYWOOD
PORTSMOUTH ROAD
COBHAM
SURREY KT11 1BL

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September 2022
Doc No SA/41136/2/2002/AT/jch

AMENDMENTS RECORD

Amendments made to this Document are recorded alphabetically. Consequently, if this page is left blank, no changes have been made to the original Document.

Amend	By	Date	Description

DISTRIBUTION RECORD

Date	Recipient	Comment
15/09/22	London Borough of Hillingdon – Conservation Team – Mark Butler	For Listed Building Consent.

CONTENTS

1.0 Introduction

1.1 Purpose of this Document
1.2 Existing Building
1.3 Reasons for the Works

2.0 Considerations

2.1 Risk of Flooding
2.2 Structural Integrity/Visual Impact
2.3 Environmental Factors
2.3.1 General
2.4 Access and Health & Safety
2.4.1 General
2.4.2 Proposed Remedial Works

3.0 Proposals

4.0 Conclusions

4.1 General
4.2 Planning Statement
4.3 Heritage Statement
4.4 Design & Access Statement
4.4.1 Key Issues

5.0 Confidentiality and Copyright

5.1 Preparation
5.2 Copying
5.3 Intellectual Property Rights

6.0 Quality Statement and Signatory

6.1 General
6.2 Acceptance
6.3 Signatory

Appendix I – Location Plan

Appendix II – Photographs

Appendix III – ATA's Drawing No 41136/2/01

Appendix IV – Petrographic Examination Report

Appendix V – ATA's Drawing No 41136/2/02

1.0 INTRODUCTION

1.1 Purpose of this Document

(1) The purpose of this Document is to provide an overview of the main implications of strengthening the existing banisters to the landings of the students' staircase at first and second floor levels of the Grade II* Listed Mansion House and to ensure that the design takes account of the historic aspects of the existing building.

1.2 Existing Building

(1) The Mansion House consists of a Grade II* Listed classical building which, records suggest, was constructed between 1854 and 1858. Since that time, the Mansion House has been subject to numerous alterations and extensions, particularly when the building was initially converted into a school in the 1970's. A large extension to the West side of the original building was completed in the 1980's.

(2) The Mansion House is located within 4.56 hectares (11.4 acres) of grounds containing formal gardens, playing fields, coach and car parks and the like. A one way entry and exit system is in operation for both private motor vehicles and school coaches. A separate security gate house is positioned close to the entrance onto Vine Lane.

(3) Reference should be made to the 1:1250 scale location plan contained in Appendix I of this Document.

1.3 Reasons for the Works

(1) The existing staircase (now known as The Students Staircase) extends up from basement level to second floor level, with ornate stair balusters and landings set into the stone treads and landings.

(2) Some years ago, the heights of the landing balusters were increased due to concern that the original heights (950mm) were too low to safeguard students.

(3) Over the passing years, the staircase and, in particular, the landings to the staircase have been subject to robust handling which has caused the loosening of the balusters (spindles) to the banisters at first and second floor landing levels.

(4) Reference should be made to the photographs contained with Appendix II of this Document.

(5) The layout of the existing landings and staircase are shown on ATA's drawing No. 41136/2/01 contained within Appendix III of this Document.

2.0 CONSIDERATIONS

2.1 Risk of Flooding

(1) There is no history or record of any flooding.

(2) The entire site is located in flood zone 1 which is defined by the Environment Agency as having a 'low probability of flooding'.

(3) The majority of the site consists of open playing fields and the like which are naturally absorbent. As a result, it does not require any formal drainage.

(4) Roof drainage, access routes and car park areas are served by a formal drainage system which is taken to the public drainage system.

2.2 Structural Integrity/Visual Impact

(1) The internal students' staircase is not visible from the outside of the building. It is contained within a stairwell with a roof light at second floor ceiling level.

(2) The new baluster sections should be designed to withstand a lateral load of 0.74 kN/m as required by BS6399-1:1996. To resist these forces, round hollow sections (RHS's) with the same top section, so as to match the surrounding balusters, would be secured to the landings. To achieve the necessary restraint, it is necessary to provide bolted fixings through the existing landings. These fixings will be hidden on top of the landing by floor finishes and hidden under the landing by the false ceiling.

(3) Laboratory examination and tests confirm that the landings (and probably the stairs) consist of natural limestone. This is a capable structural material with good loadbearing properties.

(4) Reference should be made to the petrographic examination report contained within Appendix IV of this Document.

(5) The new posts will be carefully welded to the existing steel section contained within the timber handrail.

(6) The visual impact is considered minimal and acceptable.

2.3 Environmental Factors

2.3.1 General

(1) The works are confined to the internal area of the original Mansion House building and will not impact in any way on the local environment.

2.4 Access and Health & Safety

2.4.1 General

(1) There is no change to the access to any building on the site.

2.4.2 Proposed Remedial Works

(1) The works to the students' staircase will be confined to the first and second floor landings. Nevertheless, access and use of the staircase during the course of the works will be prohibited. As a result, the proposed remedial works will be completed during the next convenient school shut down period.

3.0 PROPOSALS

(1) In order to avoid unnecessary works to the existing balustrades, it is considered to be more aesthetically acceptable to introduce a few new posts along each landing in order to provide the necessary lateral resistance to the existing balustrade without altering the line of the existing timber handrail.

(2) The proposed remedial works will provide the necessary stiffness to the balusters at the landing levels, and avoid the need for any further works in the future.

(3) These works are described in detail on ATA's drawing 41136/2/02 contained in Appendix V of this Document.

4.0 CONCLUSIONS

4.1 General

(1) The remedial works to the students' staircase will ensure the safe movement and passage of students and others.

4.2 Planning Statement

(1) The students' staircase is contained within the Mansion House building and does not have any impact on the Green Belt.

4.3 Heritage Statement

(1) The proposed remedial works are contained within the students' staircase stairwell. Visual impact is confined to that area of the Grade II* Listed Building.

4.4 Design & Access Statement

4.4.1 Key Issues

(1) The existing balustrades to the first and second floor landings are being temporarily restrained with struts propped against the rear south wall of the stairwell area. Apart from being unsightly, they do not provide confidence to the users.

(2) The line and shape of the timber handrail is considered crucial and, as a result, should not be altered unnecessarily.

(3) The proposals to include new posts in the form of round hollow sections (RHS's) welded to a base plate and fixed through the landings provide adequate robustness in order to ensure the restraint of the remaining balusters.

(4) There is no change to the access to any buildings on the site.

5.0 CONFIDENTIALITY AND COPYRIGHT

5.1 Preparation

(1) This Document has been prepared in good faith and without prejudice to any parties concerned.

5.2 Copying

(1) The contents of this Document should not be copied or reproduced in whole or in part, for any reason whatsoever, without the express written authority of Austin Trueman Associates, save for the purpose of disclosure to other parties as considered appropriate by the named Client. In any case, this Document should not be reproduced except in its entirety.

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6.1 General

(1) This document has been prepared by a qualified Engineer and has been proof-read and checked in accordance with the firm's ISO 9001 approved quality management systems Certificate No. 15165.

6.2 Acceptance

(1) Acceptance of this Document implies acceptance of the conditions contained herein.

6.3 Signatory

For and on behalf of
Austin Trueman Associates

Eur.Ing. A Trueman
CEng FIStructE
MsocIS (France) MConsE
Direct e-mail: trueman@austintrueman.co.uk

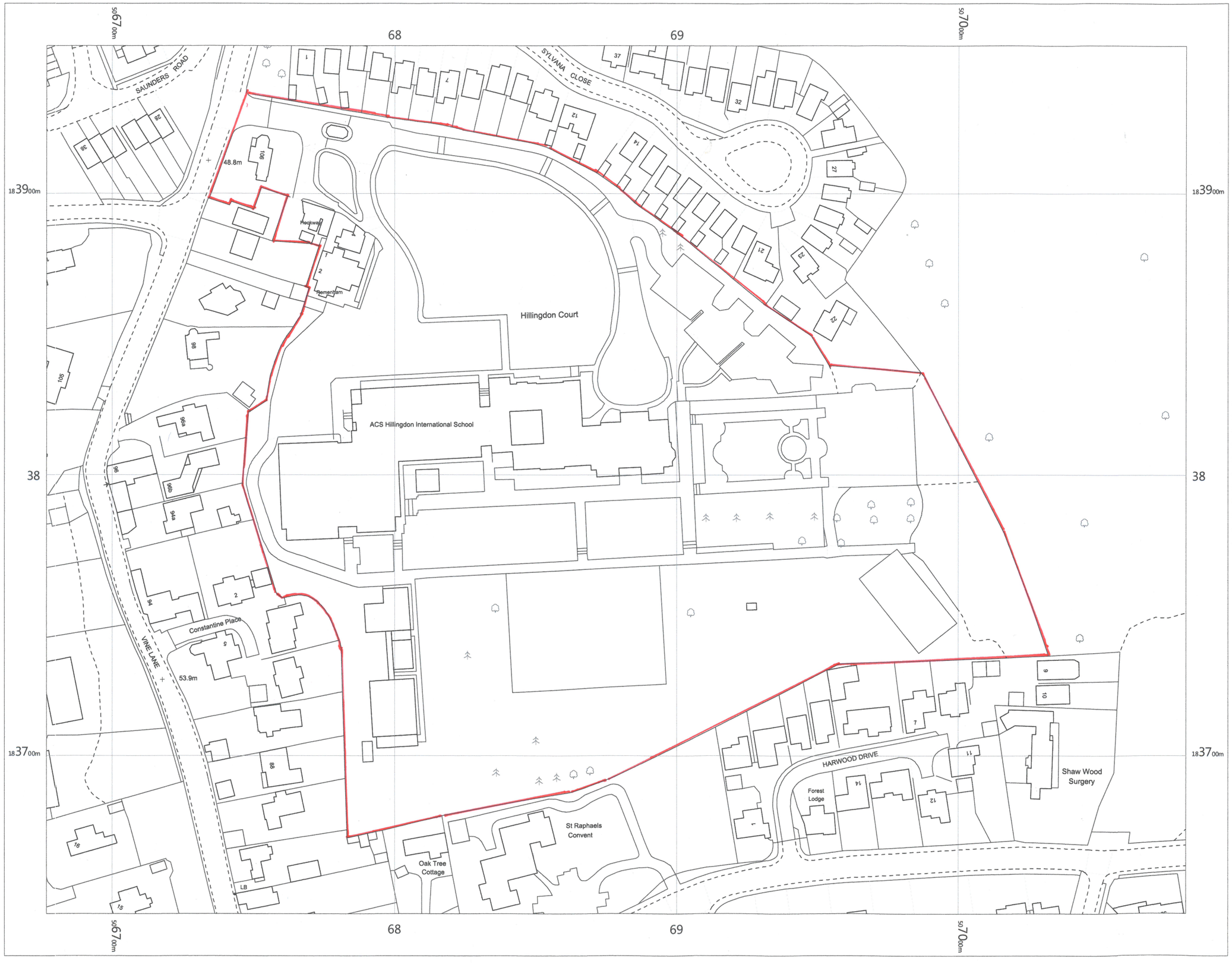
APPENDIX I

Location Plan

LOCATION PLAN

ACS HILLINGDON INTERNATIONAL SCHOOL
VINE LANE
HILLINGDON
MIDDX UB10 0BE

N



0 5 10 15 20 25 30 35 40 45 50 m

OS MasterMap 1250/2500/10000 scale
Friday, May 31, 2019, ID: CM-00803732
www.centremapslive.co.uk

1:1250 scale print at A3, Centre: 506879 E, 183798 N

Data

CENTRE MAPS LIVE.
FOR A BETTER POINT OF VIEW

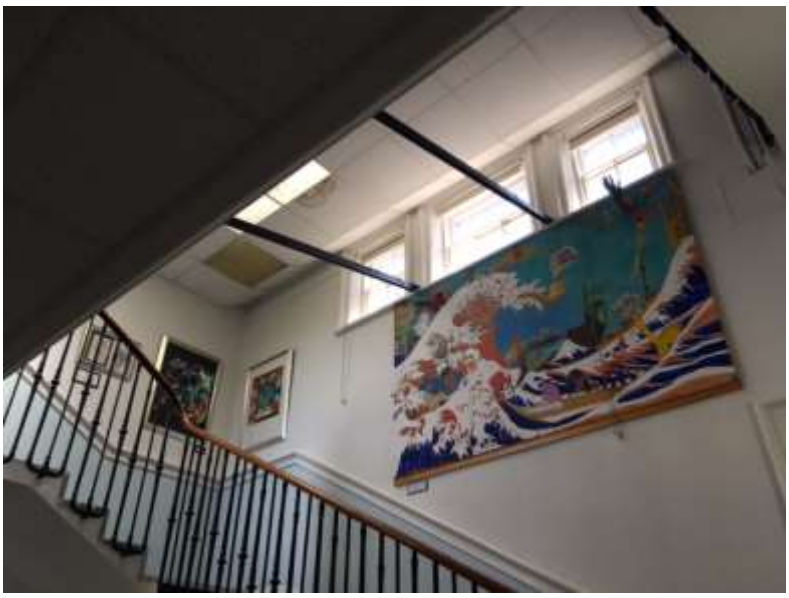
APPENDIX II

Photographs

Photo Log

Austin Trueman Associates

Project	**ACS STUDENT STAIRCASE**	**Photo's By:**	**Job No :**	**41136/2**
	MANSION HOUSE			
	HILLINGDON CAMPUS UB10 0BE	**Date Taken:**	**Sheet No :**	**PL1**



Temporary timber props installed to restrain the top of the landing balustrade at second floor level.

Student staircase stairwell

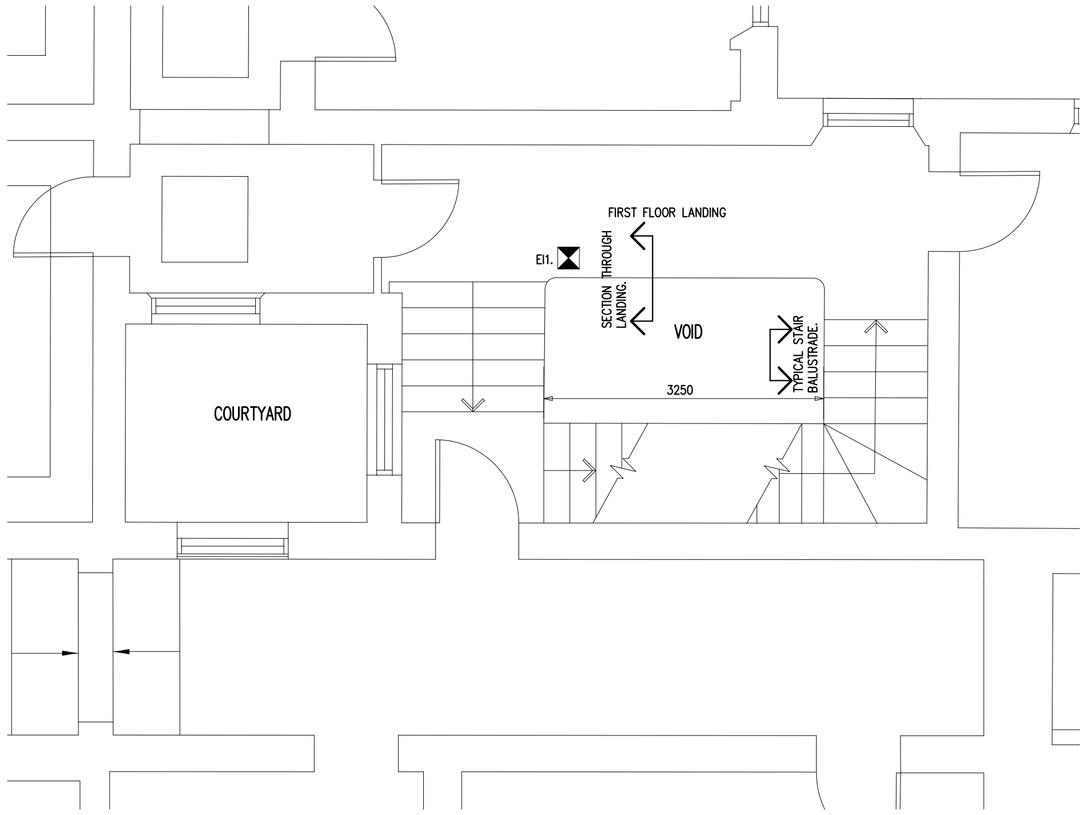
Movement of the balustrade causing spalling of the stone landing.

Second floor landing level

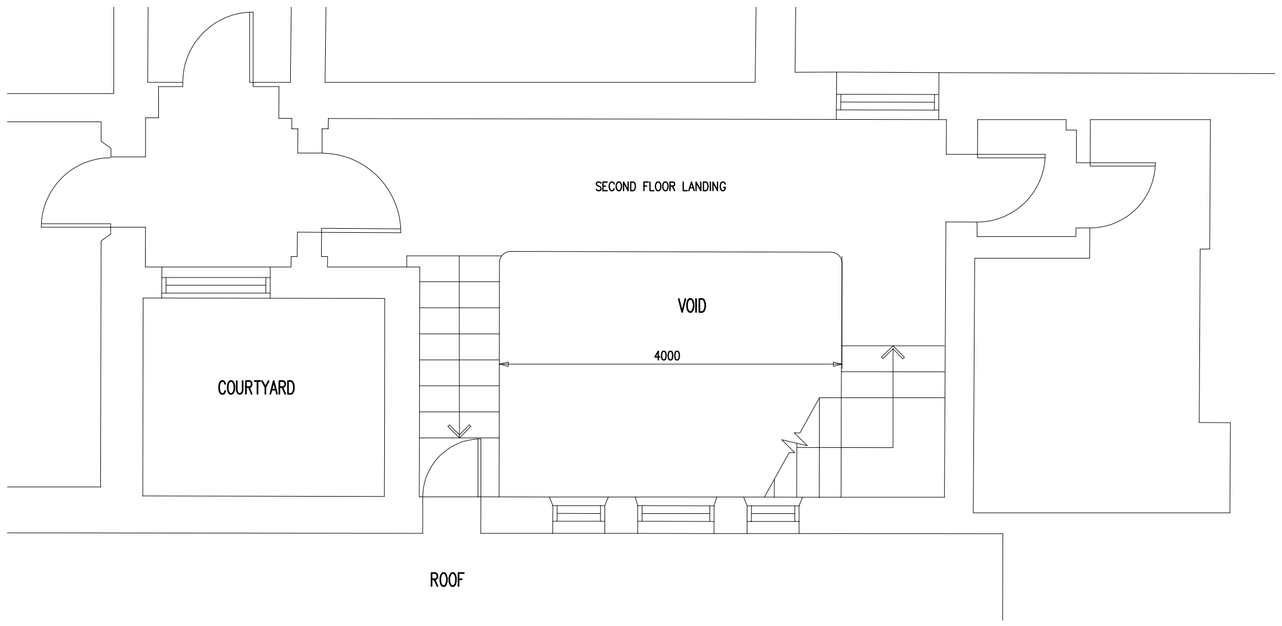
Address 8 Spicer Street St Albans Herts AL3 4PQ **Telephone** +44 (0) 1727 858752 **Facsimile** +44 (0) 1727 852376 **E-mail** engineers@austintrueman.co.uk

APPENDIX III

ATA Drawing No
41136/2/01



FIRST FLOOR PLAN. 1:50.



SECOND FLOOR PLAN. 1:50.

NOTES

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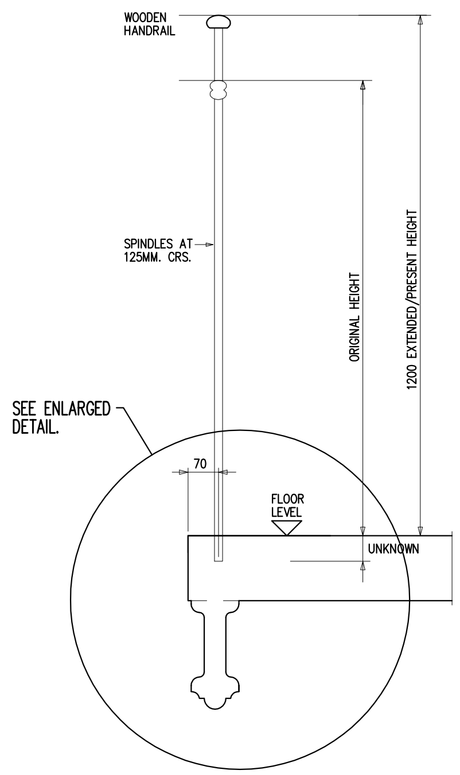
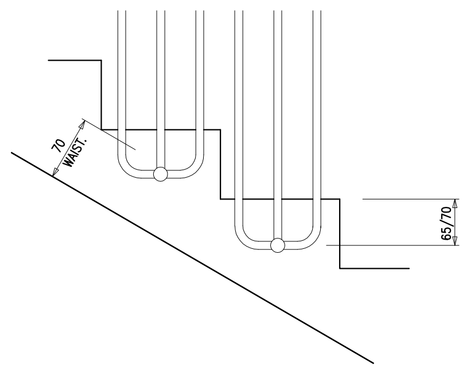
9. EXPLORATORY INVESTIGATIONS TO BE BACKFILLED AND/OR MADE GOOD PROMPTLY AT ATA'S INSTRUCTIONS.

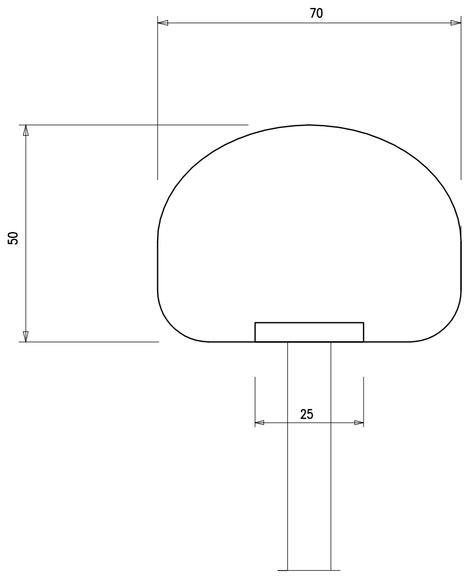
EI1. – SAMPLE TAKEN FOR ANALYSIS.



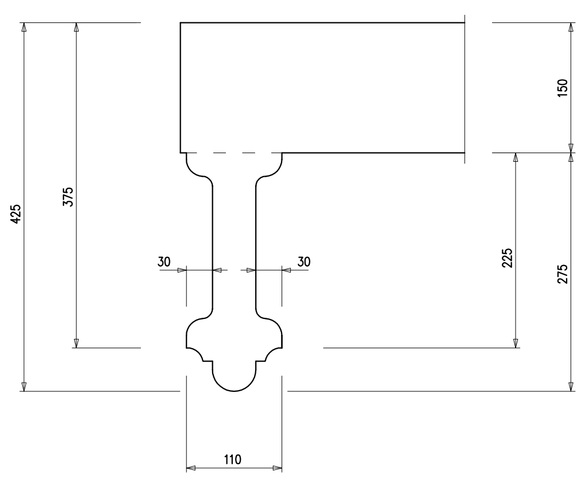
SECTION THROUGH STAIR LANDING



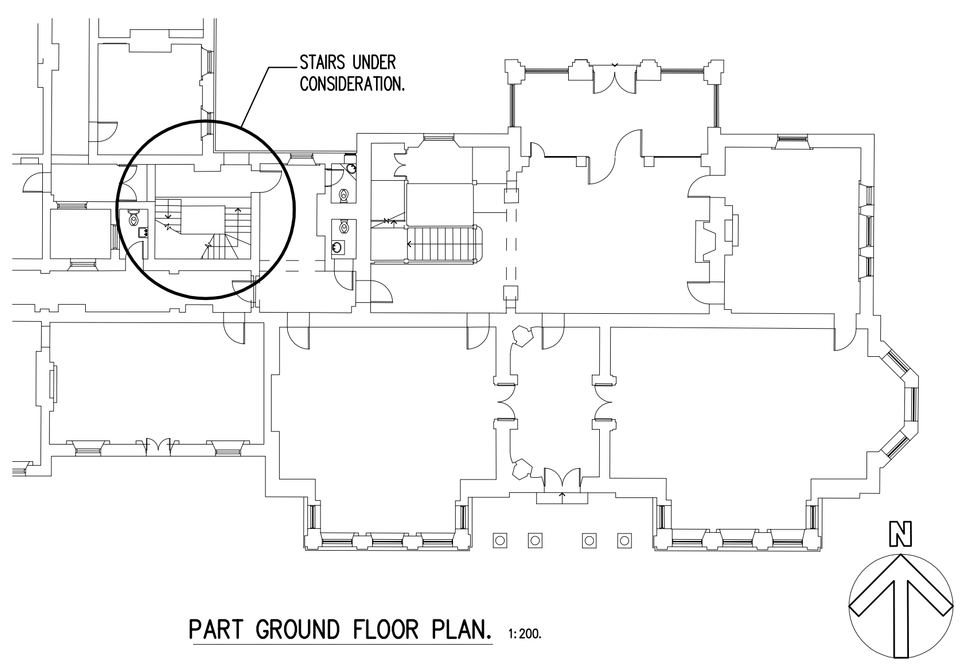
TYPICAL STAIR BALUSTRADE



EXISTING HANDRAIL



ENLARGED DETAIL



PART GROUND FLOOR PLAN. 1:200.

FOR GUIDANCE ONLY

1:20	0	200MM	400MM	600MM	800MM	1000	1200	
1:100		1M	2M	3M	4M	5M	6M	
1:50	0	1M		2M		3M		
1:5	0	100MM		200MM		300MM		

THIS DRAWING HAS BEEN PREPARED FROM SURVEY INFORMATION PROVIDED BY MK SURVEY LTD.

Ref	By	Date	Description	QA
P3.	RS	aug2022	UPDATED.	
P2.	RS	july2022	UPDATED.	
P1.	RS	june2022	PRELIMINARY.	

Project

ACS. STUDENTS STAIRCASE
MANSION HOUSE
HILLINGDON CAMPUS
MIDDX. UB10 0BE

Client

Drawing Title

EXISTING STAIRCASE LAYOUT

Drawing Status

REFER TO REPORT

This Drawing should not be used for Construction and or Tender Purposes unless specifically stated otherwise.

Filing Code 41136_2_01_P3_A1

Scale 1:1. 1:10. 1:50. 1:200. @ A1

Drawn	rogeRS	Job No	Drg No	Ref
Date	june2022	41136/2	01	P3
Checked				
Passed				

Austin Trueman Associates

Austin Trueman Associates 8 Spicer Street St. Albans Hertfordshire AL3 4PQ Telephone: +44(0)1727 858752 Facsimile: +44(0)1727 852376 Electronic mail: engineers@austintrueman.co.uk

APPENDIX IV

Petrographic Examination Report

Kiwa CMT

Kiwa CMT Testing
Unit 5, Prime Parkway
Prime Enterprise Park
DERBY
DE1 3QB

T +44 (0)1332 383333
F +44 (0)1332 602607
E uk.cmtenquiries@kiwa.com
www.kiwa.com

Report on the Petrographic Examination of 1No. Stone Sample

Trust
Quality
Progress

Client: Austin Trueman Associates

Site: ACS Student Staircase, Hillingdon Campus

Attention: Austin Trueman

August 2022

Kiwa CMT

Client:

Austin Trueman Associates

Date:	7th September 2022	**Originator:**	Austin Trueman Associates
		Our Ref:	86130/66091
Site :	ACS Student Staircase, Hillingdon Campus		

1. Samples:

A stone sample was recovered by the client at the site above. The sample was delivered to the Kiwa CMT laboratory on 12th August 2022 and allocated KCMT laboratory prefix 66091.

2. Requirements:

Carry out petrographic examination of the stone sample to check the general composition and type of stone.

3. Test method

Petrographic examination of Natural Stone: **BS EN 12407.**

4. Date of testing:

Examination completed during 01-05 September 2022.

5. Results:

Results of the petrographic examination are summarised below with detailed data presented in the report Appendix.

Petrographic Examination

Composition and Constituents
The stone is light buff in colour and medium-grained. Based on the mineralogy the stone is classified as oolitic limestone. There are traces of shell and calcite present in the matrix of the stone. No evidence of any weathering or alteration was observed.

Opinions and interpretations expressed herein are based on the findings of examinations carried out on the concrete samples identified within this report and relate only to these samples.

Kiwa CMT Testing

Approved by

D Mullee
(Chemistry Manager)

Appendix

Detailed Petrographic Report

EPetro
Enterprise Petrography

Enterprise Petrography Limited
Unit 3.05 Cannock Enterprise Centre
Walkers Rise, Rugeley Road
HEDNESFORD
Staffs, WS12 0QU
www.epetro.co.uk
phil@epetro.co.uk

Test Report

Test Report Number.: EP220815 Issue 1 Date 07/09/2022 Page 1 of 2

Tested For: - Kiwa CMT, Unit 5, Prime Parkway, Prime Enterprise Park, Derby, DE1 3QB.

REPORT FOR THE PETROGRAPHIC EXAMINATION OF A STONE SAMPLE

RELEVANT INFORMATION

Work requested by: Darren Mullee
KCMT Ref: 66091
Site: ACS Student Staircase, Mansion House, Hillington Campus
Sampled by Others
Date received: 15/08/2022
Sample received: Three small fragments of stone in a dry condition, the largest 66x63x11mm
Date of examination: 01-05/09/2022
Prepared and examined by Phil Raybould

1 INTRODUCTION

The stone provided was subjected to petrographic examination to determine the stone type. The examination followed BS EN 12407 Petrographic Examination of Natural Stone.

2 PROCEDURE

A thin section was prepared from a slice taken from the large piece and examined with a Leitz petrological photomicroscope. In making the thin section, the offcut was oven-dried at a low temperature and impregnated with a low-temperature curing fluorescent resin. One side of the impregnated slice was ground, polished, and mounted onto a glass slide. The surplus sample was then removed, ground and polished to give a final thickness of approximately 20-30 micrometres.

Report Approved by: Phil Raybould MSc, Consultant Petrographer

3 SAMPLE DESCRIPTION

The stone is light buff in colour and medium-grained (see Figure1). The fabric is grain-supported ooliths, with occasional shell fragments. The stone reacted vigorously to dilute hydrochloric acid, and water dropped onto the surface was readily absorbed, indicating it to be porous. No evidence of weathering or alteration was seen in the hand specimen.

4 MICROSCOPIC DESCRIPTION

The stone is dominated by grain-supported micritic ooliths typically about 0.3mm in diameter that may have a concentric structure and are occasionally seeded with quartz grains with moderately abundant macropores (see Figure 2). Traces of shell and calcite matrix occur in the stone.

5 COMPOSITION

Component	Vol. %
Ooliths	85
Calcite matrix	1
Macropores	14

6 REMARKS

Based on the mineralogy identified in the hand specimen and the thin section, the stone is classified as oolitic limestone (oolitic grainstone).

Figure 1: Sample as received. The scale bar represents 10mm.

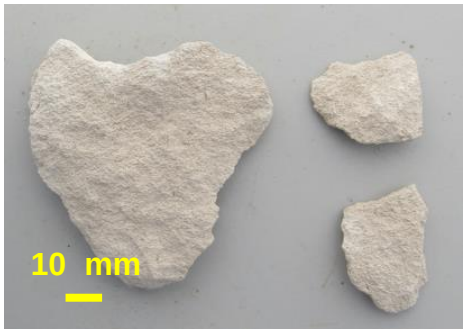
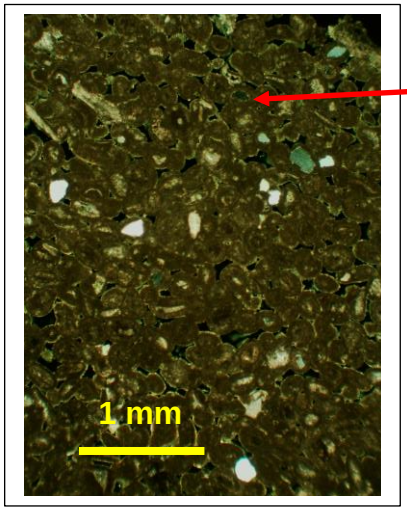


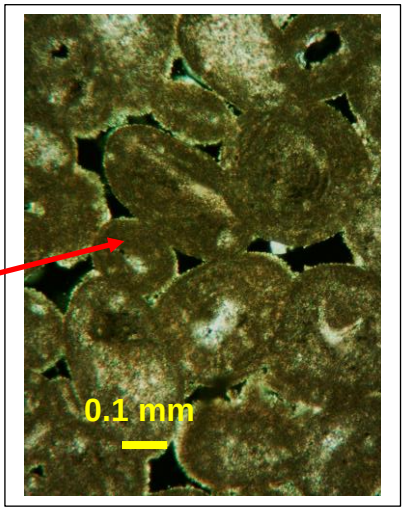
Figure 2: The thin section in transmitted light between crossed polars of the oolitic limestone.

The scale bar represents 1mm or 0.1mm.



A general view in thin section showing the brown grain supported micritric ooliths and traces of elongate shell fragments. The grey and white particles are quartz grains.

A detail of the micritic ooliths with dark macropores in the spaces bewteen the grain supported ooliths.



End of Report

APPENDIX V

ATA Drawing No
41136/2/02

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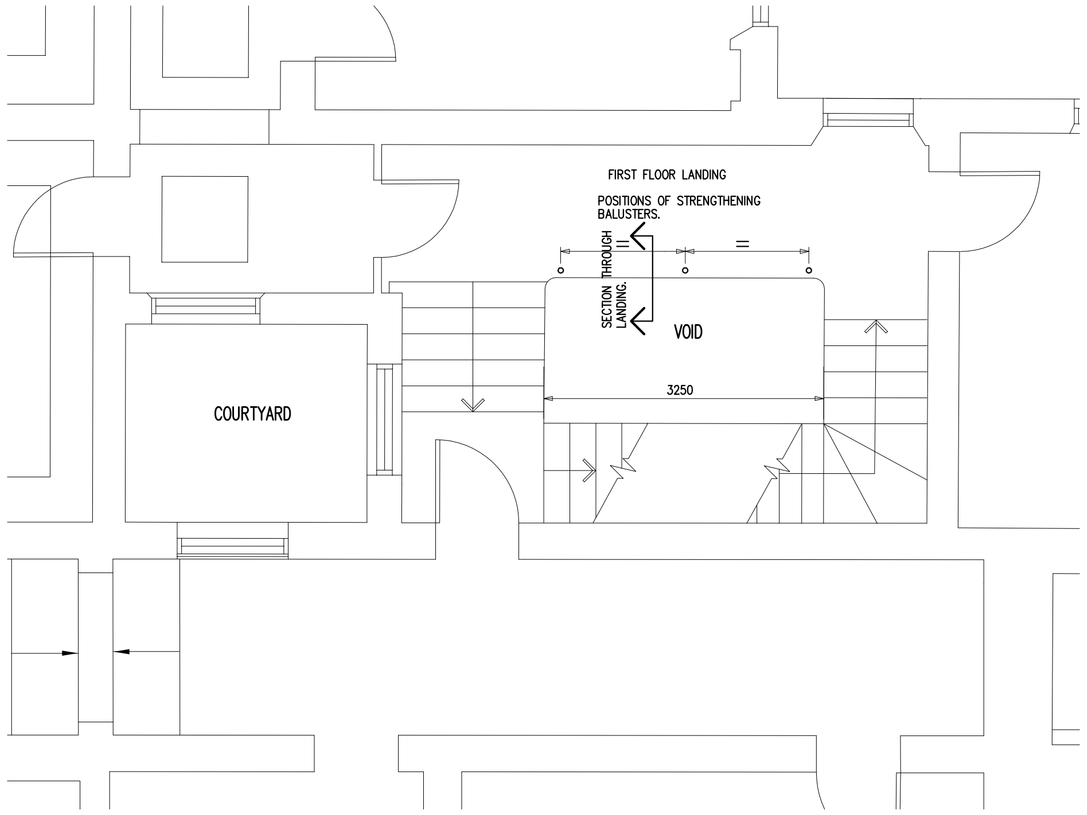
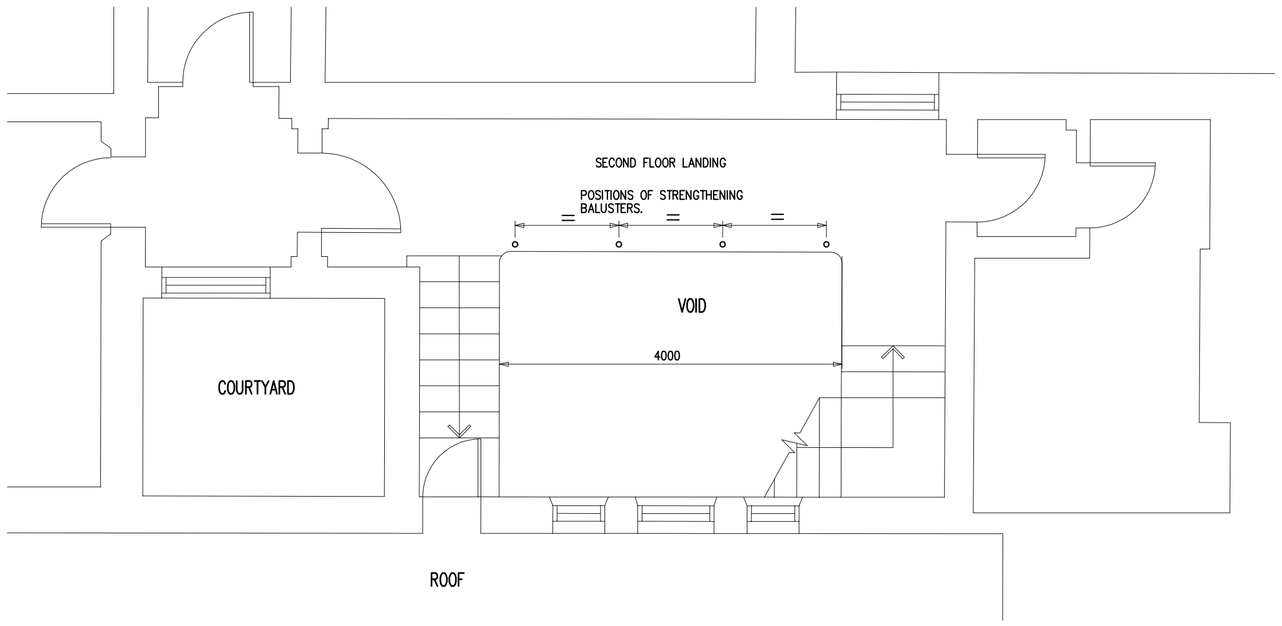
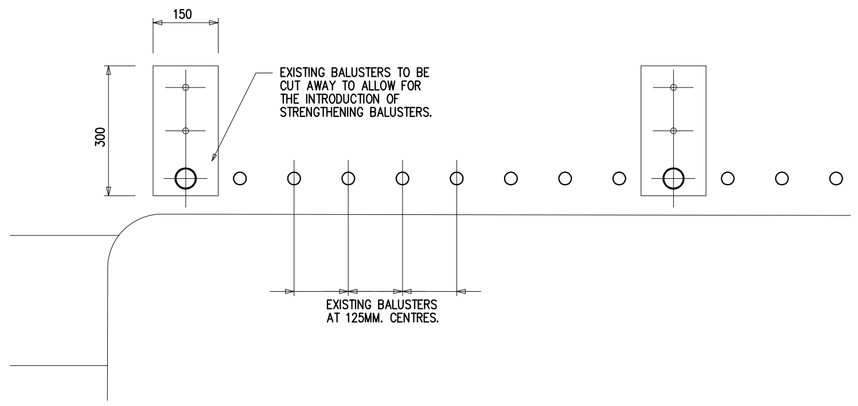


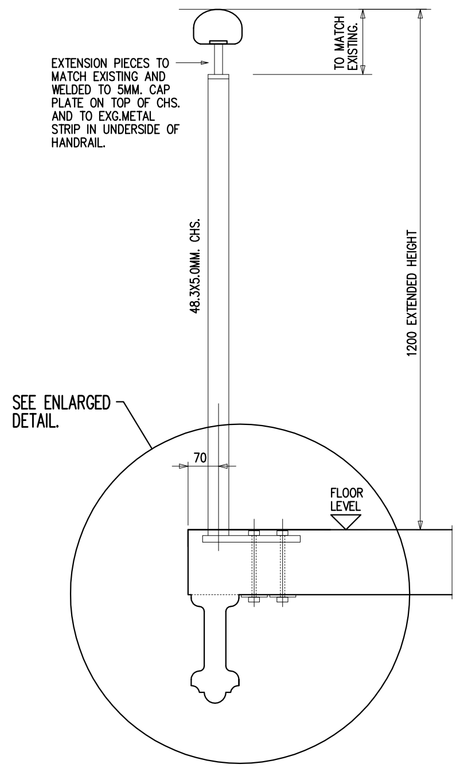
FIRST FLOOR PLAN. 1:50.



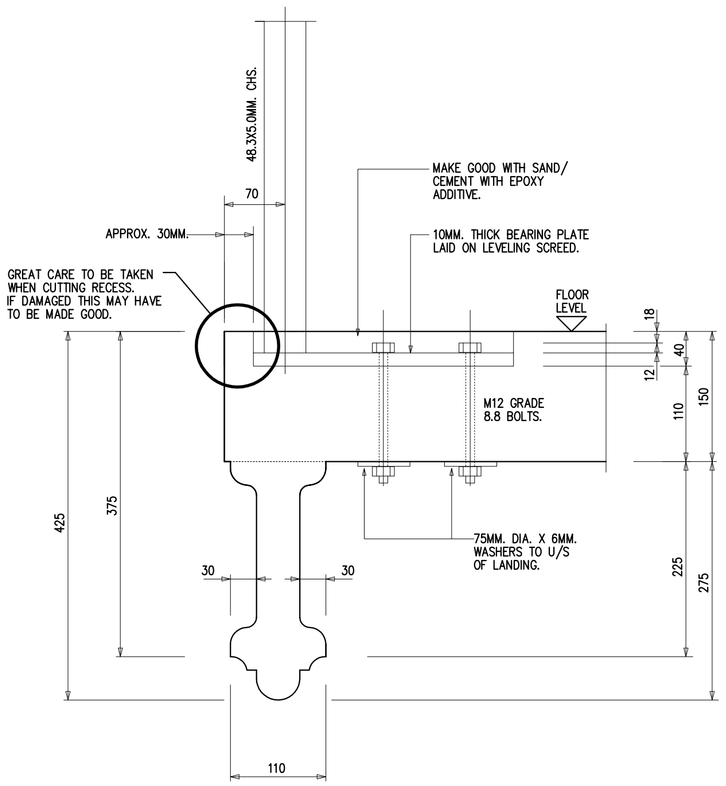
SECOND FLOOR PLAN. 1:50.



TYPICAL BALUSTER ARRANGEMENT.



SECTION THROUGH STAIR LANDING



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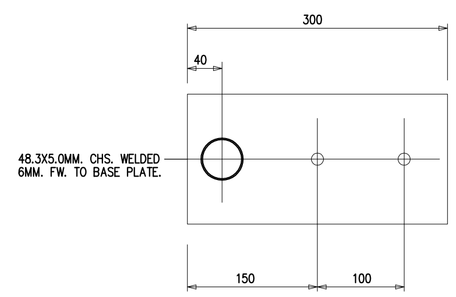

BASE DETAIL

300X150X10MM. THICK PLATE WITH 2NO. HOLES FOR M12 DIA. GRADE 8.8 BOLTS.

FOR GUIDANCE ONLY

1:20 0 200MM 400MM 600MM 800MM 1000 1200
1:100 1M 2M 3M 4M 5M 6M
1:50 0 1M 2M 3M
1:5 0 100MM 200MM 300MM

Ref	By	Date	Description	QA
P2.	RS	aug2022	PRELIMINARY.	
P1.	RS	aug2022	PRELIMINARY.	

Project

ACS. STUDENTS STAIRCASE
MANSION HOUSE
HILLINGDON CAMPUS
MIDDX. UB10 0BE

Client

Drawing Title

PROPOSED STRENGTHENING OF LANDING BALUSTRADES

Drawing Status

REFER TO REPORT

This Drawing should not be used for Construction and or Tender Purposes unless specifically stated otherwise.

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