SFK consulting

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ALEXANDRA PALACE

WEST WING BASEMENT – STRUCTURAL APPRAISAL AND PROPOSED INTERVENTIONS



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1. INTRODUCTION

1.1 Appointment

SFK Consulting has been appointed by the Alexandra Palace & Park Charitable Trust to assess and identify repairs required to the basements below the Panorama Room in order to support the installation of a replacement events venue above ground.

1.2 Purpose of Report

This report will look at the structural nature and condition of the basement below the Panorama Room, make an assessment of its current performance and identify any repairs and interventions necessary to allow for the replacement of the existing above ground structure.

This report has been authored by Patrick Dalton MEng CEng MIStructE.

1.3 Summary of the Building

Alexandra Palace was built in 1873 and opened on 24th May. A fire destroyed much of the Palace on 9th June 1873. The re-built Palace was opened on 1st May 1875. On 10th July 1980 a fire destroyed much of the western half of the building. The re-building of the Palace was completed in 1988.

The London Borough of Haringey has overall responsibility as Corporate Trustee for the Palace and Park, although discharges operational responsibility through the Alexandra Park and Palace Charitable Trust (APPCT).

The footprint of the building is approximately 7.5 acres. The building is Grade II listed.

The Panorama Room is a large temporary structure on the site of the first class Banquet Room which occupied the space before the fire of 1980. The whole area was covered with a permanent roof. Now the exposed ground floor structure has been covered with tarmacadam and the large temporary structure of the Panorama Room erected.

Most of the structural forms of the basement structure date from 1873/5 and consist of cast iron beams supporting brick vaulting. Superimposed upon these brick vaults are various concrete floor structures. These are steel filler joists and concrete infill, reinforced concrete beams with hollow clay blocks, precast concrete beams and precast concrete slabs.

2. PREVIOUS WORKS AND ADVICE

SFK Consulting has undertaken long-term monitoring of the basement condition, capacity of the structure as well as providing details of potential repairs.

Date	Purpose of Appointment
2013	A survey of basement structures across the site to determine conditions and loading capacities. This investigation outlined the nature and condition of the basement structure, concluding with an assessment of the current performance and recommendations for repairs and monitoring. The findings of this survey and investigation can be read in reports 13096/R01 and 13096/R02, with the area covered by the Panorama Room covered in 13096/R01 outlining the more urgent repairs.
2015	A further survey of the basement area was carried out. No further observations were made that changed the advice provided in the previous inspections.
2018	A survey and series of opening up investigations were carried out to determine the potential capacities of the structure with a view to increasing these capacities. Conclusions reached that the water ingress needed to be addressed to prevent further degradation, no loading capacities could be increased and that the area of filler joist structure below the colonnades should be replaced due to poor condition and limited capacity.

As part of the investigations carried out in 2013, a maximum allowable imposed loading plan was produced on drawing 13096.04, an extract of the concerned area shown in Figure 2.1.

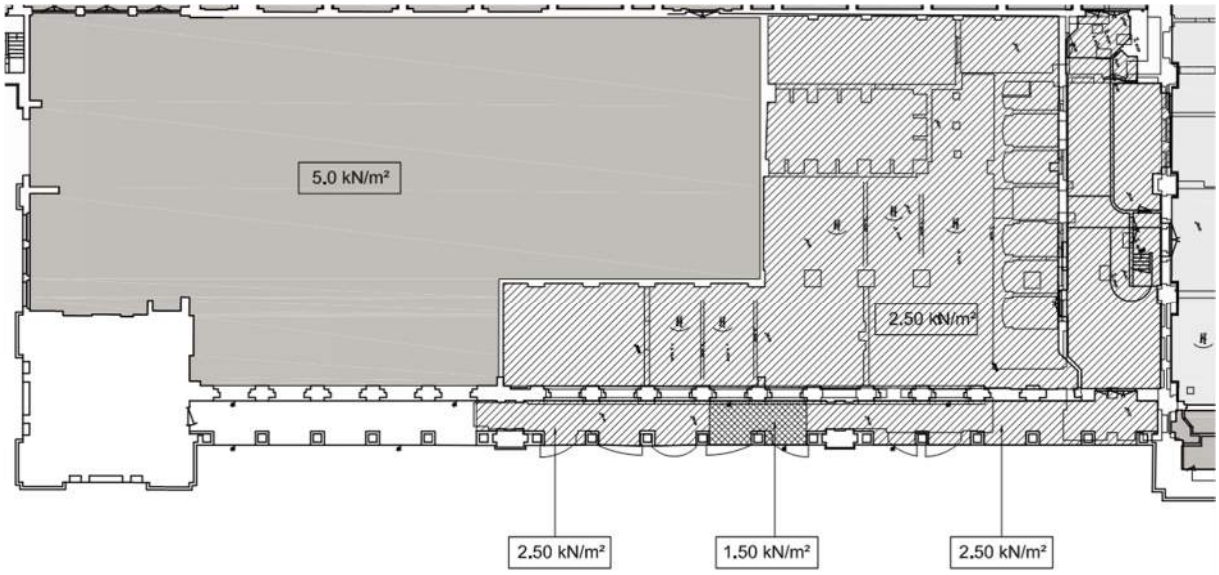


Figure 2.1 - Extract of SFK drawing 13096.04 showing the allowable ground floor imposed loading over the basement plan

3. CURRENT OBSERVATIONS AND ASSEMENTS

3.1 Basement Below Panorama Room

The observations have been broken down into different zones, extracted in Figure 3.1 below, from drawing 18012-01, which also shows the outline of the existing panorama room.



Figure 3.1 - Basement Plan below Panorama Room split into survey zones

3.1.1 General Observations

As a general observation, where the past surveys have highlighted the damp and saturated conditions present in this portion of the basement, the structure was generally dry. Whilst some resurfacing works have been carried out to the basement in these areas since the last survey, none of these works are in relation to the potential loading capacity, but rather to prevent the water ingress. Whilst the water ingress has been slowed, there is still noticeable water ingress through the slabs and hardstanding over.

The brickwork walls and columns show no signs of structural distress.

3.1.2 Zone 1

Zone 1 is by covered by brickwork barrel vaults and brick arch with brickwork walls and some modern blockwork walls. Most of the structure appears in good condition, but there appears to be some water ingress at the top of the modern blockwork wall in the south western elevation.



Figure 3.2 - Brickwork barrel vaults to Zone 1

3.1.3 Zone 2

Zone 2 has precast concrete planks that are supported off of cast iron beams with partially broken out brickwork vaults. The precast units were measured at approximately 150mm deep and had localised areas where the rebar was exposed or water ingress was still evident.



Figure 3.3 - The roof structure to Zone 2

There was also evidence of a more modern precast section compared to the others.

3.1.4 Zone 3

Zone 3 is of a very similar construction to zone 2 and of a similar condition. One of the bearings to the iron beams had failed and requires replacing.



Figure 3.4 - The roof structure to Zone 3

3.1.5 Zone 4

Zone 4 is a series of small rooms with short spanning brick arches, these appeared to be generally dry and with no obvious signs of distress.





Figure 3.5 - The roof structure and example room configuration to Zone 4 (photos by others)

3.1.6 Zone 5

Zone 5 comprised of larger spanning brickwork barrel vaults, supported off of cast iron beams with brickwork walls and coulmns. There are some areas of broken out brickwork from previous investigations and another area of later brickwork columns supporting the apex of a vault. One vault opening also has a timber element that has failed and is hanging from the ceiling, whilst this poses no risk to the overall structure due to the later interventions, it is a potential fall risk.



Figure 3.6 - The roof structure to Zone 5



Figure 3.7 - The later brickwork columns reinforcing the brickwork vault in Zone 5

3.1.7 Zone 6

Zone 6 is the same general structural philosophy as zone 5 and there were no further observations to be made.

3.1.8 Zone 7

Zone 7 has the same general structural layout as zones 5 and 6. There is a brickwork wall between zones 7 and 8 that has compromised bearings.



Figure 3.8 - Brick arch lintel with compromised bearings

3.1.9 Zone 8

Zone 8 again has a similar structure to zone 5-7. There is a previous shelter located there which poses a safety risk and should be removed.



Figure 3.9 - The shelter structure to Zone 8 (photo by others)

3.1.10 Filler Joist Zone

A portion of slab beneath the external colonnades is made up of Victorian filler joist construction. This portion of slab is showing visible signs of corrosion from within the basement and is partially supported by a castellated beam that may be a later form of strengthening.

In addition to the internal observations, externally the surface over this slab displays extensive cracking in comparison to the adjacent slabs, suggesting it may not be demonstrating the suitable level of structural performance.



Figure 3.10 - The existing filler joist construction below the colonnades

4. TECHNICAL ASSESMENT

The strategy of assessment will be different for both the vaults and the iron beams. The vaults will be assessed upon their current condition and performance under existing load and a judgement made in relation to the magnitude of the load increase required. The iron beams will have their capacity calculated upon the basis of the opening up works that were carried out in 2018.

The loading has been calculated based upon both observations made in the openings and using surveyed levels to calculate the nature and depth of the build-up.

4.1 Cast Iron Beams

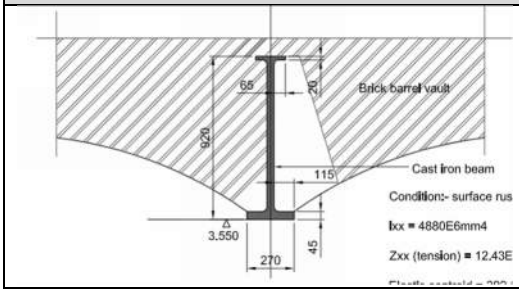
The cast iron beam capacities have been calculated in accordance with the British Constructional Steelwork Association (BSCA) publication *Historical Structural Steelwork Handbook*. This gives the recommended design/verification values for cast iron:

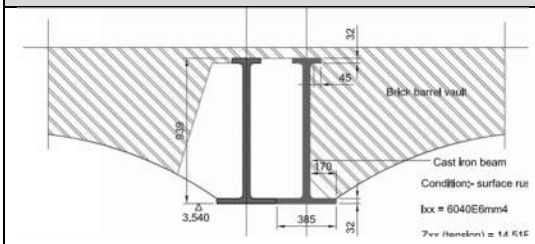
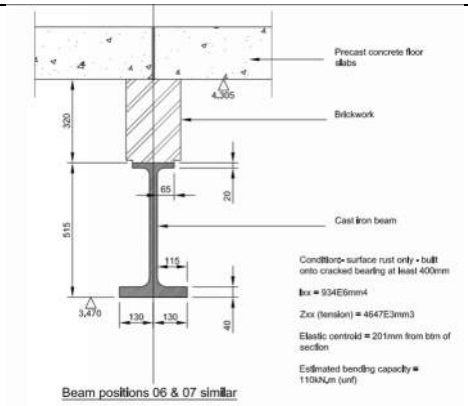
Property	Recommended Value (tons/in²)	Recommended Value (N/mm²)
Ultimate strength in tension	6	92.7
Ultimate strength in compression	32	494.2
Ultimate strength in shear	8	123.6

The publication also recommends the factor of safety of 4 to achieve the allowable working stresses, which would result in the below property table:

Property	Recommended Value (tons/in²)	Recommended Value (N/mm²)
Working strength in tension	1.5	23.2
Working strength in compression	8	123.6
Working strength in shear	2	30.9

Summary of the cast iron beam assessments against their existing loading conditions, so with the 2.5 kN/m² imposed loading:

Cast Iron Beam	Zones	Calculated bending capacity (kNm)	Utilisation against ultimate capacity	Calculated factor of safety
	4, 5, 6, 7, 8	288.4	199%	2.00

Cast Iron Beam	Zones	Calculated bending capacity (kNm)	Utilisation against ultimate capacity	Calculated factor of safety
	6, 7	336.6	73.6%	5.44
	2, 3	103.7	141%	2.83

To justify any additional loading the factor of safety of 4.0 should be met as a minimum due to the vulnerability of cast iron elements to brittle failure. The double iron beam between zones 6 & 7 falls within the allowable factor of safety, however, this is only in one location and the beams to the other side of the vaults will prevent the justification of any further loading within the given zones.

4.2 The Precast Planks

The exposed precast planks over zones 2 & 3 were measured to be 150mm deep, but are of an unknown specification, and no assessment of these has been provided as part of this investigation. There is still evidence of water ingress and other areas where the rebar has been exposed, likely due to previous ingress.

The capacity of these planks cannot be determined visually, so any further loading or change in the nature of loading would require a full assessment of the planks to be made. The rebar size and location would need to be determined, as well as any voids within it to make a reasoned capacity assessment.

4.3 Summary of Condition

Zone	Structural nature	Condition of Structure	Previous imposed capacity (kN/m²)	New imposed capacity (kN/m²)
1	Brick arches and short span brick barrel vaults.	Dry and in reasonable condition, no signs of failure or distress.	2.5	No increase
2	Cast iron beams carrying concrete precast planks with broken out brickwork vaults, supported off of brickwork walls and columns.	The planks are in a poor state of repair due to previous water ingress, which has reduced but still evident.	2.5	No increase
3	Cast iron beams carrying concrete precast planks with broken out brickwork vaults, supported off of brickwork walls and columns.	The planks are in a poor state of repair due to previous water ingress, which has reduced but still evident.	2.5	No increase
4	Brick arches and short span brick barrel vaults.	Dry and in reasonable condition, no signs of failure or distress. Localised repairs required to vaults.	2.5	No increase
5	Cast iron beams carrying brickwork vaults, supported off of brickwork walls and columns.	Dry and in reasonable condition, no signs of failure or distress. Localised repairs required to vaults.	2.5	No increase
6	Cast iron beams carrying brickwork vaults, supported off of brickwork walls and columns.	Dry and in reasonable condition, no signs of failure or distress. Localised repairs required to vaults.	2.5	No increase
7	Cast iron beams carrying brickwork vaults, supported off of brickwork walls and columns.	Dry and in reasonable condition, no signs of failure or distress. Localised repairs required to vaults.	2.5	No increase
8	Cast iron beams carrying brickwork vaults, supported off of brickwork walls and columns.	Dry and in reasonable condition, no signs of failure or distress. Localised repairs required to vaults.	2.5	No increase

4.4 Structural Case for Intervention

When considering works within a heritage environment, a careful and considered approach to assessment needs to be adopted to avoid any potential disruptive and unnecessary interventions.

A hierarchy of structural repair is set out below:

1. Do Nothing

This is the ultimate outcome but can often create the most difficult of choices. It might mean accepting a wall that is leaning, a floor beam that is deflecting or a foundation that seasonally moves.

2. Add Extra Members in Similar Material

New strength by addition is preferred. A fire damaged or decayed timber joist can often be left in place with a new one added alongside.

3. Add Extra Members in Foreign Materials

Sometimes adding a similar material does not provide the required strength or involves the removal of too much historic fabric. A traditional timber splice end repair to a beam, would require the removal of more historic timber than the addition of steel plates.

4. Traditional Repairs

Traditional repairs that remove more historic fabric might be preferable in certain environments, for example exposed timber frames, where visual quality is important.

5. Insert New Materials into Existing Materials

This can be particularly useful when repairs are essential but need to remain invisible to protect the historic character of an element. An example would be the use of a steel flitch plate to strengthen an ailing beam.

6. Replace Isolated Members

This can be an excellent visual solution but disruptive. Sometimes rot, failure or excessive distortion will dictate this approach. This approach should be adopted in scenarios such as replacement timber trusses irreparably damaged by fire.

7. Replace Whole Elements of the Structure

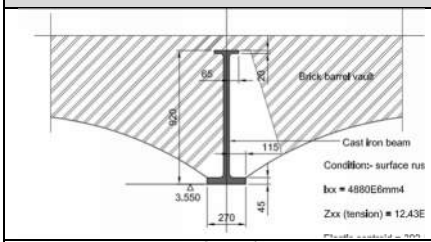
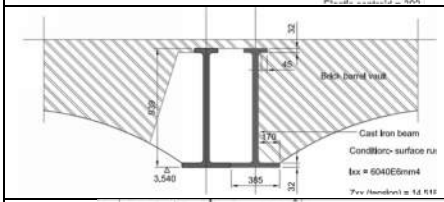
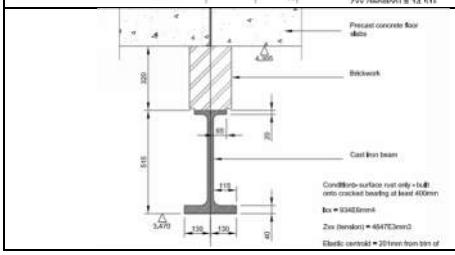
This would be a last resort for an element that is beyond repair. It is occasionally the only way.

As the hierarchy above demonstrates, non-intervention is always the best approach where possible. The assessments carried out, both in 2013 and as part of this proposal, demonstrate that a live loading capacity of 2.5kN/m^2 is generally achievable across the footprint of the basement based upon current performance, however this does not account for the anticipated modest increase in loading anticipated from the new structure. The low factors of safety against the recommended design stresses and condition of the fabric rule out the possibility of justifying a load increase in the 'do nothing' scenario.

If it were to be assumed that the loading from the new structure were to be a modest increase form the existing, but allowable, would 2.5kN/m^2 be a reasonable design figure? Eurocode 1 will be used to consider the use potential use of the spaces above and the corresponding design imposed loading. The following table has been put together using Tables NA.2 and NA.3 from the UK National Annex to BS EN 1991-1-1 (Eurocode 1).

Use of Space Definition (Code Category)	Codified Design Imposed Loading (kN/m²)
Public, institutional and communal dining rooms and lounges, cafes and restaurants (C11)	2.0
Places of worship (C22)	3.0
Museum floors and art galleries for exhibition purposes (C39)	4.0
Dance halls and studios, gymnasia, stages (C41)	5.0
Assembly areas without fixed seating, concert halls, bars and places of worship (C51)	5.0
Stages in public assembly areas (C52)	7.5

The proposed use of the space is for a flexible events space, which would normally be categorised as C51 (Assembly areas without fixed seating, concert halls, bars and places of worship). Without intervention, this would result in the factors of safety highlighted in the following table, noting that the published recommended factor of safety for this form of construction is 4.

Cast Iron Beam Detail	Zones	Existing factor of safety	Proposed factor of safety – no intervention
	4, 5, 6, 7, 8	2.00	1.68
	6, 7	5.44	5.21
	2, 3	2.83	2.13

The next approach would be to consider the limitation and management of the use of the space to avoid intervention. To achieve 2.5kN/m², a capacity limit would be required as well as the restriction of the area to activities that would not create large congregations of people or dynamic excitation. This would mean that it would not be a suitable space for dancing, exhibitions or unmanaged spaces for events, such as bars or concerts. As a proposed flexible events space, this approach seems potentially an unlikely approach and carries inherent risks in terms of achieving building regulations compliance.

Should the above ground structure not be replaced, but the resurfacing and slab replacements carried out, then intervention would still be required due to the change in setting of the beams and the low factors of safety. The imposed loading limits previously stated would also be required to adhered to which would limit the use of space and require capacity management.

If the slab replacements and resurfacing were not to be carried out, then little structural intervention would be required, this would only be where safety is a concern, such as the filler joist slab and corroded steelwork. However, the continued water ingress would lead to further deterioration and risk further loss of fabric. This would have to be monitored through periodic inspections and would likely lead to further structural intervention. Early intervention would reduce the risk of loss of fabric or more intrusive interventions later.

5. PROPOSALS AND INTERVENTIONS

5.1 Above Ground

The proposed new structure is a steel and aluminium hybrid frame clad in composite panels, containing a new events space including a stage, cloakrooms, kitchen, bars and toilets.

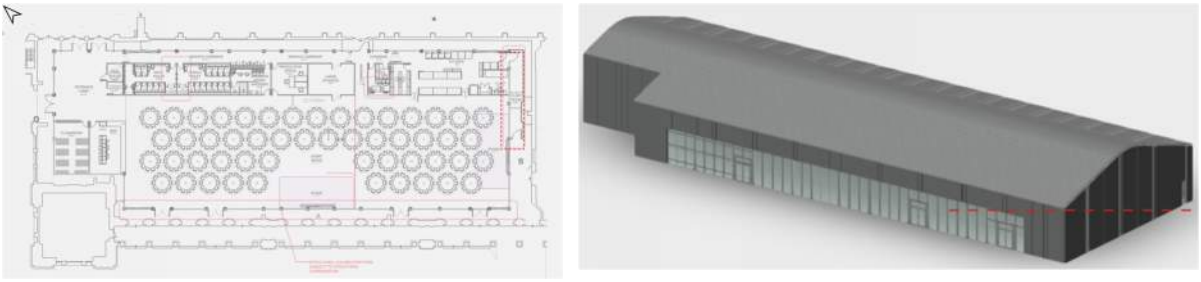


Figure 5.1 - A Plan and isometric of the proposed structure

The columns to the new structure will generally align with the cast iron beams below and be fixed into the slab over the basement. The overlaid proposed structure on the basement is below in Figure 5.2.

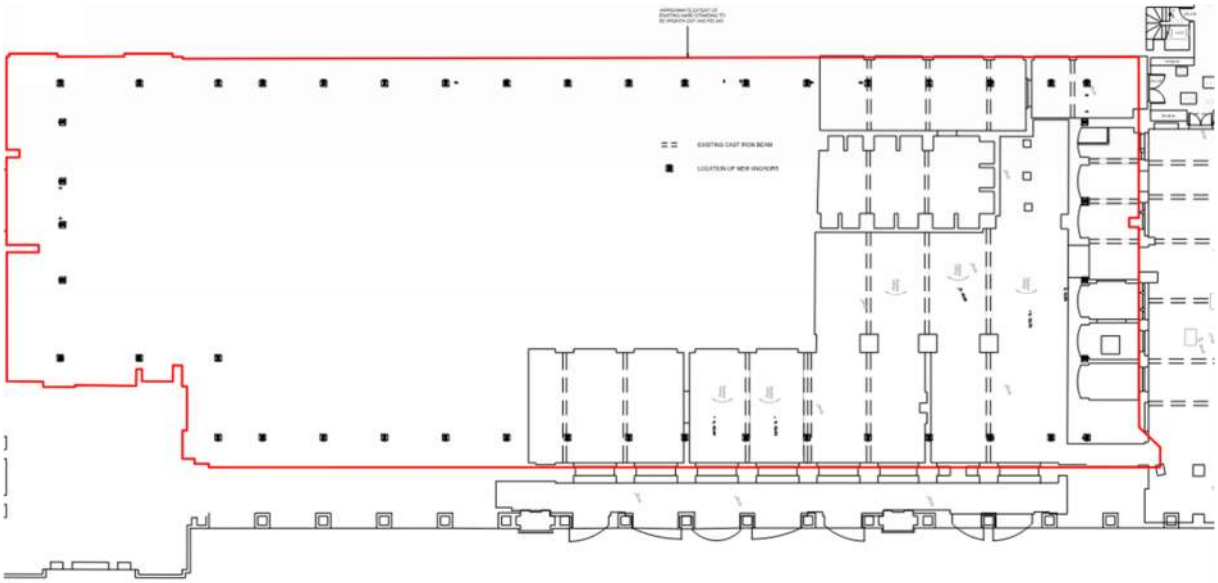


Figure 5.2 - Proposed column plan overlaid on basement plan

The overground structure is designed by others, but informs the structural interventions within the basement.

5.2 Below Ground

5.2.1 Proposed Interventions

The below is a brief summary of interventions proposed to enable the construction of the new above ground structure:

- Tarmac and/or screed topping replaced and weatherproofing measures taken to protect structure below across the footprint of the Panorama room and adjoining external areas.
- Masonry columns added to each of the spanning cast iron beams.

- Localised repairs to the barrel vaults where openings have been made and general repointing and brickwork consolidation.
- Repairs made to doorway (zones 7/8) and beam bearing (zone 3).
- The precast planks in zones 2 and 3 are replaced with new units.
- Replacement of the filler joist slab to the external colonnades with a new reinforced concrete slab.

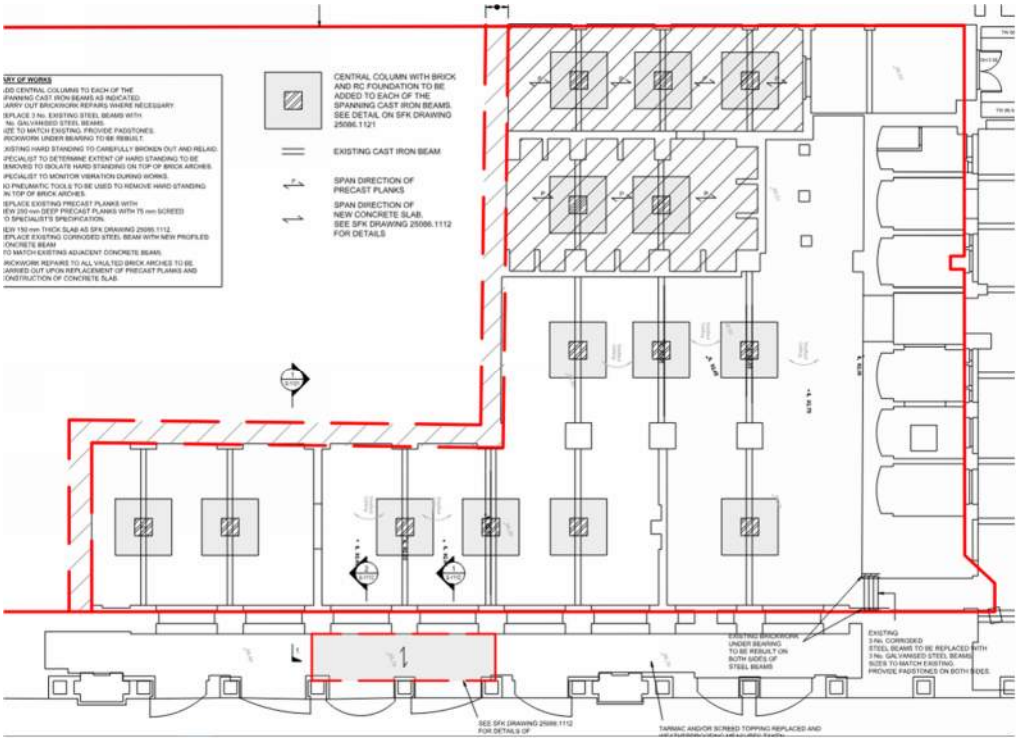


Figure 5.3 - Layout of proposed structural interventions

The cast iron beams have been assessed for their strength and these fall short of the required structural criteria, particularly considering the potential for more load imposed than is currently allowed for. This is covered in detail in section 4.4.

It is proposed that new brickwork columns are introduced to the cast iron beams along their span to reduce the applied stress to the iron and achieve a suitable factor of safety. The brickwork piers are mimicking the existing repairs that are in place in some of the basement, but also maximise the retention of historic fabric and level of reversibility. The non-reversible aspect of them would be the potential of archaeological impact from the modest depth of excavation required for the footings to the columns.

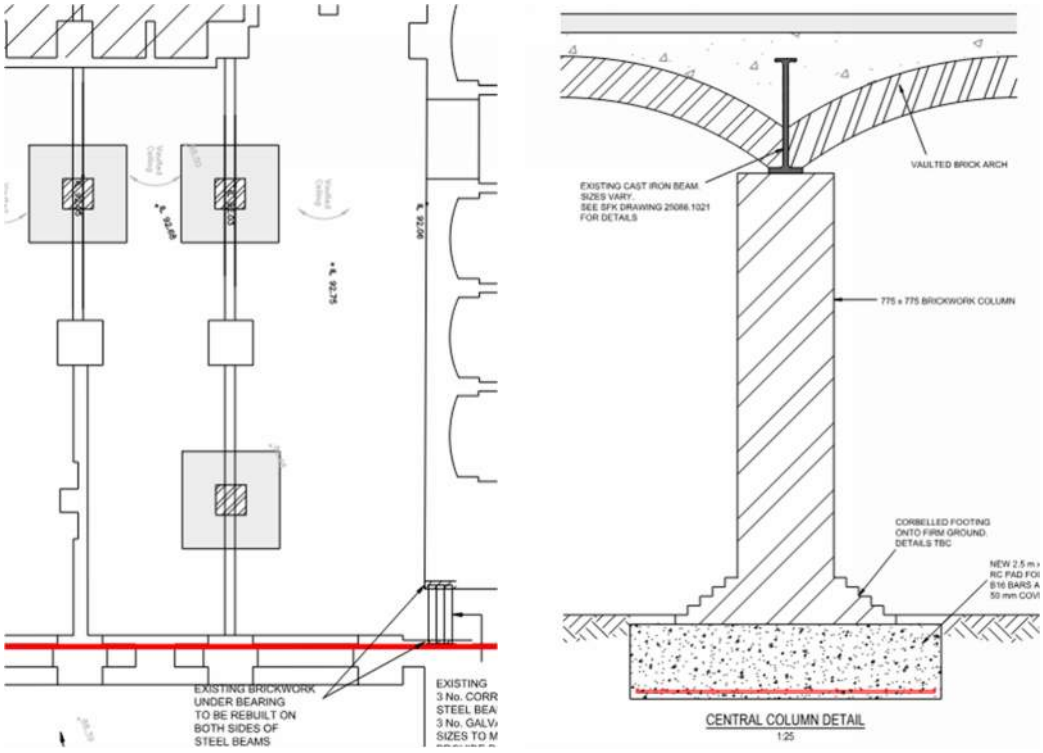
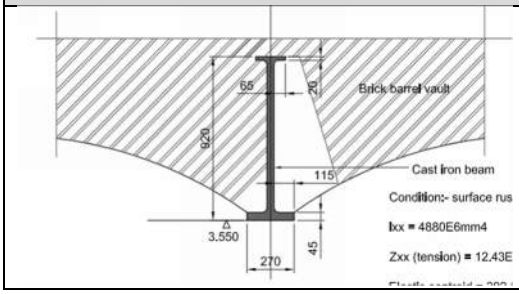


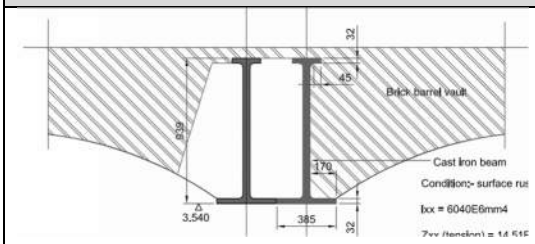
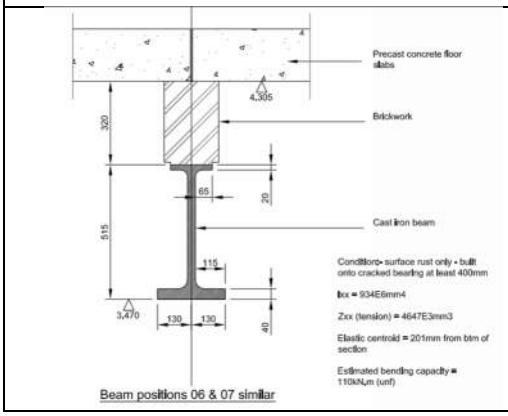
Figure 5.4 - Plan and Elevation of the proposed brickwork columns to the cast iron beams

The proposed structural interventions focus on the strengthening of the cast iron beams as these would appear to be the critical design item when determining the above ground capacity.

For the calculated capacities of the proposed scenario, an assessment has been made of preliminary loading made available from the above ground designer and from imposed loading from Eurocode 1. The space has been classified as sub-category C51 in Table NA.2 as "*Assembly areas without fixed seating, concert halls, bars and places of worship*", which corresponds to an imposed load of 5.0kN/m^2 in accordance with Table NA.3.

An SLS leg load of 55kN has been taken for the new structure based upon the preliminary calculation package provided by the above ground structure supplier.

Cast Iron Beam Detail	Zones	Existing factor of safety	Proposed factor of safety – no intervention	Proposed factor of safety – intervention
	4, 5, 6, 7, 8	2.00	1.68	5.13

Cast Iron Beam Detail	Zones	Existing factor of safety	Proposed factor of safety – no intervention	Proposed factor of safety – intervention
	6, 7	5.44	5.21	12.2
	2, 3	2.83	2.13	6.13

5.2.2 Phasing

To ensure the safe construction of the proposed new Panorama room, a construction phasing plan has been formulated that ensure the stability of the basement structure and protection to the historic fabric.

The full proposed phasing of the construction is as below:

Phase 1a: Structural works - Basements

- Formation of concrete pads and brick piers

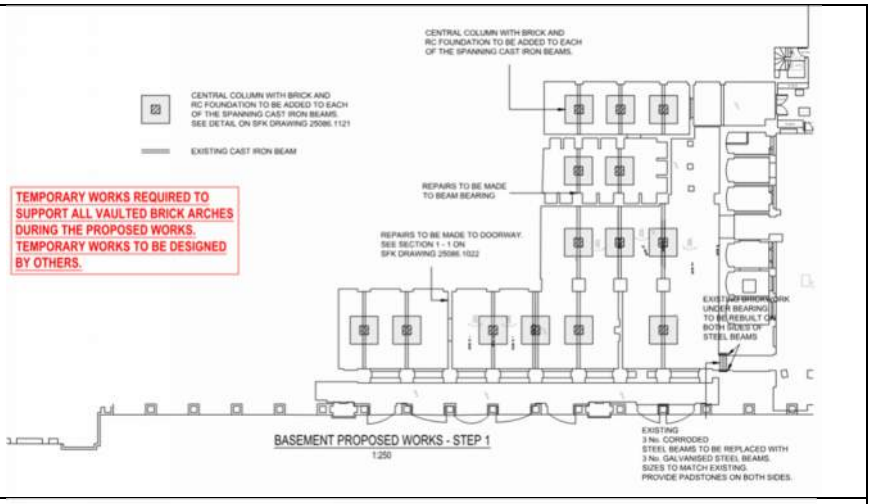
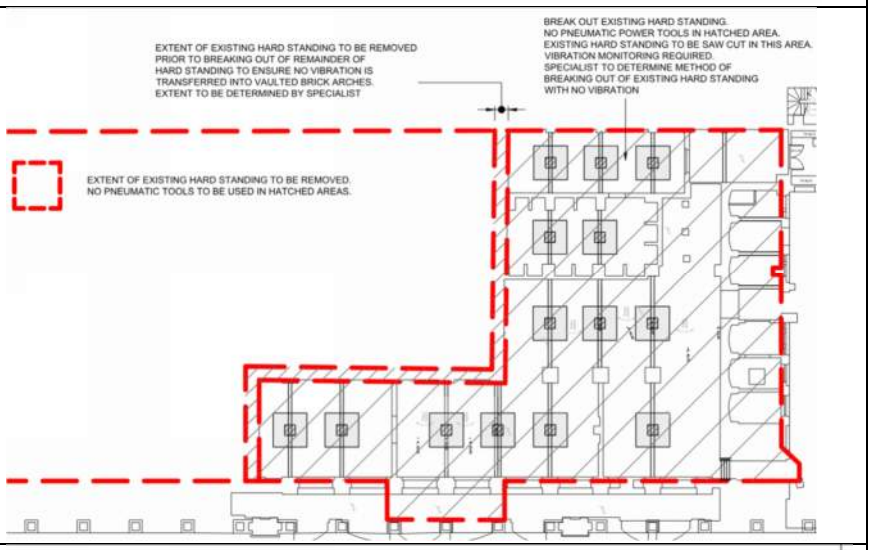
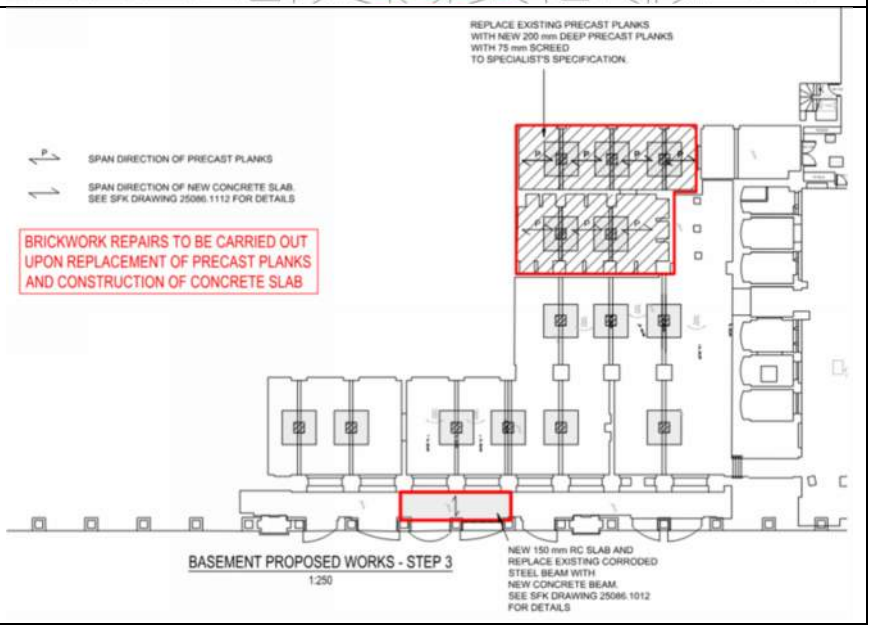
Phase 1b: Demolition of Existing Panorama Room and Formation of New Structural Slab

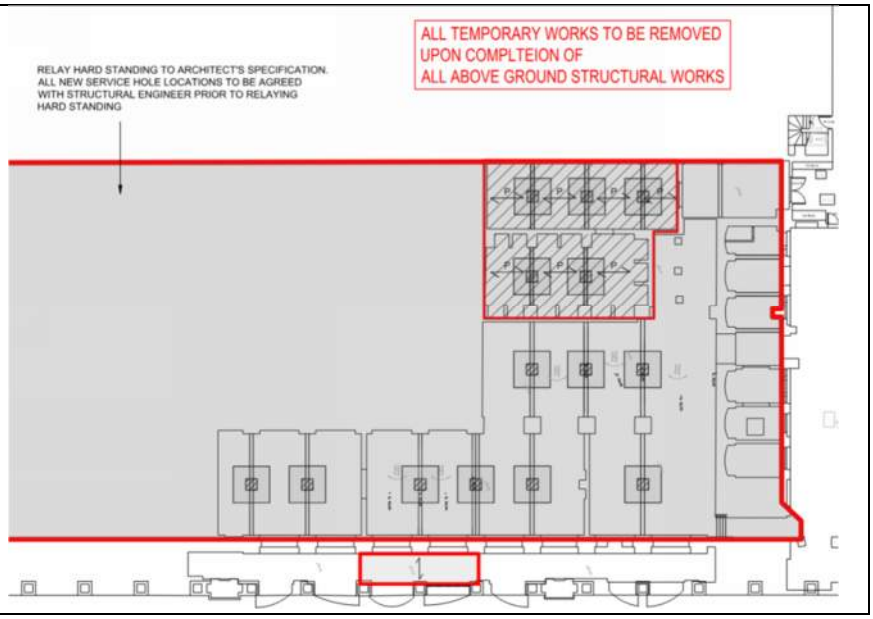
- Demolition and removal of the existing Panorama Room structure
- Removal of asphalt
- Removal and replacement of failed modern concrete elements
- Waterproofing and drainage improvements
- Formation of the new structural slab and supporting infrastructure

Phase 2: Construction of the Replacement Panorama Room

- Construction of the replacement Panorama Room structure
- Roof, façade and glazing systems
- Building services, drainage and lighting infrastructure
- Internal fit-out and associated external works

The phasing plan for the basement works has been detailed on SFK drawing S-1111 in the appendices and should be read in conjunction with the below, which also make reference to the full construction phase plan over.

Phase 1a **Step 1** Installation of temporary works to the brickwork barrel vaults and construction of the masonry supporting piers to the cast iron beams.	
Phase 1b **Step 2** Removal of the existing hardstanding at ground floor level. Isolation strip broken out first, followed by the areas over the basement and remaining footprint (see 5.2.5 for further information).	
Phase 1b **Step 3** Replacement of precast slabs and filler joist slabs below colonnades. Brickwork repairs to vaults carried out after vaults.	

Phase 1b/2 **Step 4** New hardstanding surfacing applied and construction of new superstructure above ground.	

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5.2.3 Temporary Works

A plan of temporary works is required to support the brick barrel vaults during the construction to maintain the integrity as the surface above is broken out and some of the slab fully replaced. It is not considered that the beams will require temporary works as the piers will be constructed prior to the commencement of above ground works, see 5.2.2 for the phasing.

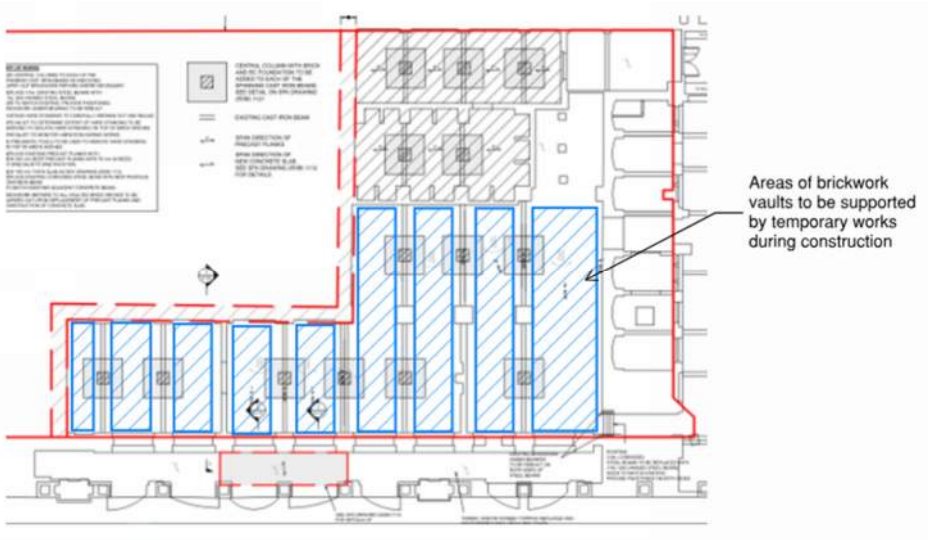


Figure 5.5 - Temporary Works Scope

5.2.4 Structural Monitoring

During the works, a series of structural monitoring measures should be in place to monitor vibrations, and deflections at key points to ensure that there any unforeseen impacts on the basement structure are identified and mitigated prior to harm occurring to the fabric.

The critical items for monitoring would be the longest spanning brick barrel vault and the cast iron beam with the lowest factor of safety. Most of the barrel vaults are of equal spans, however, one barrel vault has a longer span then the others and would be considered the critical vault to monitor. The southern-most adjoining beam to this is the critical design beam, both identified in Figure 5.6 below. The vault should be monitored for both vibration and displacement, and the beam for displacement. It may also been deemed appropriate to monitor some additional beams or vaults to cover a wider footprint, such as the western-most vault and beam.

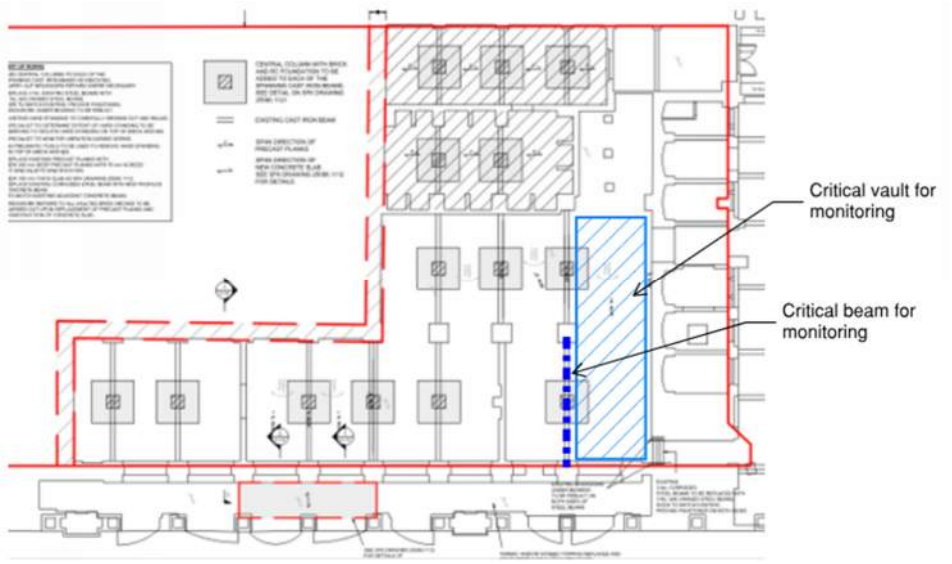


Figure 5.6 - Critical Vault and Beam Identified

It is anticipated that the monitoring will be in real-time with limits set before triggering an alert. The final scope of this will be identified in collaboration with a specialist prior to construction.

In addition to the measured monitoring of the critical beam and vault, a regular schedule of visual monitoring should be carried out, looking for any signs of structural distress such as cracking or displacement of fabric.

5.2.5 Structural Considerations

There are a number of further measures being put in place that will ensure the protection and integrity of the fabric during the works, these are:

- A strip of the existing hardstanding to the broken out by saw cutting, isolating the surface over the basement from the remaining hardstanding, potentially limiting the transmission of vibrations through the breaking up of the slabs. The slab over the basements will also be saw cut and removed with no use of pneumatic tools.
- The works over the basement will also have to adhere to a 5.0kN/m^2 loading restriction for the duration of the construction.

APPENDIX A
SFK Drawings

NOTES

1. THIS DRAWING IS TO BE READ IN CONJUNCTION WITH ALL RELEVANT ARCHITECT'S AND M&E DRAWINGS TOGETHER WITH THE SPECIFICATION.
2. DO NOT SCALE THIS DRAWING.
3. THIS DRAWING IS BASED ON SURVEY DRAWING BY MALTBY SURVEYS LTD DATED DECEMBER 2024 AND IS ASSUMED TO BE CORRECT.
4. EXTENT OF PANORAMA ROOM SHOWN INDICATIVELY. FULL EXTENT OF NEW HARD STANDING TO BE CONFIRMED ON SITE.

APPROXIMATE EXTENT OF EXISTING HARD STANDING

KEY

SPAN DIRECTION OF VAULTED BRICK ARCH

P SPAN DIRECTION OF PRECAST PLANKS

EXISTING CAST IRON BEAM

EXISTING PROFILED CONCRETE BEAM UNDER

EXISTING CORRODED 175 x 100 STEEL OR WROUGHT IRON BEAM UNDER

EXISTING 3 No. CORRODED STEEL BEAMS. BRICKWORK BELOW STEEL BEAMS IN POOR CONDITION

EXISTING BASEMENT PLAN
1:100

Scale Bar - 1:100 0 1.0 2.0 3.0 4.0m

rev	drawn	chkd	appd	date	description
P1	ML	PSD	-	18.09.26	ISSUED FOR PLANNING

CLIENT: ALEXANDRA PALACE AND PARK CHARITABLE TRUST

PROJECT: PANORAMA ROOM

DRAWING TITLE: EXISTING BASEMENT PLAN

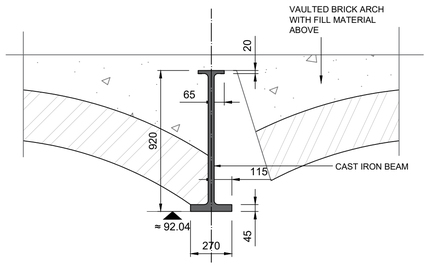
SFK consulting
2nd Floor Trinity House, 123 Winchester Road,
Chandlers Ford, Eastleigh
Hampshire SO53 2DR
Tel: 023 8251 6969

SCALE: 1:50 @ A1

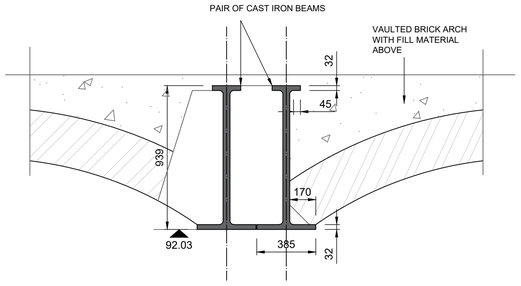
SFK REF: 25086 - 1001

DRAWING NUMBER: 25086-SFK-PR-BF-DR-S-1001

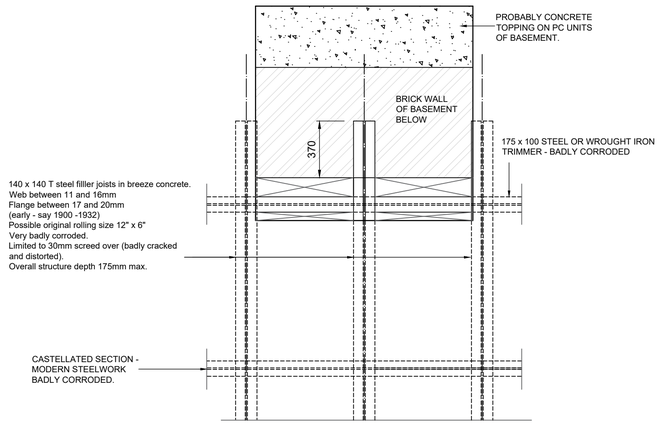
P1



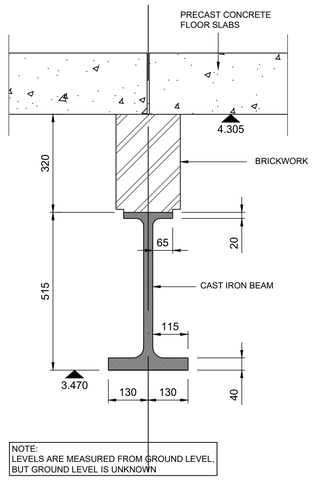
BEAM POSITION 01
1:20



BEAM POSITION 02
1:20



BEAM POSITION 03
1:20



BEAM POSITIONS 04 AND 05
(SIMILAR)
1:10

NOTES

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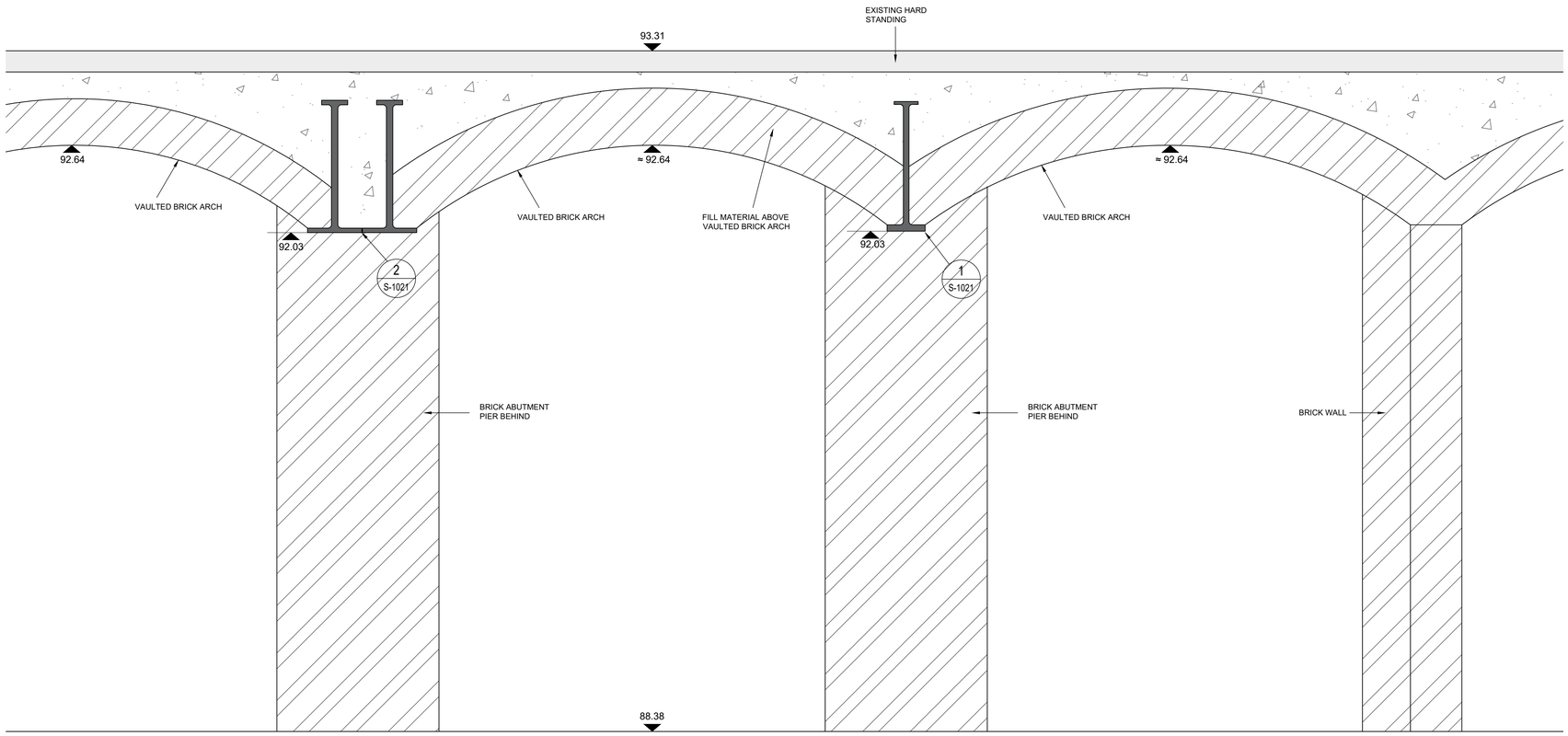

SECTION A - A
1:20

Scale Bar - 1:10 0 0.1 0.2 0.3 0.4 0.5m
Scale Bar - 1:20 0 0.2 0.4 0.6 0.8 1.0m

rev	drawn	chkd	appd	date	description
P1	ML	PSD	-	18.09.26	ISSUED FOR PLANNING

CLIENT: ALEXANDRA PALACE AND PARK CHARITABLE TRUST

PROJECT: PANORAMA ROOM

DRAWING TITLE: BASEMENT EXISTING DETAILS

SFK consulting
2nd Floor Trinity House, 123 Winchester Road,
Chandlers Ford, Eastleigh
Hampshire SO53 2DR
Tel: 023 8251 6969

SCALE: AS NOTED @ A1

SFK REF: 25086 - 1021

DRAWING NUMBER: 25086-SFK-PR-BF-DR-S-1021

P1

NOTES

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2. DO NOT SCALE THIS DRAWING.
3. THIS DRAWING IS BASED ON SURVEY DRAWING BY MALTBY SURVEYS LTD DATED DECEMBER 2024 AND IS ASSUMED TO BE CORRECT.
4. EXTENT OF PANORAMA ROOM SHOWN INDICATIVELY. FULL EXTENT OF NEW HARD STANDING TO BE CONFIRMED ON SITE.

APPROXIMATE EXTENT OF EXISTING HARD STANDING TO BE BROKEN OUT AND RELAID

EXTENT OF EXISTING HARD STANDING TO BE REMOVED PRIOR TO BREAKING OUT OF REMAINDER OF HARD STANDING TO ENSURE NO VIBRATION IS TRANSFERRED INTO VAULTED BRICK ARCHES. EXTENT TO BE DETERMINED BY SPECIALIST

TEMPORARY WORKS REQUIRED TO SUPPORT ALL VAULTED BRICK ARCHES DURING THE PROPOSED WORKS. TEMPORARY WORKS TO BE DESIGNED BY OTHERS.

SUMMARY OF WORKS

1. ADD CENTRAL COLUMNS TO EACH OF THE SPANNING CAST IRON BEAMS AS INDICATED. CARRY OUT BRICKWORK REPAIRS WHERE NECESSARY.
2. REPLACE 3 No. EXISTING STEEL BEAMS WITH 3 No. GALVANISED STEEL BEAMS. SIZE TO MATCH EXISTING. PROVIDE PADSTONES. BRICKWORK UNDER BEARING TO BE REBUILT.
3. EXISTING HARD STANDING TO CAREFULLY BROKEN OUT AND RELAID. SPECIALIST TO DETERMINE EXTENT OF HARD STANDING TO BE REMOVED TO ISOLATE HARD STANDING ON TOP OF BRICK ARCHES. SPECIALIST TO MONITOR VIBRATION DURING WORKS. NO PNEUMATIC TOOLS TO BE USED TO REMOVE HARD STANDING ON TOP OF BRICK ARCHES.
4. REPLACE EXISTING PRECAST PLANKS WITH NEW 200 mm DEEP PRECAST PLANKS WITH 75 mm SCREED TO SPECIALIST'S SPECIFICATION.
5. NEW 150 mm THICK SLAB AS SFK DRAWING 25086.1112. REPLACE EXISTING CORRODED STEEL BEAM WITH NEW PROFILED CONCRETE BEAM (TO MATCH EXISTING ADJACENT CONCRETE BEAM).
6. BRICKWORK REPAIRS TO ALL VAULTED BRICK ARCHES TO BE CARRIED OUT UPON REPLACEMENT OF PRECAST PLANKS AND CONSTRUCTION OF CONCRETE SLAB.

CENTRAL COLUMN WITH BRICK AND RC FOUNDATION TO BE ADDED TO EACH OF THE SPANNING CAST IRON BEAMS. SEE DETAIL ON SFK DRAWING 25086.1121

EXISTING CAST IRON BEAM

SPAN DIRECTION OF PRECAST PLANKS

SPAN DIRECTION OF NEW CONCRETE SLAB. SEE SFK DRAWING 25086.1112 FOR DETAILS

EXISTING BRICKWORK UNDER BEARING TO BE REBUILT ON BOTH SIDES OF STEEL BEAMS

EXISTING 3 No. CORRODED STEEL BEAMS TO BE REPLACED WITH 3 No. GALVANISED STEEL BEAMS. SIZES TO MATCH EXISTING. PROVIDE PADSTONES ON BOTH SIDES.

SEE SFK DRAWING 25086.1112 FOR DETAILS OF NEW 150 mm THICK RC SLAB

TARMAC AND/OR SCREED TOPPING REPLACED AND WEATHERPROOFING MEASURES TAKEN TO PROTECT STRUCTURE BELOW ACROSS THE FOOTPRINT OF THE PANORAMA ROOM AND ADJOINING EXTERNAL AREAS

PROPOSED BASEMENT PLAN
1:100

Scale Bar - 1:100 0 1.0 2.0 3.0 4.0m

rev	drawn	chkd	appd	date	description
P1	ML	PSD	-	18.09.26	ISSUED FOR PLANNING

CLIENT: ALEXANDRA PALACE AND PARK CHARITABLE TRUST

PROJECT: PANORAMA ROOM

DRAWING TITLE: PROPOSED BASEMENT PLAN

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Chandlers Ford, Eastleigh
Hampshire SO53 2DR
Tel: 023 8251 6969

SCALE: 1:100 @ A1

SFK REF: 25086 - 1101

DRAWING NUMBER: 25086-SFK-PR-BF-DR-S-1101

P1

NOTES

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2. DO NOT SCALE THIS DRAWING.
3. THIS DRAWING IS BASED ON SURVEY DRAWING BY MALTBY SURVEYS LTD DATED DECEMBER 2024 AND IS ASSUMED TO BE CORRECT.
4. EXTENT OF PANORAMA ROOM SHOWN INDICATIVELY. FULL EXTENT OF NEW HARD STANDING TO BE CONFIRMED ON SITE.

APPROXIMATE EXTENT OF EXISTING HARD STANDING TO BE BROKEN OUT AND RELAID

EXISTING CAST IRON BEAM

LOCATION OF NEW ANCHORS

Scale Bar - 1:100 0 1.0 2.0 3.0 4.0m

CLIENT:	ALEXANDRA PALACE AND PARK CHARITABLE TRUST
PROJECT:	PANORAMA ROOM
DRAWING TITLE:	PROPOSED GROUND FLOOR PLAN SHOWING BASEMENT

SFK consulting
2nd Floor Trinity House, 123 Winchester Road,
Chandlers Ford, Eastleigh
Hampshire SO53 2DR
Tel: 023 8251 6969

rev	drawn	chkd	appd	date	description
P1	ML	PSD	-	24.09.26	ISSUED FOR INFORMATION

SCALE: 1:100 @ A1	SFK REF: 25086 - 1102
DRAWING NUMBER: 25086-SFK-PR-GF-DR-S-1102	P1

NOTES

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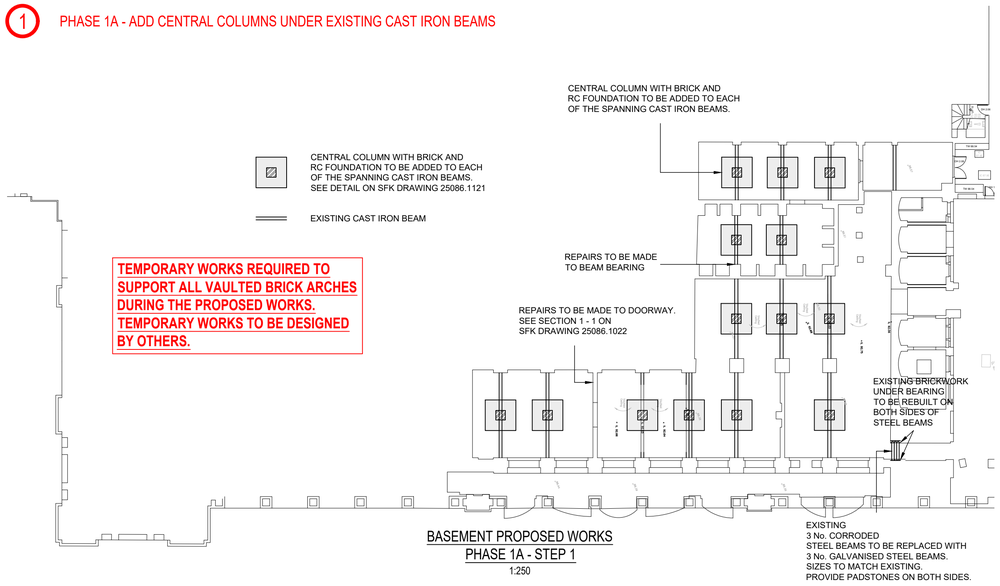
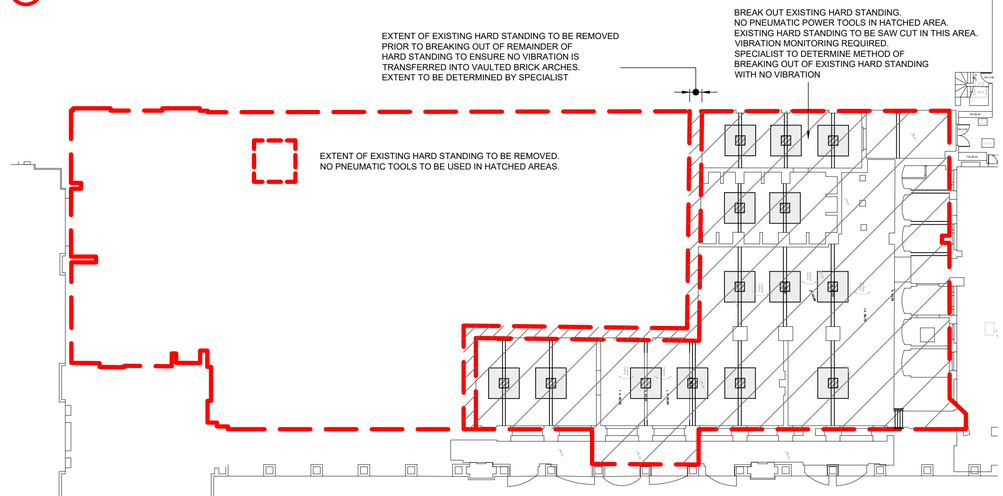
4. EXTENT OF PANORAMA ROOM SHOWN INDICATIVELY. FULL EXTENT OF NEW HARD STANDING TO BE CONFIRMED ON SITE.

1 PHASE 1A - ADD CENTRAL COLUMNS UNDER EXISTING CAST IRON BEAMS



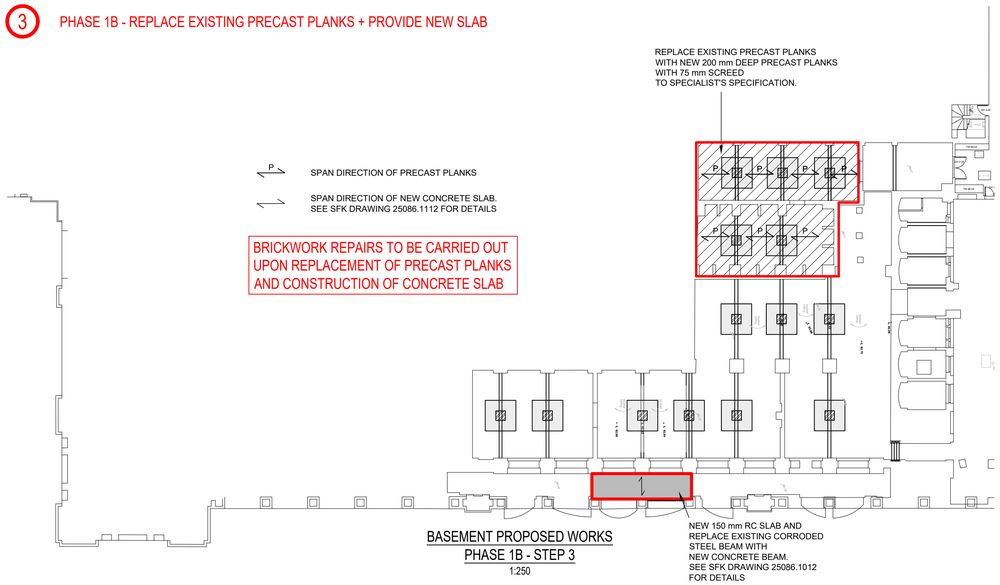
BASEMENT PROPOSED WORKS
PHASE 1A - STEP 1
1:250

2 PHASE 1B - REMOVE EXISTING HARD STANDING



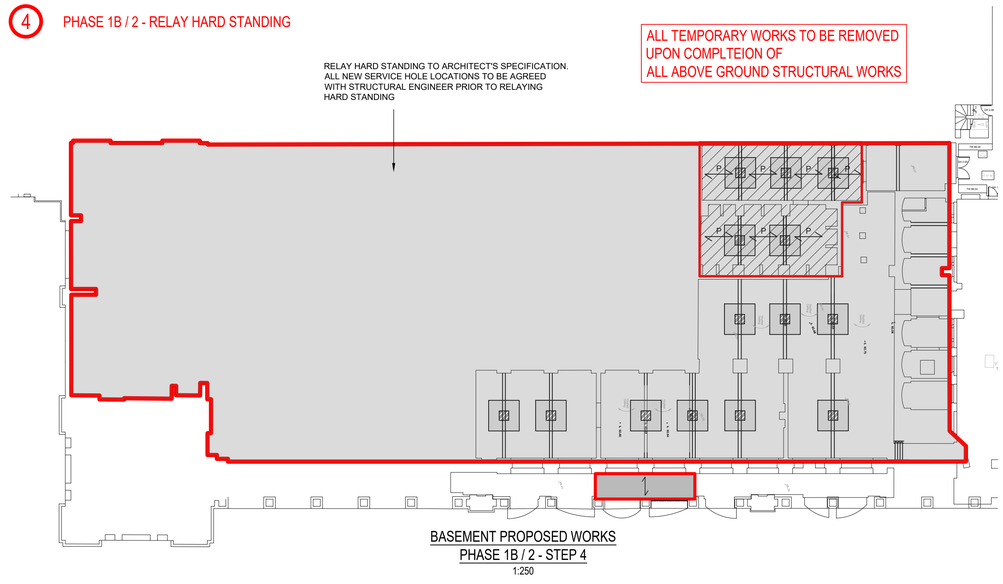
BASEMENT PROPOSED WORKS
PHASE 1B - STEP 2
1:250

3 PHASE 1B - REPLACE EXISTING PRECAST PLANKS + PROVIDE NEW SLAB



BASEMENT PROPOSED WORKS
PHASE 1B - STEP 3
1:250

4 PHASE 1B / 2 - RELAY HARD STANDING



BASEMENT PROPOSED WORKS
PHASE 1B / 2 - STEP 4
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rev	drawn	chkd	appd	date	description
P2	ML	PSD	-	15.10.26	ISSUED FOR PLANNING Phases added.
P1	ML	PSD	-	18.09.26	ISSUED FOR PLANNING

CLIENT: ALEXANDRA PALACE AND PARK CHARITABLE TRUST

PROJECT: PANORAMA ROOM

DRAWING TITLE: BASEMENT PROPOSED WORKS SEQUENCING

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2nd Floor Trinity House, 123 Winchester Road,
Chandlers Ford, Eastleigh
Hampshire SO53 2DR
Tel: 023 8251 6969

SCALE: 1:250 @ A1

SFK REF: 25086 - 1111

DRAWING NUMBER: 25086-SFK-PR-BF-DR-S-1111

P2

NOTES

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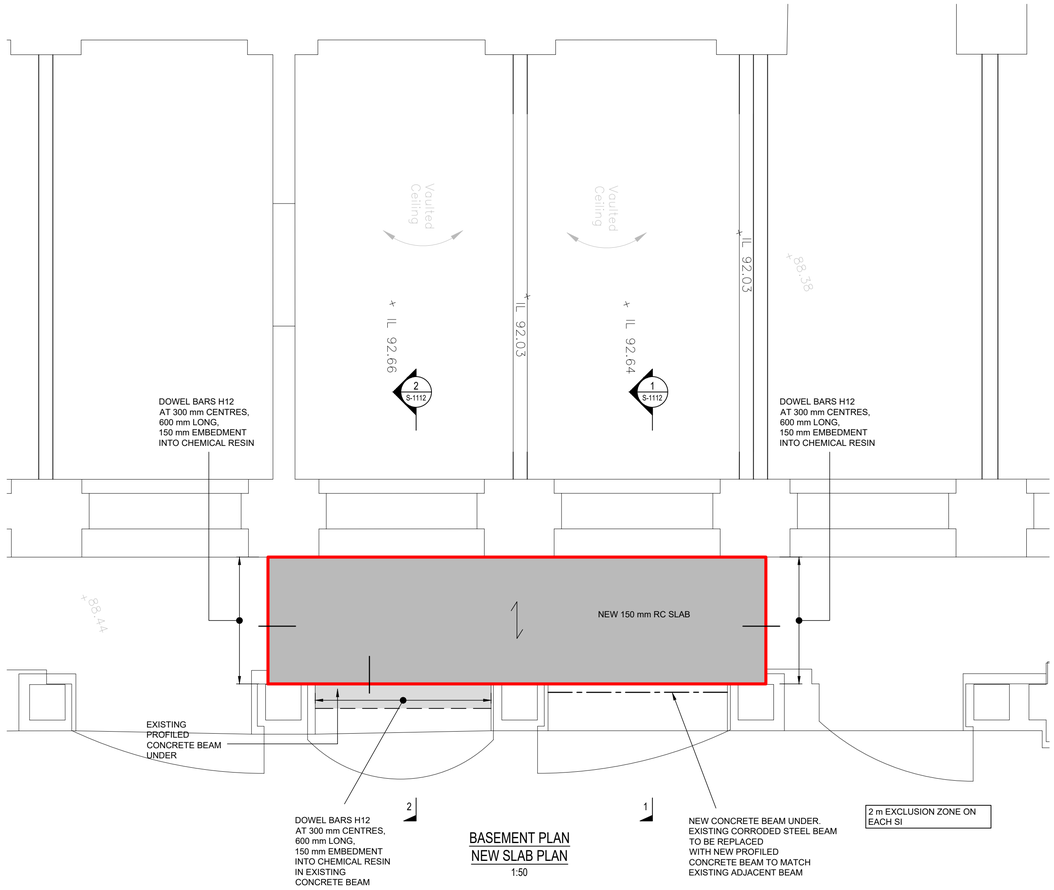
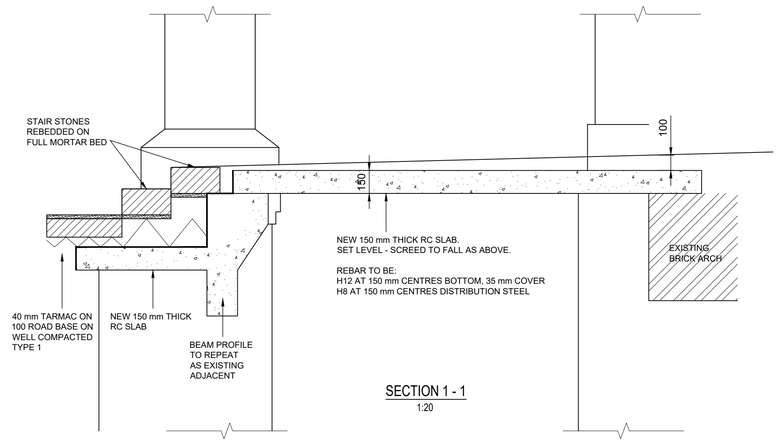
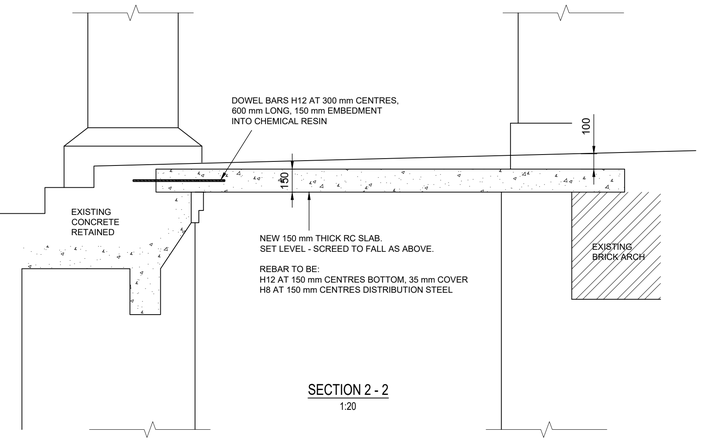


BASEMENT PLAN
NEW SLAB PLAN
1:50



SECTION 1 - 1
1:20



SECTION 2 - 2
1:20

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Scale Bar - 1:50 0 0.5 1.0 1.5 2.0m

CLIENT: ALEXANDRA PALACE AND PARK CHARITABLE TRUST

PROJECT: PANORAMA ROOM

DRAWING TITLE: BASEMENT PROPOSED RC SLAB

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2nd Floor Trinity House, 123 Winchester Road,
Chandlers Ford, Eastleigh
Hampshire SO53 2DR
Tel: 023 8251 6969

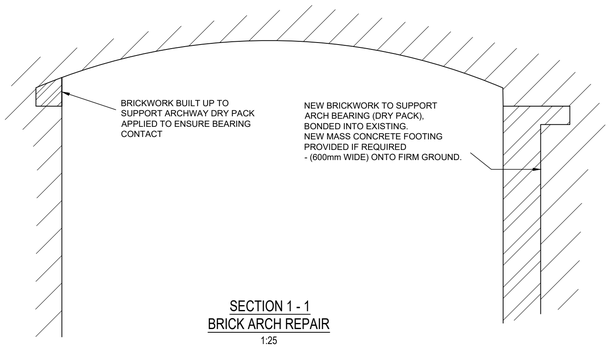
rev	drawn	chkd	appd	date	description
P1	ML	PSD	-	18.09.26	ISSUED FOR PLANNING

SCALE: AS NOTED @ A1

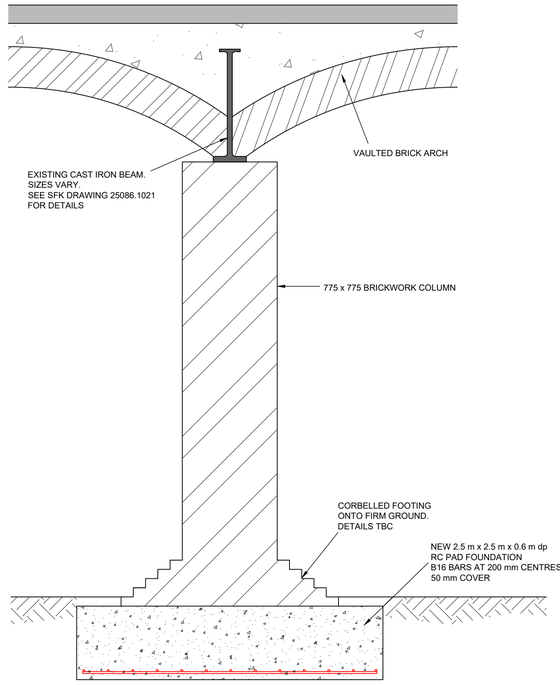
SFK REF: 25086 - 1112

DRAWING NUMBER: 25086-SFK-PR-BF-DR-S-1112

P1



SECTION 1 - 1
BRICK ARCH REPAIR
1:25



CENTRAL COLUMN DETAIL
1:25

NOTES

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3. THIS DRAWING IS BASED ON SURVEY DRAWING BY MALTBY SURVEYS LTD DATED DECEMBER 2024 AND IS ASSUMED TO BE CORRECT.

Scale Bar - 1:25 0 0.25 0.5 0.75 1.0m

CLIENT:
ALEXANDRA PALACE AND PARK CHARITABLE TRUST

PROJECT:
PANORAMA ROOM

DRAWING TITLE:
BASEMENT
PROPOSED DETAILS

SFK consulting
2nd Floor Trinity House, 123 Winchester Road,
Chandlers Ford, Eastleigh
Hampshire SO53 2DR
Tel: 023 8251 6969

rev	drawn	chkd	appd	date	description
P1	ML	PSD	-	18.09.26	ISSUED FOR PLANNING

SCALE: 1:25 @ A1

SFK REF: 25086 - 1121

DRAWING NUMBER: 25086-SFK-PR-BF-DR-S-1121 P1