

# RIBA Stage 3 Report

## Seismic Athens HMA Residence



FCDO Services

**OFFICIAL**

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## Abbreviations

### Abbreviation Meaning

AC	Air Conditioning
ACS	Access Control System
AV	Audio Visual
BREEAM	Building Research Establishment Environmental Assessment Method
BS	British Standards
CAB	Commercial Assurance Board
CCTV	Closed Circuit Television
CDM	Construction, Design and Management
CSM	Corporate Services Manager
DHCW	Domestic Hot and Cold Water
DHM	Deputy Head of Mission
ESND	Estates, Security and Network Directorate
FBC	Final Business Case
FCDO	Foreign, Commonwealth and Development Office
FF&E	Fixed Furniture and Equipment
FM	Facilities Management
FMR	Forward Maintenance Register
GAC	Government Artwork Collection
HMA	Her Majesty's Ambassador
HSE	Health and Safety Executive
IDD	Information and Digital Directorate
ITSO	Information Technology Support Officer
KSNM	Greek Planning Department
M&E	Mechanical and Engineering
MEP	Mechanical Electrical and Plumbing
OB	Optimism Bias
OJEU	Official Journal of the European Union
OSA	Overseas Security Advisor
PA	Public Address

### Abbreviation Meaning

PM	Project Manager
PV	Photovoltaic
R&D	Refurbishment and Demolition
ReTech	Rehabilitation Technologies (Local Structural Engineers)
RIBA	Royal Institute of British Architects
RICS	Royal Institution of Chartered Surveyors
ROSM	Regional Overseas Security Manager
SOR	Schedule of Requirements
STSO	Secure Technical Services Officer
TAG	Technical Advisory Group
TSOO	Technical Security Oversight Officer
TWO	Technical Works Officer
VOICE	Vocally Optimised Incident Control Equipment

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# 00 Executive Summary

## Scope

FCDO Services were commissioned by ESND in 2018 to undertake a study of the HMA's Residence in Athens as part of the FCDO Worldwide Seismic Assessment Programme, as Athens is located in Seismic Hazard Zone 4, equivalent to a 'high' seismic risk. The objective of the study was to establish the scale and cost of the works required to ensure it provides a life safe environment in the event of a predefined maximum intensity earthquake.

ReTech, a local Structural Engineering company based in Athens, were appointed to undertake surveys and develop the design solution through RIBA Stages 1-3 (structural solution technical development) sufficient to complete the preliminary stages of what is a strict and lengthy planning consent process in Greece. Comprehensive structural analysis of the building confirmed and quantified the non-compliant structural deficiencies of the Residence, thus informing a preferred design solution. The ReTech study concluded that significant structural intervention is required to the existing primary structure of the building and would require the Residence to be vacated for the duration of the works.

A key objective of the preferred solution is that the works being proposed must maintain the integrity of existing construction materials and detailed architectural features, and preserve the historical context of the building. The scope of the project was defined at this point as providing the following:

- Seismic compliant structural interventions
- Preservation of historic building features, including the removal and replacement of decorative interior finishes

## Additional Scope

After consultation with ESND and Post, and from initial discussions with KSNM, additional scope was added in late 2019 to include the following:

- Building access improvements – provision of a new passenger lift
- Re-planning of the HMA private living accommodation
- Correction of non-approved historic building additions - external AC units
- Replacement or refurbishment of the windows
- Replacement of the roof
- Refurbishment of the pantry

This increased scope required more time to develop the technical design which was a requirement of the statutory planning process. Covid further delayed this as it was not possible for the FCDO Services Design team to visit the Residence to undertake the required surveys to finalise the technical design with the updated scope. ReTech were commissioned to undertake these surveys and finalise the technical design.

Covid restrictions eased in November 2020 and a visit was arranged comprising the Client, PM, Architect, Interior Designer and OSA. The scale and impact of works presented additional opportunities to enhance the use and functionality of the building and further additional scope was then added:

- Interior design refresh to representational, private, and guest rooms
- Upgrade of all the public and private bathrooms on the ground and first floors, including the provision of one fully accessible bathroom on each floor
- Incorporate Post's design as much as possible to refurbish the pantry, servery and dishwashing area on the ground floor
- Security requirements recommended by OSA and ROSM and endorsed by TAG:
  - Keep upgrades - reinforced door, compliant shutter and connect panic alarm to VOICE
  - Install ACS to the HMA apartment
  - Install ACS inside the lift
  - Install ACS to back door by the garage

Subsequently, ESND instructed FCDO Services to develop the Architecture and MEP to RIBA Stage 3 in line with the seismic design.

The project scope is defined by key risks and opportunities identified below;

Life Safety Risks	Mitigation
Building collapse due to seismic event	Structural strengthening
Litigation and reputational damage due to poor Equality Act compliance	Provision of a new external lift. Compliant toilet facilities on every floor
Manual handling due to lack of lift and narrow staircase	Provision of a new external lift

Opportunity	Proposal
Accessibility improvements	Accessible lift to all levels. Improved accessible bathrooms.
Environmental improvements	Reduce running costs and increased energy efficiency through improved insulation, acoustics and thermal properties by providing new roof, heritage windows and AC system.
Improved use of building	Adoption of existing mezzanine flat into the HMA Apartment to provide secure and larger living space and family accommodation.
Replacement of dated living and guest accommodation	New kitchen on ground floor, first floor, modernisation of bathrooms and refresh of furnishings throughout.

FCDO Services undertook a further site visit in May 2021 which highlighted a number of health and safety and general maintenance issues. ESND are to advise which of these items are to be covered in the final scope. Summary is provided below:

- Replacing flooring throughout the basement, ground and first floor as it is in various states of disrepair – creaks, style is mismatched and likely will be damaged during works
- Repair and treat corroded iron security railing fixings embedded within structure and make good damaged building fabric
- Replace insulated composite blocks on the VIP room first floor terrace with a new insulated roof covering
- Resolve issue with low balustrades on the roof and terraces with glazed extensions to meet UK Building Regulations, subject to approval from KSNM
- Replace damaged drainage covers with new on a like for like basis
- Replace corroded downpipes and associated rainwater outlets throughout
- Repairs to 'Radio Room' and concrete flue to address corrosion of reinforcement within structure

## Test Run

Due to the specialist nature of the works, it was decided that a test run of the drilling technique was to be undertaken, this occurred between September - November 2021. The objective was to assess the suitability of the technique and to highlight any potential risks or issues early in order to mitigate future risk. A local structural engineering company undertook the works under supervision from ReTech and FCDO Services

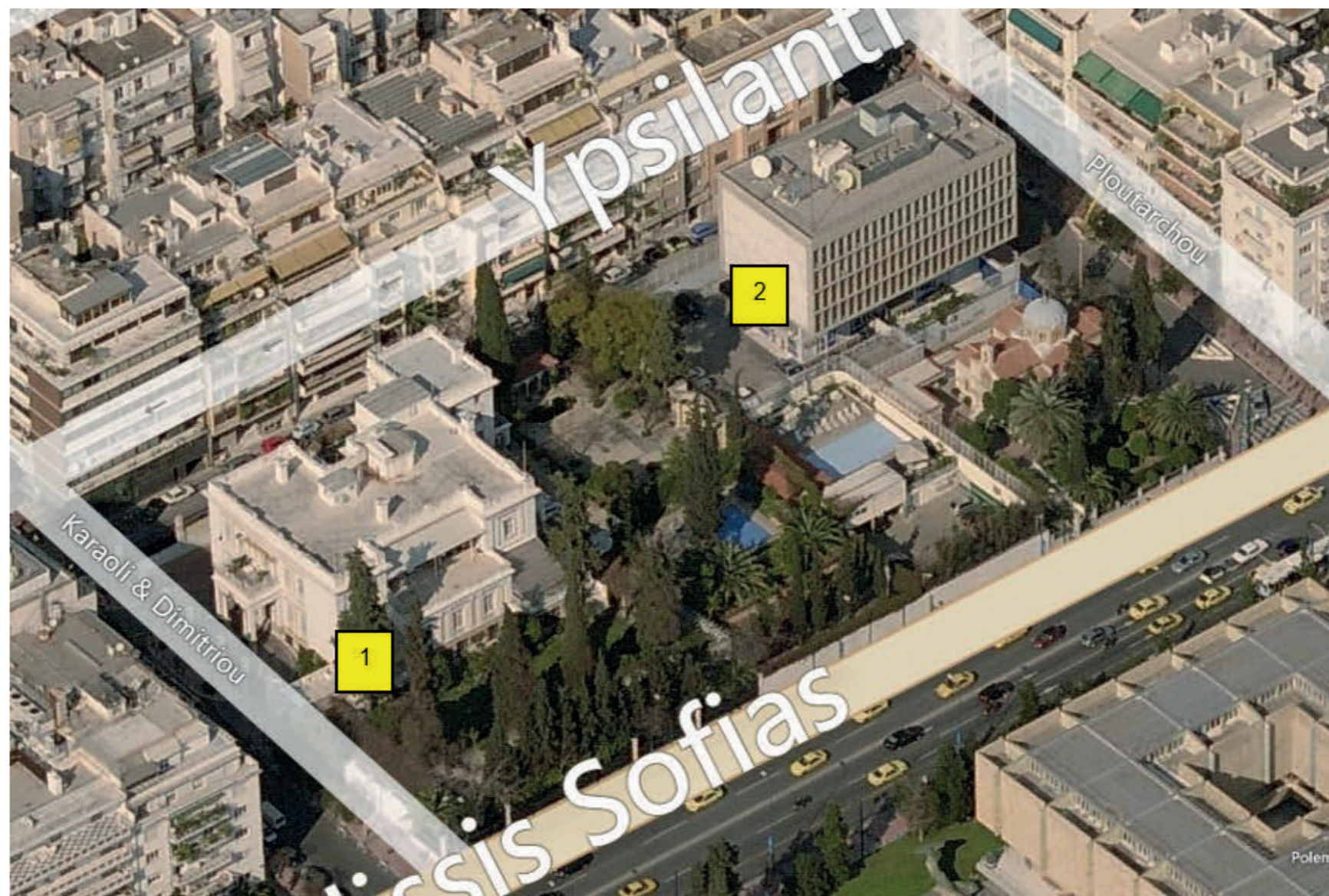
Structural Engineer and Clerk of Works. The core drilling phase was a success, see report in Appendix C. It was found that pre grouting of the internal masonry walls is essential to minimise vibrations and noise. This was mentioned as a possibility in a few locations previous to the test run. The project scope and cost plan has been updated to account for the pre grouting of all masonry rod locations which wasn't originally stipulated by ReTech.

## Next Steps

- Design for data upgrades Tender documents
- Commercial Approval Board (CAB) and commence tendering process
- Complete Planning
- FBC
- Tender recommendation
- Appoint contractor and develop:
  - Stage 4 Structural design
  - Stage 4 MEP design
  - Stage 4 Architectural, Interior and Building Fabric design

1 Equality Act 2010, chapter 1 protected characteristic; 6 Disability;

<http://www.legislation.gov.uk/ukpga/2010/15/section/6>



1 Residence  
2 Embassy

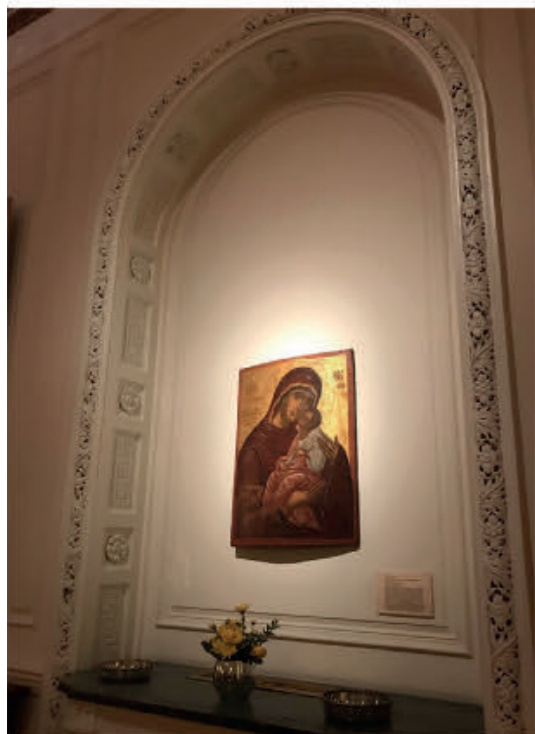
## 00 Executive Summary



Dining room



Front entrance



Artwork in the reception room



Reception room



Venizelos Library





# 01 Introduction

## History

The Residence was built in 1930-32, designed by Anastasios Metaxas, a renowned Greek Architect, who designed the Anatheniac Stadium and a number of Athens best neo-classical houses and buildings, for Eleftherios Venizelos, a former Greek Prime Minister, and his British wife Helena.

It is situated on the Vasilissis Sofias, a prominent location, close to the Parliament Building, the Presidential and Prime Minister's Residence, and other embassies and the National Gardens. It is the last grand house on the Central Avenue and a prime example of a neo-classical mansion. It is much admired by locals and visitors, and is of exceptional quality. The interiors were designed and supervised by Sir Charles Allom, who also created the Art Deco work at the Waldorf Astoria and the Frick house – now museum - both in New York.

It is co-located on the same plot as the Embassy, swimming pool and embassy club. The house was purchased by the FCDO in 1936 following Mr Venizelos' death and has been the Residence to the British Ambassador to Greece for circa 85 years and it originally doubled as the Embassy.

## Current Use

Today the Residence is used extensively for Embassy and income generation events, and as visitor accommodation to save hotel costs. It has a gross internal area of 2282m2, with six bedrooms and various ancillary rooms. The basement area has good space for seminars. It has extensive gardens and a swimming pool. The Residence is contiguous with the adjacent Embassy compound providing operational and security synergies.

The building has FCDO "Designated Residence" status. It has national Modern Monument status in Greece, equivalent UK Grade 1 listing, and therefore subject to rigorous statutory approvals processes.

The Residence was refurbished in 1990, when amongst other work the tapestry was purchased for the ballroom. The last major interior decorative work was undertaken in 2005/6. This involved mostly soft furnishings in the drawing, dining, morning and ballrooms along with the installation of several chandeliers from the former Lisbon Residence.

In recent years, the building has been maintained under an FM contract and works in this period

include; 2013 major electrical upgrade, 2016 installation of wireless fire alarm system; 2019 plumbing upgrade to VIP bathrooms and flooring replaced throughout the ground floor.

This report details the RIBA Stage 3 (developed design / spatial coordination) for the Residence refurbishment and sets out the project's strategy to complete the design and construction stages.



Anastasios Metaxos, Architect



Helena and Eleftherios Venizelos

West view of the Residence from historical archives

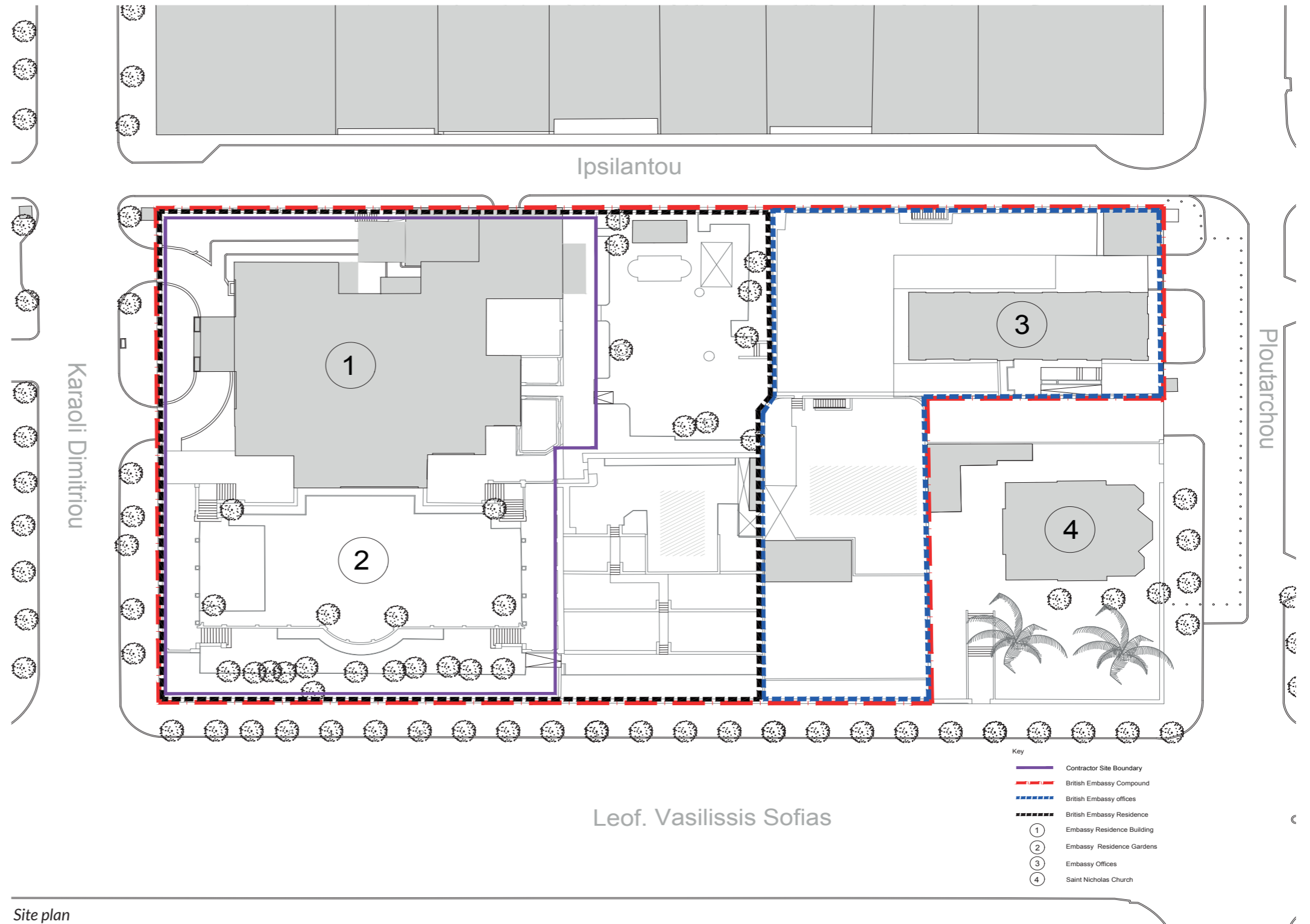




## 02 Project Objectives & Benefits

The proposed works includes for:-

- Addressing the project's primary objective to upgrade the Residence to meet the Greek seismic code with structural strengthening through a variety of interventions designed to minimise damage to the original building fabric
- Building fabric repairs and upgrades to meet basic health, safety and compliance standards
- Replacing out dated but functional elements - replacement of boilers, AC and re-plumbing of DHCW system to bring the building into a compliant condition
- Implement the recommendations contained within the Fire Officers report in order to comply with UK fire regulations
- The Architectural design addresses the adjustments required to improve the accessibility of the property by introducing full wheelchair access into the Residence to the basement, ground and first floor and considers compliance issues with bathrooms, the terraces and external balustrades
- The work is expected to be substantial and will impact upon all parts of the building but will incorporate all making good works, full redecoration and reinstatement of existing fittings and fixtures
- The installation of new double glazed windows and doors to replace the remaining single glazed units will improve the thermal properties and therefore the energy efficiency, acoustics and security of the building whilst not materially altering the overall appearance
- Replacement of dated kitchens, bathrooms, and furnishings throughout the non-designated areas of the building. This option also includes for the provision of improved guest toilet facilities on the ground floor to serve large functions and for the remodeling of the existing HMA Apartment to provide enhanced security, additional living space including three extra bedrooms and a refresh to the existing space



Site plan



## 03 Pre-Contract Stage

### 3.1 Design Team

For RIBA Stage 3, FCDO Services assembled a design team led by a Project Manager which included an Architect, MEP Engineer, Building Surveyor, Structural Engineer, Interior Designer and a Cost Manager. The team has extensive experience of the FCDO Estate.

A local structural company, ReTech was appointed by FCDO Services early in Stage 1 to undertake the structural design and manage the planning process, including heritage matters, local seismic codes and any other local compliance issues.

FCDO Services appointed other consultants during Riba Stage 3 - a local MEP Company, a UK Fire Officer, BREEAM Consultant and Lift Consultants.

For RIBA Stage 4, third party designers and contractors will be appointed following a competitive tender process. The successful contractor is proposed to be managed by FCDO Services to complete the design, and provide ongoing technical support during the construction phase of the project. Retaining UK oversight will ensure that FCDO / UK requirements are met and that the project remains in scope and provides a conduit between the project team and the customer.

Designers and specialist designers required for future stages are as follows;

- Structural design
- Architectural design
- MEP design
- Lift consultant
- Interior design – Designated Residence
- Fire Officer

Consultation has been undertaken with TAG, OSA and ROSM, and SORs detailing the requirements have been documented. Further consultation is not expected.

Further survey work is required and is identified on the survey schedule in Appendix A. These surveys will be undertaken once the building is vacated.

### Design team

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Bill Runham

**Building Surveyor**  
Neil Hambly

**Building Services**  
Richard Burns

**Civil Engineering**  
Aram Chtchyan

**Architect**  
Joanna Harding

**Interior Design**  
Helen Hookway

**Seismic & In Country Structural Engineer for Planning Submission**  
ReTech Costas  
Antonopolous

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**SRO**  
Tony Whitehead  
**Project Director**  
Kim Ambury

**FCDO Stakeholders**  
**UK**  
OSA, IDD, TAG  
**Athens**  
CSM,  
Residence Manager,  
Estates Manager,  
ROSM, ITSO, STSO  
& TWO

**FCDO Appointed Fire Engineer**  
**TetraTech**  
Raghuvirsingh  
Rathod &  
Andy Easy

## 03 Pre-Contract Stage

### 3.2 Design Principles

The principal source of information for design will be any prevalent UK & EU regulations, and FCDO guidelines and requirements. Local regulations should prevail to meet local authority requirements and ReTech have been ensuring compliance with Greek construction industry guidelines and Greek Standards. The FCDO may consider enhancements to meet UK or FCDO requirements if not in conflict with local standards and primarily on matters of life safety.

This concept design stage has considered and followed the design standards below and further stages of development shall determine additional standards as necessary.

- Equality Act 2010
- FCDO Design Guidelines
- ISO 9001 Quality Assurance
- UK Building Regulations
- UK Fire Engineer - Compliance with Part B of Building Regulations
- Construction (Design and Management) 2015 Regulations
- Structural Design in accordance with the standards and principles set out in the FCDO Worldwide Seismic Assessment Programme (since disbanded)

### 3.3 Design coordination

The Stage 3 design has been coordinated by FCDO Services and has incorporated all works associated with the impact of ReTechs seismic design and additional input received from ESND, Tetrattech Fire Consultants, Ashdale Lift Consultants and a series of surveys undertaken.

Consultation with both incoming and outgoing HMA has achieved layout freeze in the private accommodation and consultation with stakeholders in the remainder of the Residence has also achieved layout freeze for the remodelling of the ground floor pantry/ servery area and basement hallway.

A coordination exercise has been completed across disciplines based upon the agreed layouts in order to produce Stage 3 compliant designs.

OSA and ROSM input have been incorporated with regards to physical security of the HMA apartment, external lift and window and door replacement proposals. Consultation has been completed with TAG relating to SoRs for the HMA Apartment. Currently there are no plans to upgrade FCDO Services Technical Installations but there is a trial of VOICE 2 in the Office and it may become a requirement for it to also be installed in the Residence before the project works are complete. However it is anticipated that this work will be undertaken as part of a wider rollout programme being undertaken on the FCDO Estate.

### 3.4 Surveys

Structural surveys identified from the Tier 2 survey were completed by ReTech in 2018. In 2020 they undertook additional surveys related to the window surveys, architectural proposals and MEP scope, as due to Covid restrictions the FCDO Services design team could not travel to Greece. MEP surveys were completed in 2021, however investigations were only able to be non-intrusive as the Residence was still in occupation.

The surveys listed below will need to be undertaken by either the main contractor or by a specialist surveyor as appropriate once the Residence is vacated. The main contractor, under instruction through the contract, will undertake any necessary remedial works recommended by these surveys. Appropriate allowances will be made in the cost plan.

- Mouldings of the heritage features affected by the FRP seismic works
- Asbestos R&D survey. An asbestos management survey was last undertaken in 2014 and asbestos was identified in two locations, one of which has subsequently been removed. The remaining item is around pipework gaskets due to be replaced as part of the works. A full Asbestos R&D survey should be undertaken ahead of any demolition works. This cannot commence until design information is available and the house is vacated due to the intrusive and damaging nature of the survey.
- Lead paint. It has been confirmed that lead paint is present on the external window frames of the heritage windows. It is therefore reasonable to assume that lead paint will be disturbed as part of the works. The successful contractor will be required to make the necessary provision within their tender for working around lead paint. It is also recommended that lead paint monitoring is set up during works.

### 3.5 Structural Design

The Residence, built in the early 1930s, pre dates global or regional seismic codes for compliant seismic design and construction. Preliminary seismic analysis in 2017 identified structural deficiencies which will result in the building failing to provide a life safe environment during a predefined maximum intensity earthquake.

The requirements of KSNM were that the structural intervention proposals had to ensure the original building fabric and historical detailing would be preserved. This led to FCDO Services appointing a local specialist contractor - ReTech - in 2018 to develop a suitable solution. ReTech undertook further comprehensive structural analysis which confirmed and quantified the non-compliant structural deficiencies of the Residence, thus informing the preferred solution.

#### Design and Retrofit Solution

The solution has been reviewed by FCDO Services throughout the design development phases and principally introduces post tensioned vertical steel reinforcement through the existing masonry building elements. This would effectively form new columns and sheer walls which would reduce the risk of any future seismic event to a level where catastrophic failure would be significantly reduced.

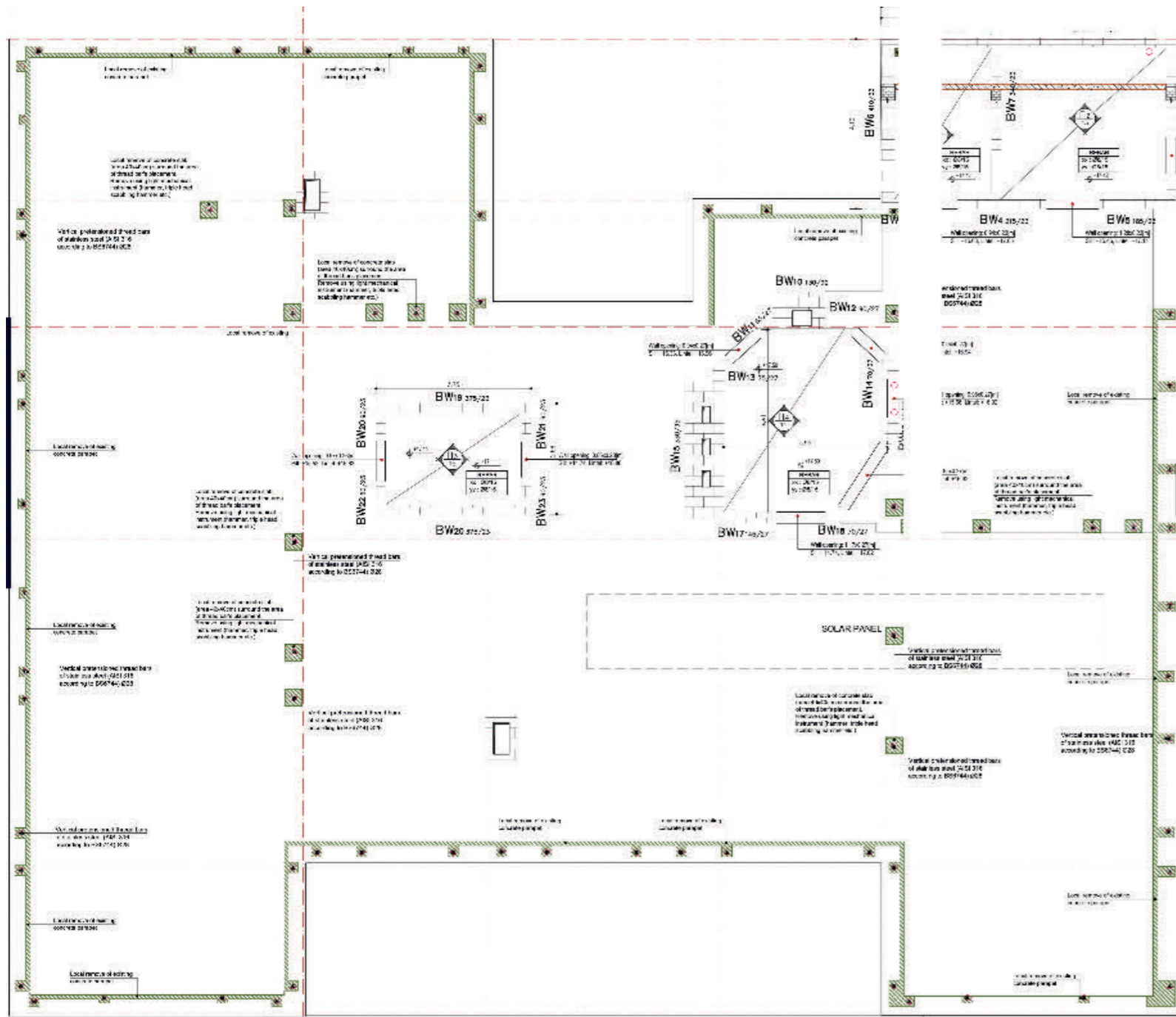
The fundamental success criteria of the solution is to have no impact on the existing building's layout or operational functionality post works, to maintain the integrity of existing construction materials and detailed architectural features, and to preserve the historic context of the building. The preferred proposed solutions are described as follows:

- **Post-tensioned reinforcement.** The introduction of post-tensioned reinforcement within the existing masonry walls meets the requirements of KSNM and can be demonstrated to minimise the impact on existing wall finishes, many of which are finely detailed. By comparison to many seismic retrofit options this requires relatively reduced construction effort making it a viable technique. See roof plan showing proposed locations of the vertical rods.

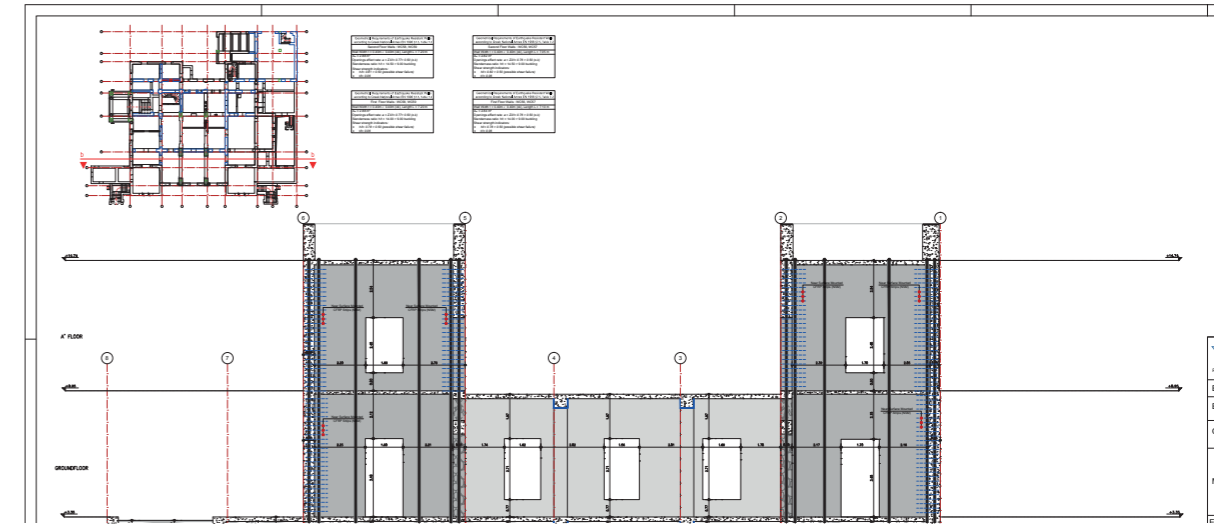
- **Fibre Reinforced Polymer (FRP).** All construction methods to increase the capacity of existing beams and columns will result in the original finishes being removed. The use of FRP is the only solution which can be done within the thickness of the existing finishes, i.e. the overall size of the beams and columns will not change. When the finishes are re-applied there will be no visual difference from the original, and it is the recommended technique that will preserve the aesthetic of the Residence that satisfies the requirements of KSNM. It should be noted that this will be required for the beams supporting the first floor directly above the 'fine rooms'. See elevations for one of the locations of FRP, highlighted green
- **Carbon Fibre Reinforced Polymer (CFRP).** The required strengthening of the external corners of the building could be achieved using steel or a FRP without any visual change to the building but the use of steel reinforcing on this age of building is discouraged by KSNM. CFRP also has the advantage that there is no risk of corrosion. See elevations for location of CFRP (blue horizontal strips).

For details on the engineering solution, refer to information contained within Appendix C.

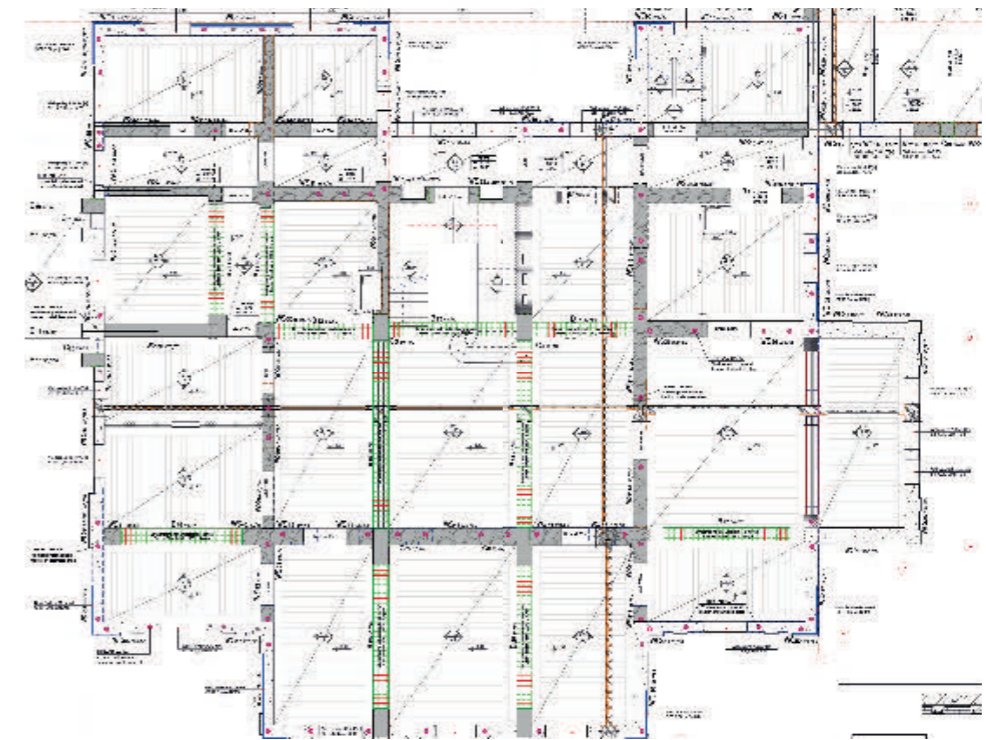
# 03 Pre-Contract Stage



Roof plan showing vertical rod locations - green squares



South elevation showing CFRP location in blue and vertical rod positions



Ground floor layout showing areas of FRP in green



## 03 Pre-Contract Stage

### Test Run

Although the drilling technique to be used is a relatively established process in Athens for this type of work, a test run was undertaken in September 2021 to better understand the potential risk of damage to the heritage features and building services of the Residence. Further, it was also an opportunity to understand the mobilisation and set up durations and noise implications of the drilling, not least as there are blocks of flats running opposite the north elevation on Ipsilantou.

Three local contractors were approached to provide a quotation for the test run work in July 2021, of which we received one response, from Enka S.A. Following appropriate technical checks they were deemed capable by both ReTech and FCDO Services Structural Engineer to undertake the works. The scope of the works was chosen to give a cross section of scenarios and covered an element of the design solution:

- Vertical drilling – 1 No. masonry wall (internal) away from the fine rooms
- Horizontal drilling – 1 No. in an area away from fine rooms
- CFRP / NSM – 1 No. small section at low level

In their original response, Enka advised that it would be essential, based on their observations and information from ReTech, to pre grout the masonry walls to fill the voids to allow the drill to pass through with minimal vibrations and dust. This would involve drilling circa 80 10mm holes in the location of each vertical rod within a masonry wall working from the basement to the roof, in order to then pressure inject grout to fill the voids. This was not anticipated as part of the main works. ReTech were in agreement with this requirement.

This adds additional cost to the project as pressure injecting in the masonry walls takes approx. 2-3 days per rod location, and then the walls need to be made good and painted. It wasn't anticipated that the test run works would have any impact internally, but this is unavoidable to address the poor condition of the masonry walls.

It is proposed that the pre grouting of the masonry walls can be done as an enabling works package once the contractor has been appointed and the Riba Stage 4 design is complete. The cost plan has been updated to account for the additional materials and labour estimated to do this work and full redecoration of all the rooms impacted.

For more details on the test run, please refer to the report contained within Appendix C.



Hilti Drill in operation for vertical drilling in masonry wall



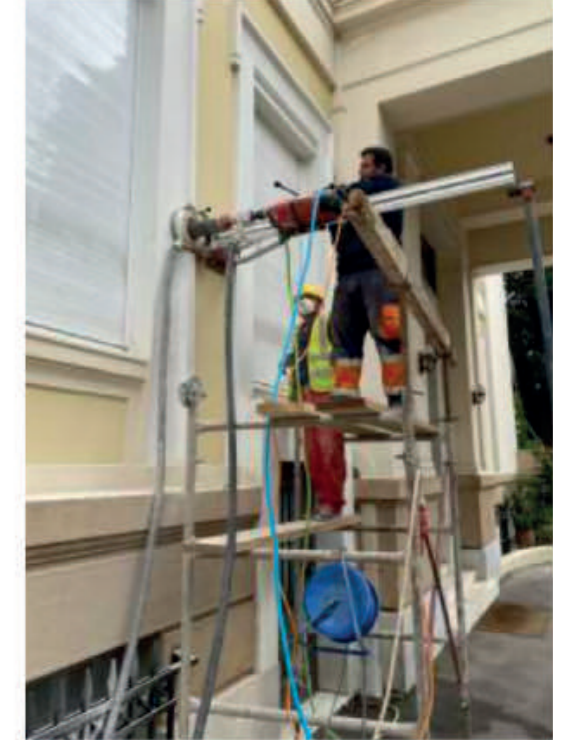
Roof showing core hole down into structure



Installation of vertical rod



Post Tensioning of vertical rod



Hilti drill in place for horizontal drilling in masonry wall

## 03 Pre-Contract Stage

### Design Solution Acceptance

The structural design has been based on the findings of a specific sample of localised surveys and opening up works. Assumptions, based on these findings, have been made in other areas of the building which could not be checked. To survey the entire building would require the building to be vacated, as opening up would be extensive. It is therefore likely that once the building has been opened up, there may be slight adjustments to the design.

### Other repairs

Several repairs have been provided by ReTech on drawings S-24R, S-25R and S-26R, and cover cracks around openings, cracks on the surface of structural elements and honey combing in concrete. These are deemed to be potential defects which may be found during the course of the retrofit structural works. Allowance for these will be included in the main contractors scope of works, with any necessary repairs then instructed as the works progress.

Boundary walls were not in scope to be seismically reviewed. Due to time constraints Post will be asked to commission ReTech to undertake a seismic review to assess the risk and if required develop a design solution which could be implemented by a local contractor separate to this project.

### 3.6 MEP Design

The MEP design has been undertaken by FCDO Services to RIBA Stage 3 and is in accordance with FCDO and UK requirements. Co-ordination has been undertaken with ReTech and FCDO Services Architect and Interior Designer. For details, please refer to designs contained within Appendix C.

The proposed MEP works elements are as listed below. Consideration has been given to strategies for sustainability, health and safety, and future operation of the installed systems:-

- Enabling works ahead of main works which involve:
  - Relocation of the existing generator back in to the garage to facilitate the lift installation
  - Drainage repairs and lift pit foundation
  - Removal of redundant oil tank and associated pipework
- Replacement of domestic hot and cold water services
- Bathroom and kitchen ventilation (where there is no natural ventilation)
- Centralisation of AC throughout using existing routes for AC pipework in the floor and ceiling voids
- Replacement of all existing non-compliant (R22) split AC units on all floors
- Lighting improvements where required as a result of layout changes in the basement and HMA apartment
- Reinstallation and commissioning of Solar PV which provides the hot water
- Provision of AC for the lift shaft to maintain operating temperatures

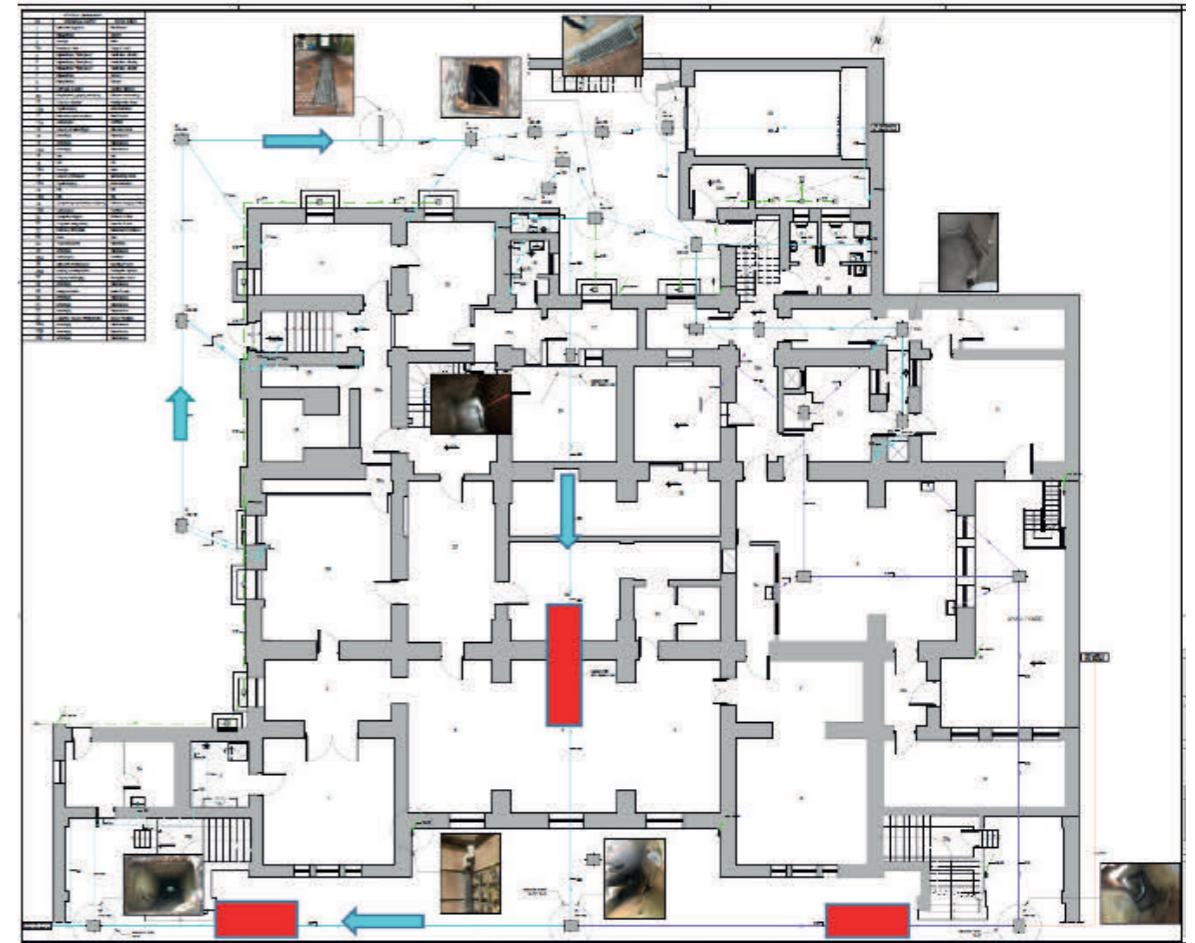
- Replacement of gas fired boilers
- Drainage from AC units and bathroom reconfiguration
- Fire compartmentation alterations to suit the formation of the basement corridor with fire dampers and fire stopping

Whilst the MEP design has been produced based on findings of specific surveys to establish condition, assumptions as to other areas of the building have been made. To survey the entire building would require the building to be vacated, as opening up would be extensive. It is therefore possible that once the building has been opened up, there may be adjustments required to the design.

### Drainage Works

A CCTV drainage survey undertaken in May 2021 showed locations where drainage had collapsed.

The proposed solution is to seal the existing run under the Residence and install a pump system to run around the Residence to connect to the mains by the guardhouse and to move the collapsed drainage in the garden away from the trees by a few metres.



## 03 Pre-Contract Stage

### 3.7 Architectural Design

The architectural design has been undertaken by FCDO Services to RIBA Stage 3 and is in accordance with FCDO requirements and UK building regulations, where reasonably practical for an existing heritage building. For details, please refer to information contained within Appendix C. This has involved design team collaboration with ReTech, as well as FCDO Services MEP Engineer, Building Surveyor and Interior Designer.

The Clients requirements originally did not extend to any layout changes or interior upgrades to the Residence. However, after consultation with the HMA in 2018 it was decided to take on layout changes to enhance the footprint of the apartment as well as security. The external lift was also included at this point to provide level access.

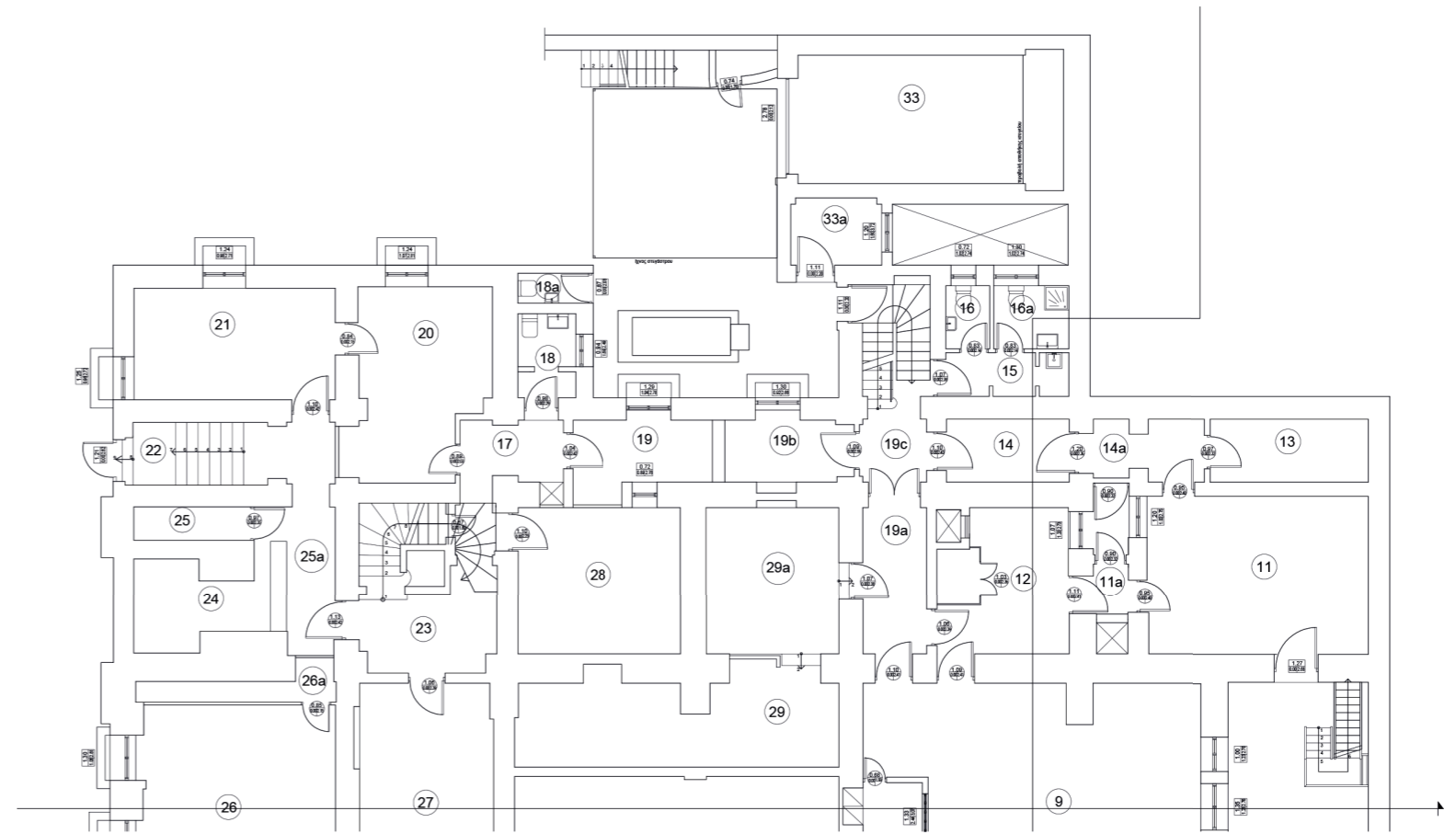
After the site visit in November 2020, it was further observed that the designated areas and all bathrooms were all in need of a refresh. And as the Residence would be shut for a significant period of time, it would be a good opportunity to

upgrade and add this scope to the project.

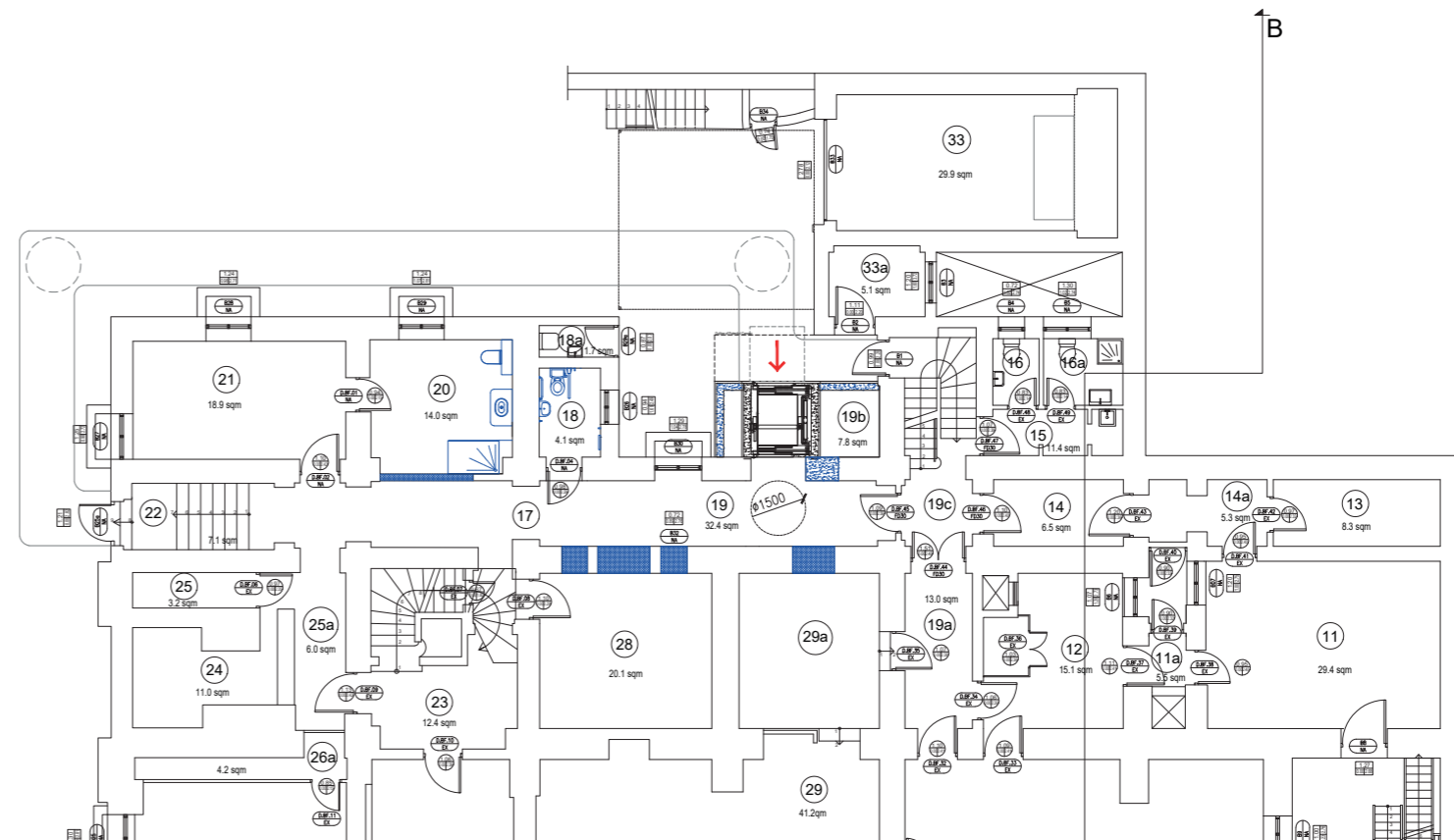
The scope of the architectural changes concentrated to three areas of the Residence.

The first area is within the basement and includes a layout change to two rooms (rooms 19b Butlers office, 19 Gardeners office) to facilitate the installation of a new external lift and provide an accessible route to the Venizelos Library via room 27, where many events are held. Also to make an existing shower room (room 18) Part M compliant.

An original lift frame (in room 23) under the stairs narrowed the corridor too much to allow a disabled users to pass through. It was proposed to take space from Room 20, currently the drivers bedroom, to make a path wide enough. This would turn room 21 into the drivers bedroom, and as their shower room 18 was being made Part M compliant, room 20 would be their ensuite.



Existing Basement Floor Plan



Proposed Basement Floor Plan



Existing lift frame in room 23

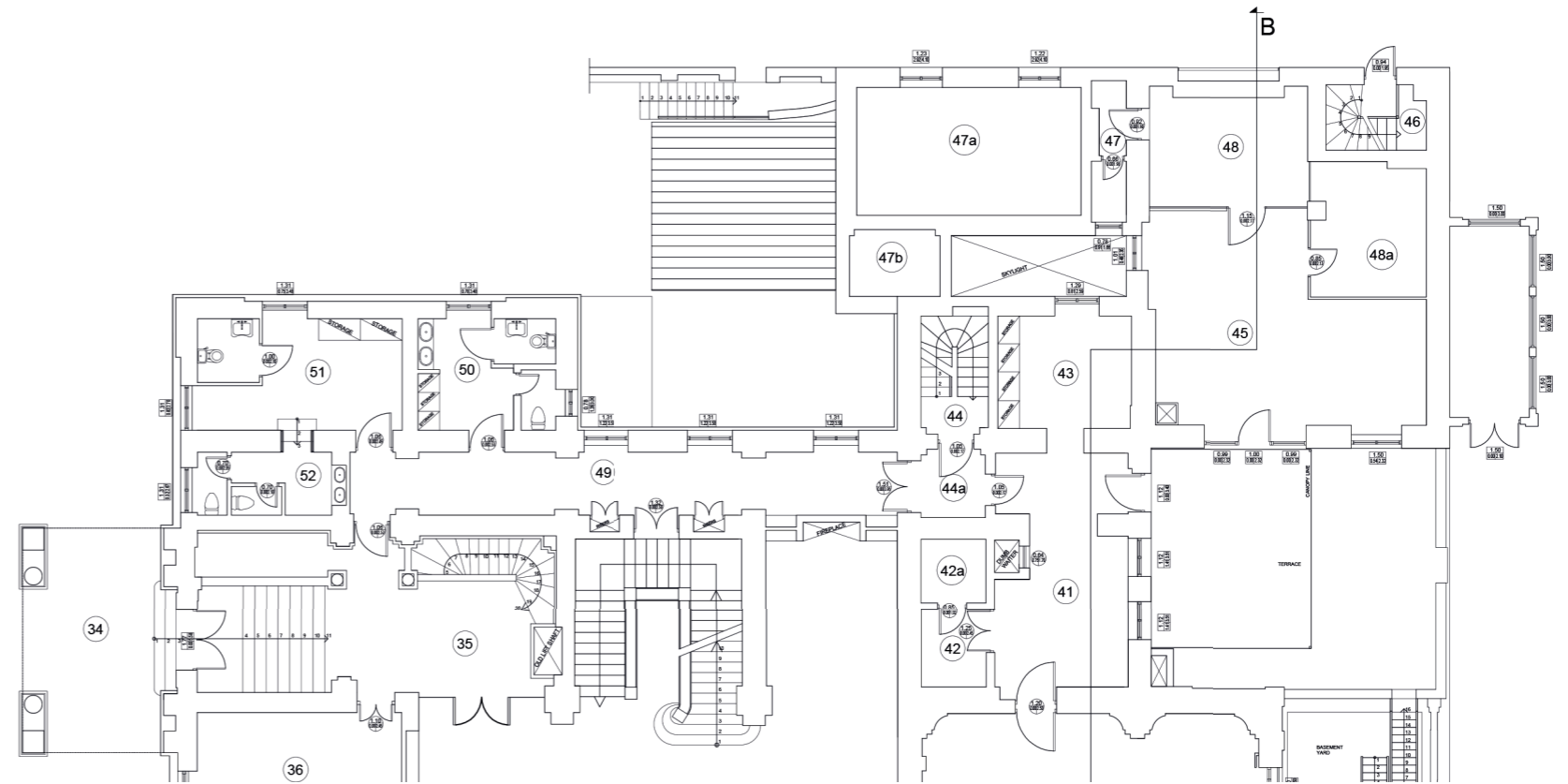


Existing gardeners office room 19

## 03 Pre-Contract Stage

The second area is the reconfiguration and refurbishment of the ground floor pantry (room 43) and servery (room 41). Post commissioned a design of this area which has been taken on as much as possible, although some changes have been made to ensure it meets UK regulations. The dishwashing area (rooms 45, 48, 48a) has been descoped as it is considered suitable and simply needs reorganising to fit all the white goods.

The ground floor public toilets (rooms 51, 52, and 50) will also be refreshed and an additional toilet will be added to the womens bathroom as the location of the sinks has been moved from room 52 to 51.



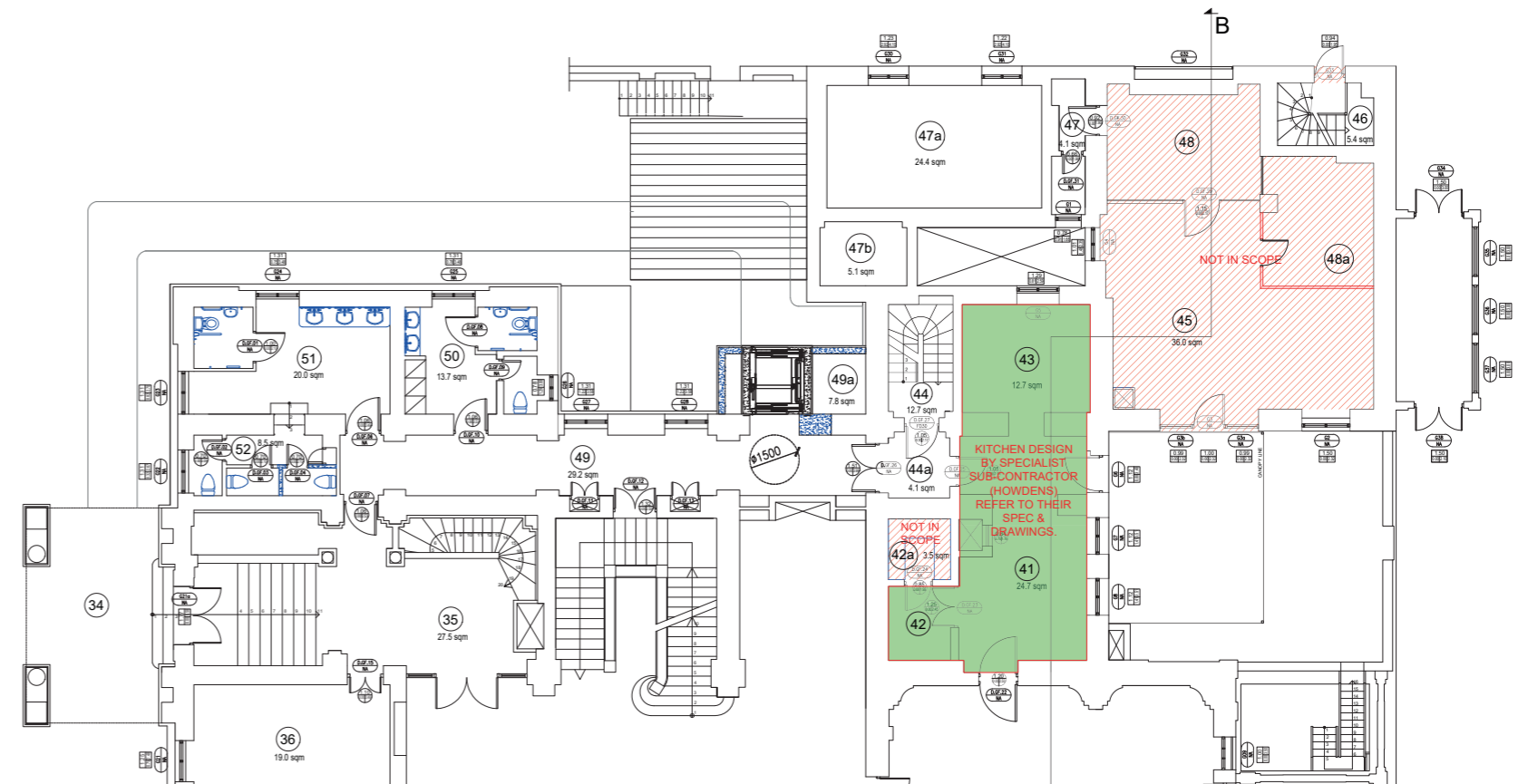
Existing Ground Floor Plan



Existing womens bathroom room 51



Existing servery room 41

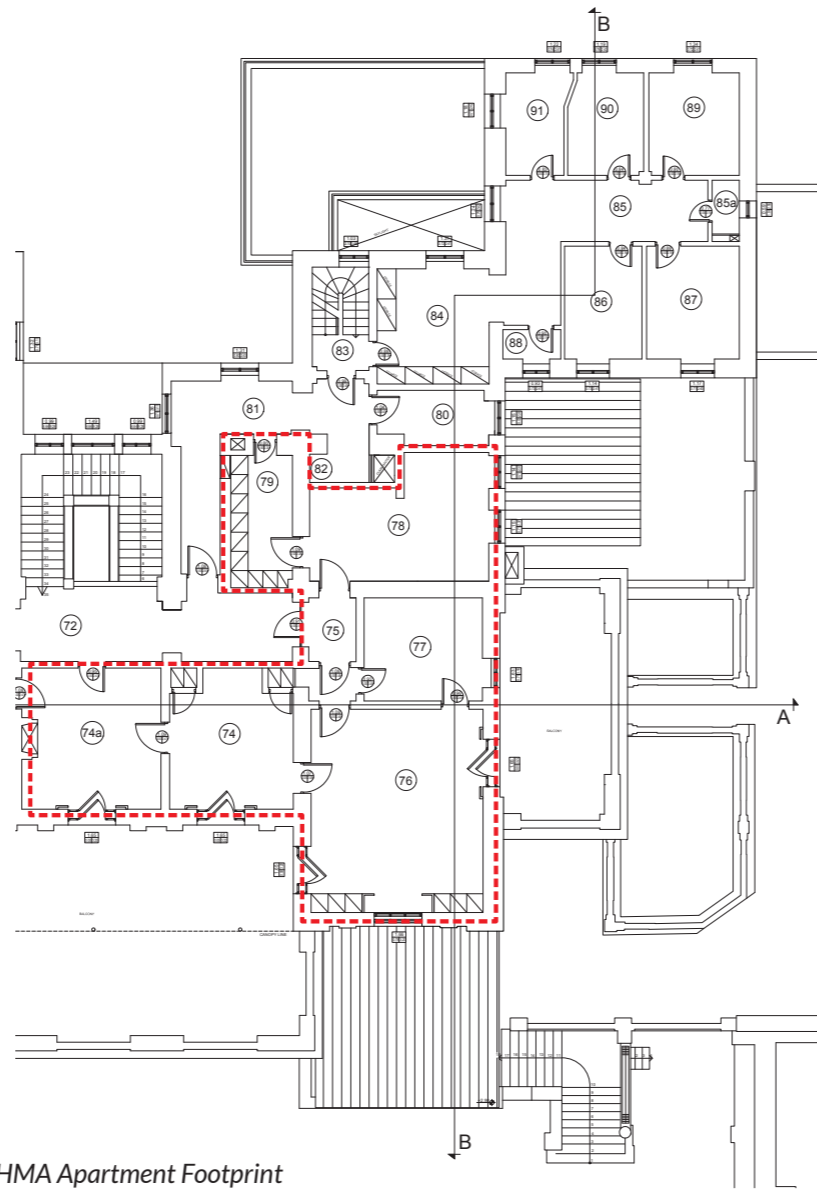


Proposed Ground Floor Plan

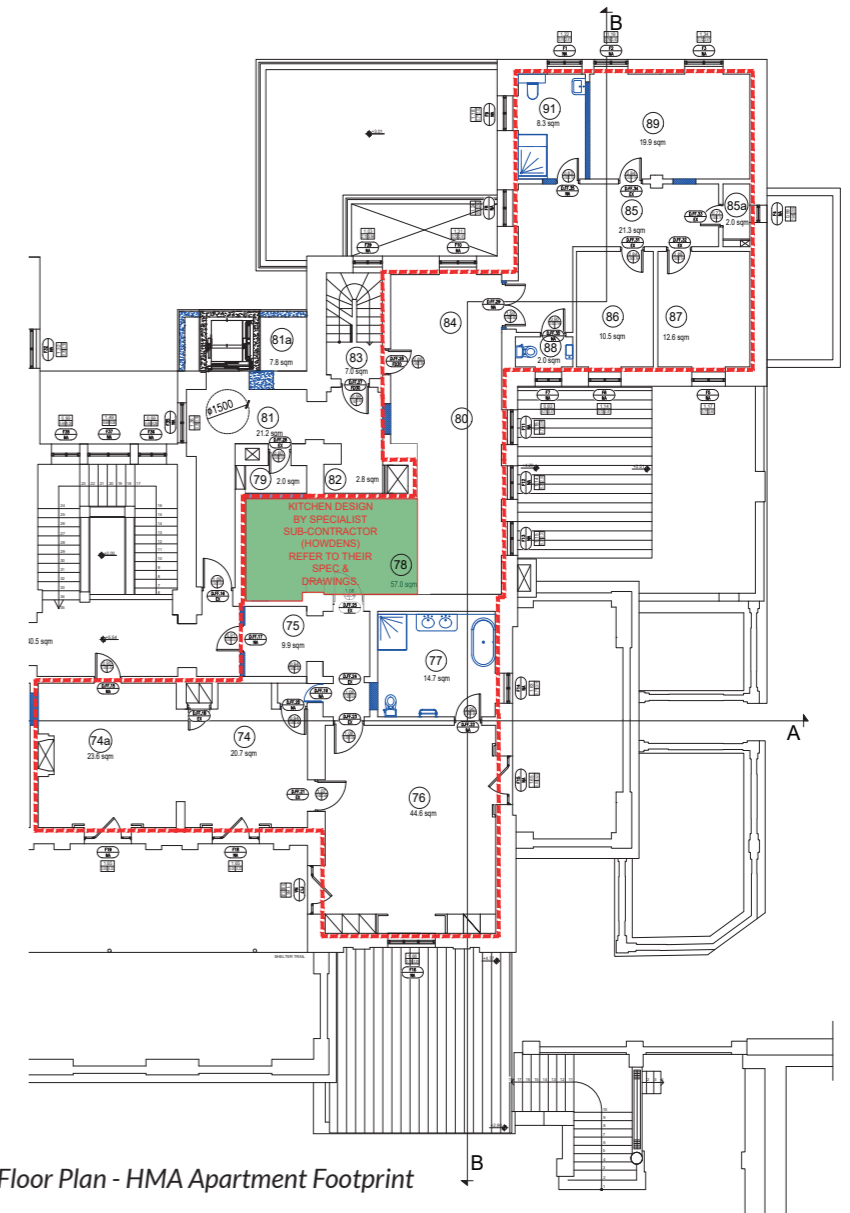
### 03 Pre-Contract Stage

The third area is the reconfiguration and enlargement of the HMA apartment on the first floor. This incorporates a flat currently used for guests/ visitors (rooms 84 to 91). The removal of a bathroom (room 80) and relocation of the kitchen (room 78) after incorporating the cloakroom (room 79) will provide a larger informal living area, and knocking through the current dressing room/ study and living room (rooms 74 and 74a) will create a larger more formal living space.

All VIP guest room bathrooms will be upgraded as they were in need of an uplift as well as creating an accessible Part M (buildings other than dwelling) bathroom. As well as a cosmetic upgrade and furniture layout within rooms.



Existing First Floor Plan - HMA Apartment Footprint



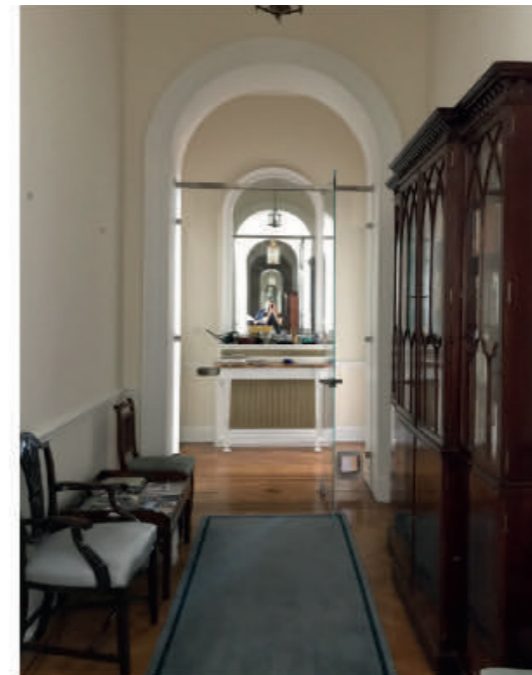
Proposed First Floor Plan - HMA Apartment Footprint



Existing HMA Kitchen - Room 78



Existing Mezzanine Apartment Room 84



Existing entrance to HMA Apartment (into room 75)

## 03 Pre-Contract Stage

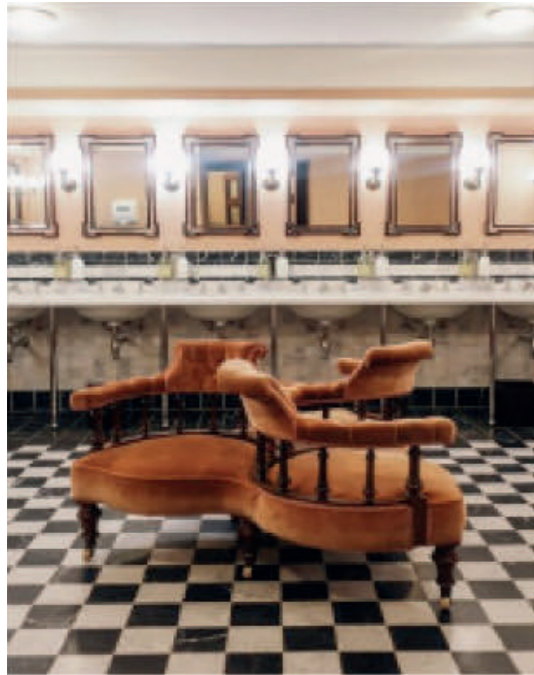
### 3.8 Interior Design

Interior design has been undertaken by FCDO Services and is in accordance with FCDO and UK requirements. For details, please refer to information contained within Appendix C.

Recommendations for improvements to the fittings and furniture in the designated areas of the building have been brought into the scheme during Stage 3, along with all bathrooms on the first floor which are in need of an upgrade. Some examples of the look and feel for the HMA apartment and ground floor bathrooms are shown here.



Look and feel of proposed new kitchen in HMA apartment now in room 79 and 78



Look and Feel of proposed womens ground floor bathroom - room 51



Look and Feel of proposed HMA bedroom



Look and feel of proposed dining area in HMA apartment now in room 80



Look and feel of proposed formal living room area in HMA apartment

## 03 Pre-Contract Stage

### 3.9 Building Fabric

An external package of works has been developed by the FCDO Services Building Surveyor. The proposed external works are detailed below. Consideration has been given to strategies for sustainability, health and safety and general maintenance upgrades.

#### Windows and Balustrade Compliance

The largest piece of work is the replacement of windows and doors with double glazing incorporating toughened and laminated glass, which removes the need for ASF and bomb blast curtains.

Additionally, the provision of new fenestration will improve the acoustics and thermal properties of the building and also upgrade the security of the Residence with modern locking mechanisms. The design of the windows will also provide a level of UV protection which will help to reduce damage to artworks and furnishings from direct sunlight.

Refurbishment of the windows was considered but discounted due to a number of considerations including future maintenance liabilities, their poor overall performance acoustically/thermally and also the extent of warping and distortion of a number of units. Combined with the unknown repairs that would likely be revealed once stripped of their paint, which has tested positive for the presence of lead, there was deemed to be a greater risk with following the repair and restoration route.

A UK supplier has been sourced who can match the profiles of the original windows, which was a stipulation of KSNM, if they were to be replaced, see section 3.15 for more detail. Design drawings of the windows have been submitted to KSNM for an approval and a response is expected by end January 2022.

The proposal included a solution to resolve non-compliant terrace balustrades which range from approximately 800-950mm in height. The solution was to retrofit toughened glass panels to raise the height to a minimum of 1.1m. Initial discussions with ReTech indicated this proposal may reset the planning application, but they would include them in the submission. If KSNM advise this will reset the planning application, the proposals will be withdrawn and Post can make a separate planning application early in the new year to gain approval to enable the works to be completed within the same timescale as the projects programme.

#### Roof and Drainage Improvements

Due to the extent of the drilling a decision was taken early on to replace the coverings, including the provision of insulation.

FCDO Services were informed by the maintenance team at Post that downpipes were regularly blocking due in part to internal corrosion that had reduced the internal profile of the pipes. For this reason and whilst access is available all downpipes and associated outlets will also be replaced on a like for like basis, in line with KSNMs requirements for all heritage features to be replicated and replaced.

#### Terrace Upgrade

It was noted that the first floor terrace on the south elevation had been overlaid with composite insulation slabs which were loose laid and created a step up from the bedrooms and living room areas. The slabs had shifted in a number of locations creating trip hazards and also had encouraged water to become trapped which in turn had led to vegetation growth between the slabs.

A proposal has been developed to address this by removing the slabs and original roof covering and then resurfacing the roof with a liquid applied membrane which would allow for the installation of insulation and also provide step free access onto the terrace.

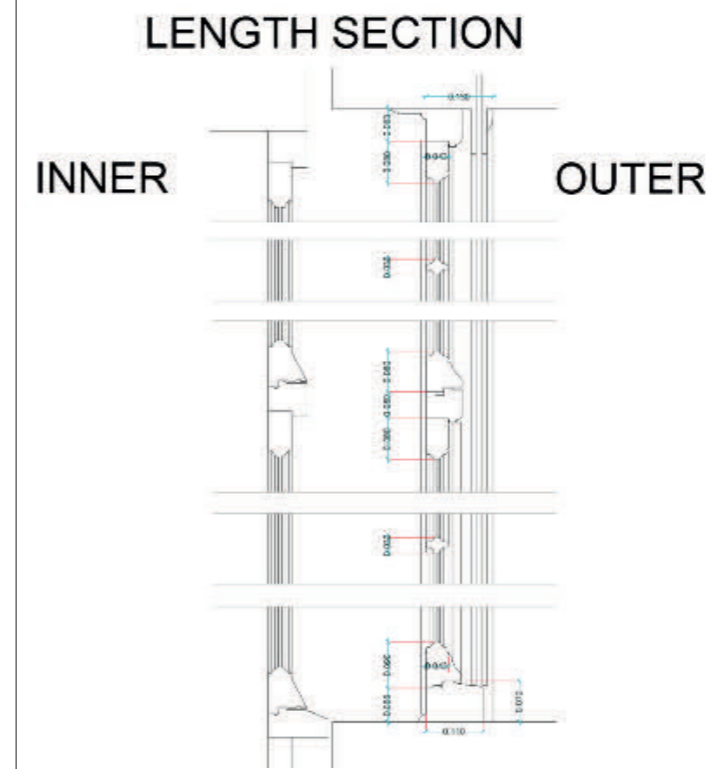
#### Basement Damp Ingress

In order to address the ongoing damp issues within the basement wine store and corridor areas along the north side of the Residence a surface applied damp proofing system will be employed to tank these areas to prevent water ingress and protect the fabric of the building.

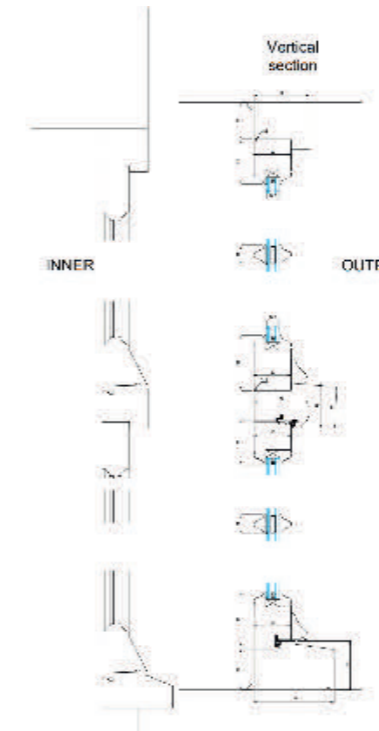
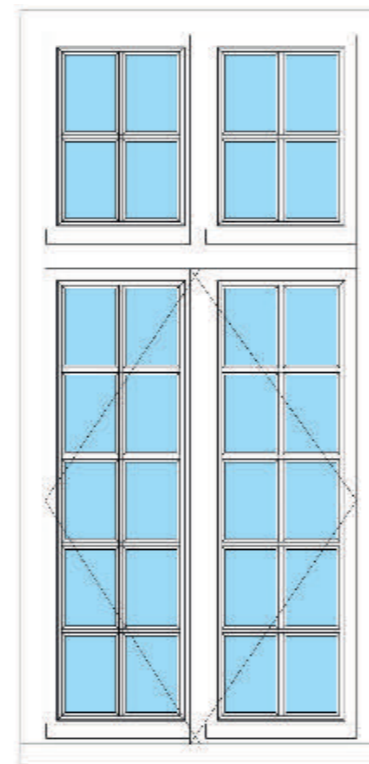
#### External Render

The external render of the Residence will have damage as a result of the CFRP, window refurbishment and removal of external AC units. The proposal is to patch repair the damage and then the whole building will be skimmed to give a uniform finish, as after observations during the test run it is in good condition and doesn't need to be re-rendered in full.

For further details, please refer to information contained within Appendix C



Existing window type G21 - frame sections and profiles



1. Timber to be Red Grandis hardwood frame with Accoya casements/doors;
2. Glass 6mm/8mm Krypton fill/6.8 Acoustic with low-E softcoat 1.0
3. Spray finish - Teknos 4 coat system white IN/OUT, 30% sheen;
4. 100mm heavy duty bearing type stainless steel;
5. All seals to be soft compression Q-lon white colour;
6. Viewed from outside - opens inwards

Proposed window type G21 - frame section and profile and specification



Putty missing from glazing



Poor historical repairs



General overall decay



Spliced in timber repairs



Example of glass balustrade proposal

### 3.10 Enabling Works

There will be a package of enabling works for the main contractor. It was identified early on that the generator would have to move to facilitate the install of the lift. It was confirmed by technicians at Post that the generator used to be in the garage several years ago, and when it was upgraded was put in its new position outside. Relocating it back to the garage is the best solution. The MEP design accounts for this work.

A CCTV below ground survey was undertaken in May 2021 and it was found that drainage had collapsed in several locations. A local company have undertaken the detailed design which will be added to the tender.

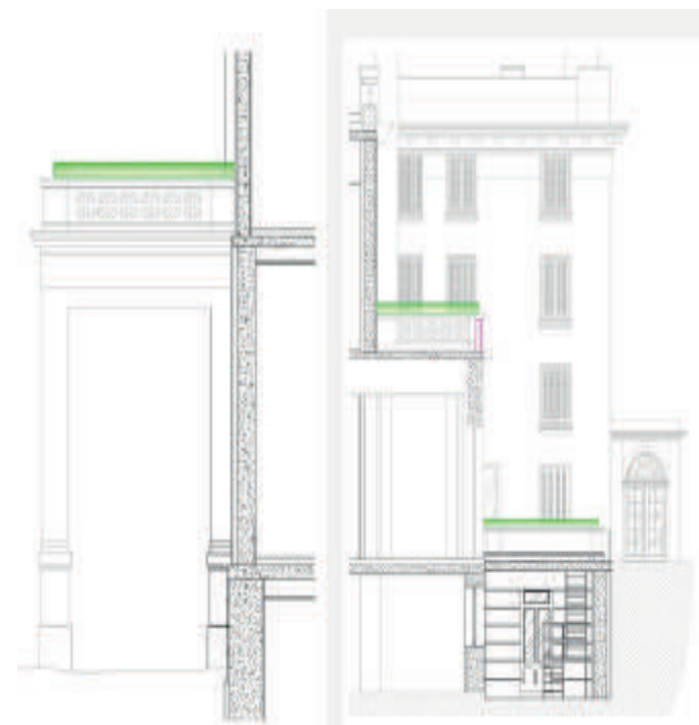
Once the Riba Stage 4 design has been finalised, the pre grouting in the masonry walls can commence ahead of the main works.

### 3.11 Security considerations and existing systems

The OSA and ROSM confirm that design principles are to be based upon returning equipment already in place. CCTV is to remain in operation as it covers the perimeter and external roads and they can monitor this from the Embassy.

After early consultation on the new HMA Apartment layout a request to install a local ACS system into the Residence has been included and Post are obtaining budget costs from their local supplier.

The OSA and ROSM were consulted on the proposals for the new windows and doors and approved the proposal of 6mm of toughened glass externally and 6.8mm of laminated glass internally, which removes the requirement for the ASF to be replaced and for the need for bomb blast curtains. The OSA had previously requested blast enhanced windows to the north and west elevations due to the lack of standoff. However a review confirmed the lack of standoff would mean the walls would still collapse so there would be minimal benefit to install these. Instead there should be a risk management strategy in place so that if the threat level increased those rooms affected on the first floor would not be used.



Effected elevations requiring balustrade retrofitting

In terms of existing systems, an approach has been agreed as follows:

- Copper networks: Anticipate no disruption, ITSO requested new data points in several rooms to be Cat 6. A design is being produced to allow a ROM cost for ESND to decide whether to take on
- Fibre line: The Residence is fed from the Embassy, route to be identified by main contractor and they are to ensure it is not affected by works
- FTN rack: This can be powered down and boxed up in its current location, switches to be removed after notifying IDD
- AV rack and cabling: The routing is currently unknown, and so the main contractor will be asked to survey this equipment and either uninstall and store away or power down and board up the main unit in its current location
- CCTV: It is a locally installed system and covers the main entrance and perimeter - facing outwards, it can remain online and monitored from the Embassy Office. ROSM to confirm if equipment in the guardhouse is to be relocated or boxed up and remain in its current location
- Telephony - it is an old block wiring system, there are no complaints about functionality so an upgrade is not required and remains out of scope of the project
- VOICE: ROSM has requested this stays online. VOICE 2 will be installed in the Residence once main construction works complete as part of a trial by TAG

There are no other special measures required, and no requirement for security supervision, for example by way of a TSOO.

Design information to be at OFFICIAL level unless advised otherwise by ESND.



## 03 Pre-Contract Stage

### 3.12 Fire Strategy

Tetrtech have undertaken a fire strategy review of the proposed layout and their report is contained in Appendix C, the design has been updated to reflect the recommendations of the report and are summarised below:

- The boiler room in the basement needs to have fire rated (30mins) walls, and dampers where any ducting penetrates these walls
- The wall in the garage that connects to the building needs to be fire rated (30 mins) on that side only
- The two fire escapes in the basement via windows can be removed as there are alternative escapes routes, fire signage needs to be amended as in the report
- Regarding the first floor corridor walls - it was confirmed that these are not required to be fire rated as there are alternative means of escape if the main staircase is blocked

### 3.13 Local permissions

ReTech have managed the process of obtaining planning approval. They submitted the proposals on 27th April 2021 and advised the process can take up to 12 months.

On 18th June they had a meeting with the HMA and CSM present. After this meeting KSNM conditionally approved the application to move to the next stage with the following conditions:

A) In favor of the approval of the study for the reinforcement of a listed building, with the addition of an exterior disabled elevator, repair and replacement of external frames and restructuring of sections of the first floor, ground floor and basement, in the building of the British Embassy Residence, on Vas. Sofias, Karaoli Dimitriou, Ypsilandou streets, designated by the Ministry of Culture, and owned by the British Embassy, on the following terms:

1. Submission, for inclusion in the provisions of Law 4495/2017, of all the latest additions located on the east and south sides of the building.
2. To determine the exact material of the new elevator addition, and to submit the static study of the carrier mechanism, which, in any case, needs to be a statically independent construction.

3. To accurately determine the interventions on the window frames, complete replacement or repair of windows, and to submit a relevant table of such frames. In any case, the existing tabular openings that save special details, e.g. (handles, knobs), should be maintained and remain closed in the event that their function is discontinued.

ReTech have completed points 1 and 2 and we have submitted our proposal for point 3, see appendix xx.

We expect to receive a response before the end of the year and the HMA will be asked to flow up with the Minister to ensure the timeline is maintained.

### 3.14 Lift Installation

ReTech undertook the lift survey and design in 2019 to provide a fully accessible passenger lift serving three floors of the Residence and will be accessed externally. Installing a lift brings many advantages to the property, which currently provides no level access, notably for wheelchair users.

There will be various enabling works required to facilitate this including externally the generator being relocated to the garage, where it originally was several years ago. Existing window openings will be used partially to form the new door openings onto each floor level with some alterations to ensure the correct setting out of the lift. The lift is not required to be a designated fire-fighting lift, nor is it to be considered as a means of escape.

Post have advised that the lifts in the Embassy office are OTIS lifts. For maintenance reasons they should therefore be considered as the preferred supplier for the new Residence lift. The lift package will form part of the main contractor's package and will be developed alongside the structural package, which will need to include details of the necessary tanking for the shaft below ground. A technical specification is being finalised by Ashdale Engineering, FCDO Services term contractor, for the tender.

### 3.15 Planning Approvals

ReTech have managed the process of obtaining planning approval. They submitted the proposals on 27th April 2021 and advised the process can take up to 12 months. On 18th June they had a meeting with KSNM with the HMA and CSM present. After this meeting KSNM conditionally approved the application to move to the next stage with the following conditions:

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3. To accurately determine the interventions on the window frames, complete replacement or repair of windows, and to submit a relevant table of such frames. In any case, the existing tabular openings that save special details, e.g. (handles, knobs), should be maintained and remain closed in the event that their function is discontinued.

ReTech advised point 1 relates to additions such as the canopies and pergolas on the various terraces/ balconies. These have been documented and added to the elevations to be legalised.

ReTech have completed the additional information asked for in point 2, which relates to showing the construction of the lift shaft and more detail on the outward appearance of the material proposed – which is render to match existing.

FCDO Services Building Surveyor has submitted the proposal for point 3, to ReTech, showing the proposed replacement windows with the profiles matched and reuse of original features such as handles and knobs.

We expect to receive a response before the end of February 2022 and the HMA has been asked to follow up with the Minister for Planning to ensure the timeline is maintained.

### 3.16 Site visits

The following visits have been carried out by the FCDO Services design team;

- PM, Architect, Building Surveyor, MEP Engineer (2019): Feasibility study into HMA layout changes, proposed lift location, window survey and condition survey of existing AC
- PM, Architect, Interior Designer, OSA (2020): Update project scope and soft market test with local contractors
- PM, Building Surveyor, MEP Engineer, Cost Manager, Architect, Interior Designer (05/2021): Design visit 1
- PM, Building Surveyor, Structural Engineer (09/2021): Test Run Supervision and design visit 2

It is anticipated that the following visits will occur during future stages by the PM and design team;

- Pre-Contract – Stage 3-4
  - Bidders' conference with tendering contractors – if necessary this could be conducted remotely due to COVID
- Series of regular design meetings either in London or Athens throughout the design process
- When visiting, all staff/persons will carry their passports and will be escorted onto site at all times. No visits will occur without the PM or Post being aware

### 3.17 Customer / Post Activities

The Residence will need to be vacant for the duration of the works. The following tasks have therefore all been identified on the project programme;

- Identifying and securing suitable alternative accommodation for HMA and resident staff
- Design and implementation of refurbishment works to any temporary accommodation, including provision of IT
- GAC artwork will require removing from the Residence, storing, and then reinstatement following completion of the works
- Residence furniture, fittings, equipment and personal effects will require disposal or removal and storage.
- A local liaison officer will be appointed to support Post in coordinating Post's project related activities, and to provide a local point of contact for the project. There is no capacity for this to be an existing member of staff, and so the intention is that a person will be specifically appointed for the role by February 2022. Allowance has been made in the cost plan for this full time support.



## 04 Delivery Strategy

### 4.1 Contract and Design

FCDO Commercial have determined that the contract should be via the use of the NEC Engineering and Construction Contract.

The general principle is that the design has been taken up to RIBA Stage 3, as set out within this document, and now the design should be progressed to RIBA Stage 4 by the appointed design and build Contractor. It is proposed that the key aspects of the design will be progressed as follows:

- Structural design and lift design: ReTech have developed the design to RIBA Stage 3. Design responsibility should now pass over to the main contractor through the contract. It is recommended that ReTech be retained during post contract stages to comment on contractor design and respond to technical queries with the FCDO Services Structural Engineer retained to peer review their responses
- MEP design: This has been taken up to RIBA Stage 3 and design responsibility should now pass to the contractor through the main works contract as changes may be required as a result of any structural, architectural or building fabric changes. FCDO Services MEP Engineer will be retained to comment on design and respond to technical queries.
- Architectural design: This has been taken up to RIBA Stage 3 and design responsibility should now pass to the contractor through the main works contract as changes may be required as a result of any structural and MEP changes. FCDO Services Building Surveyor will be retained to comment on design and respond to technical queries.
- Building Fabric: This has been taken up to RIBA Stage 3 and design responsibility should now pass to the contractor through the main works contract as changes may be required as a result of any structural, MEP or internal changes. FCDO Services Building Surveyor will be retained to comment on design and respond to technical queries.
- Interior design: it is recommended that interior design FF&E is fully detailed by FCDO Services Interior Designer for all areas and installation will be co-ordinated with the contractor.

### 4.2 Procurement

The works will be tendered in conjunction with UK Government guidelines in place at the time and under the advice of FCDO Commercial.

FCDO Commercial will determine appropriate contract selection, with FCDO Services executing the contract. Typically the FCDO contract strategy is the use of the NEC ECC Option A (Fixed Price with Activity Schedule).

This form of contract provides certainty of cost and ability to manage change using an accepted schedule of rates and percentage of overhead and profit, being transparent for the benefit of audit and public sector works. This contract also allows flexibility in design responsibility.

A medium to large multi-disciplined building company with experience of working in historic buildings is envisaged to undertake the works on a partial design and build basis.

The procurements route is under discussion. An expression of interest (EOI) was issued on FCDO Commercial's Dynamic Procurement System (DPS) - a new system where contractors have undergone financial checks and are in effected pre-qualified, removing the need to issue a Supplier Questionnaire (SQ) to the whole market prior to issuing an ITT which would add more time to the programme.

This EOI resulted in four contractors expressing interest. A Q&A was then sent to these contractors to further test interest and three responses were received.

Research by FCDO Services Commercial team advised that it is unlikely a Greek Contractor would have the expertise to deliver the Project and there would be risks to time, cost and quality if a local contractor was appointed as the main contractor. In addition they would unlikely meet the financial turnover pre qualification requirements due to the economic crisis in Greece in recent years and the impacts of Covid.

An EOI was issued in October 2021 to the open market to see if there would be more interest than via the DPS. Responses were received from an additional 2 companies. One of whom didnt make it onto the DPS in a recent application based on their project management responses. The DPS is the favoured route currently.

If the DPS is not used then a contract notice will be advertised to seek interest from suitable contractors in line with OJEU regulations. It is assumed that this will be on an OJEU Restricted basis. The Restricted Procedure is a two-stage process which allows Client organisations to draw up a short-list of interested parties by undertaking a pre-qualification stage, prior to the issue of invitation to tender documents.

### 4.3 Tender Documentation

FCDO Commercial will determine contract selection; the tender documentation will contain the following information;

- Description of the Works
- General constraints on how the Contractor Provides the Works
  - including, Site Security; Deliveries; Hot Works; Site Hours; Site Rules; Noise; Interfaces between the works and existing BE operations; Co-ordination; Temporary Works by Contractor; Temporary facilities required by the Contractor Confidentiality; Security and protection of the site; Security and identification of people; Protection of existing structures and services; Protection of the works; Cleanliness of roads; Traffic Management; Condition Survey; Consideration of Others; Industrial relations; Control of site personnel; Site cleanliness; Waste materials; Deleterious and hazardous materials.
- Contractor's design
  - Including; Design responsibility; Design submission procedures; Design approvals from Others; Client's requirements; Design co-ordination; Requirements of Others; Copyright/License; Access to information following Completion
- Completion
  - Including; Completion definition; Training; Final clean; Security; Correcting Defects; Pre-Completion arrangements; Take over; Operating and Maintenance Manuals
- Programme
  - Including; Programme requirements; Programme arrangement; Methodology statement; Work of the Client and Others; Information required; Revised programme
- Quality management
  - Including; Samples; Quality statement; Quality management system
- Tests and inspection
  - Including; Tests and inspections; Management of tests and inspections; Covering up completed work
- Management of the works
  - Including; Project team - Others; Communications
- Working with the Client and Others
  - Including - Sharing the Working Areas with the Client and Others; Co-operation; Co-ordination; Authorities and utilities providers
- Services and other things to be provided
  - Including - Services and other things for the use of the Client, Project Manager or Others to be provided by the Contractor; Services and other things to be provided by the Client
- Health and safety
  - Including - Health and safety requirements; Method statements; Legal requirements; Inspections; Health and Safety File
- Subcontracting
  - Including - Restrictions or requirements for subcontracting; Acceptance procedures;
- Title
  - Including - Marking; Materials from excavation and demolition
- Client's work specifications and drawings
- Existing Information
- Contract particulars / Contract Data



## 05 Project Budget

### 5.1 Cost Plan

The Cost plan has been developed by the Cost Manager as part of the design development phase in accordance with the RICS measurement rules aligned to RIBA Stages. Details of the Cost Plan are contained in Appendix D. Costs will be tracked and reports will be issued to ESND at project milestones during design stages and on a monthly basis during post contract stages ahead of each Project Board, and will include commentary on any changes to the cost plan.

#### Note the following;

- VAT: The embassy currently has to pay Greek VAT at 24% - there are no exemptions. If a UK main contractor is appointed they could claim back local VAT from the Greek Government, but if they engaged Greek sub contractors it would be payable. Rates and prices for the cost plan have been built up using UK rates, these are expected to be higher than local rates and the issue of local VAT could therefore be considered as absorbed within the cost plan. Typically, UK VAT is not payable to UK contractors when working outside of the UK, on this basis, UK VAT is therefore excluded.

### 5.2 Cost Control

Cost control will be in the form of monthly cost reports that identify valuations, change, future risks and forecast costs.

The FCDO Services PM, with support from the Cost Manager, will issue monthly SDNs to ESND recommending sums to be released to the contractor as the work progresses and in accordance with the selected form of contract.

### 5.3 Risk Management

The PM has developed a risk register and provided it to the Project Director. It identifies emerging risks and considers likely impact, this will be updated periodically.

The pre contract the risk register has incorporated designers risks and has been reviewed periodically by the design team. A risk identified at an early stage was around the methodology being proposed by ReTech. A mitigation was implemented to undertake a test run of the drilling to see the impact on services and internal heritage features.

This took place between September-November 2021 and is detailed in section 3.5. The result of this was positive as we found out about the need to pre grout the masonry walls. This would impact on internal features not envisaged previously. During the test run two pipes were hit - one was a redundant pipe in the HMA bathroom and another a hot water circulation pipe in the ground floor kitchen. These were repaired and did not impact the completion of the drilling.

The risk still remains that the main issue for the post-tensioned reinforcement is drilling through the walls without hitting any cables, pipes or duct work. Careful checking will be required by the contractor to ensure that there are no services in the walls where drilling is required. While the majority of services are installed close to the surface of the walls there is the potential for heating pipes and water supply pipes to be located in the centre of internal walls as they pass between rooms. It has not been possible to undertake intrusive surveys to identify routes whilst the building is occupied but can be undertaken by the contractor as part of the Riba Stage 4 design.

A Heritage survey was undertaken in 2019 and advised on the methodology of reinstating the moldings where the beams were being reinforced with FRP. The contractor will be instructed to follow this.

A system of Early Warning Notices (EWN) will be developed with the contractor to manage site risks; these will feed into the project risk register to be monitored and mitigated against as appropriate. The risk register will be updated and issued monthly with the PM report.

The top five risks are considered to be:

Risk	Impact
Covid	Uncertainty over whether additional lockdowns will be imposed in Greece which would impact mobilisation and extend the programme duration and costs
Brexit	Uncertainty over Brexit could impact tax, inflation, procurement, customs, shipping times and costs, contracting, planning and could impact on building use
Existing conditions	The Residence is an old building and until the building is vacated and walls are opened up, the condition of the existing structure and retained services are not known.
Client change	Late client change will have a greater impact the later the change is made
Obtaining suitable contractor supply chain	During the previous lockdown construction work in Greece was not affected, Post have advised there may be issues obtaining reputable local contractors/ workforce without early engagement

Please refer to the risk register in Appendix B for detailed analysis of project risks.



## 06 Post Contract Stage

### 6.1 Management Of Site

Full details of how the site will be managed during the works will be developed following RIBA Stage 3 for incorporation into the tender documentation.

Due to the complex nature of the works, it is recommended that a site based Clerk of Works from FCDO Services is appointed for the duration of the project.

### 6.2 Health & Safety

The concept design considers as far as reasonably practicable, health and safety within the design and residual risks that are currently known.

Particular attention has been given to access and egress, falls from height, and emergency arrangements.

Although the CDM regulations do not apply officially to this project as it is outside the UK, all the procedures that are implemented by the UK CDM regulations should be put into place. The Client should appoint a Principle Designer. The Principle Contractor will provide a Pre-Construction Health and Safety Plan and will be responsible for providing welfare facilities to the workforce.

### 6.3 Sustainability

The FCDO Services / FCDO sustainability requirements will be complied with so far as possible working within an existing heritage building.

The concept design considers sustainable design in terms of materials, operation and maintenance as well as longevity within a FCDO Building.

The developed and technical design must provide detail in terms of sustainable building materials and equipment to be incorporated within the project. This will be communicated to the end user for continued sustainability management. Timber from sustainable sources will be used, and the energy load maintained as low as possible.

Waste management will be addressed in accordance with a site waste management plan that will provide detail of waste routes and licensed carries, as well as recorded landfill or recycling destinations. Contractors appointed to undertake works shall adhere to the Project and FCDO policy on waste management, and use best practice in all sustainability and waste management activities.

A recent addition to the Project Brief requires that the design team 'demonstrate consideration given to the elements that could achieve a BREEAM 'Very Good' status given the existing build, the location, environment, and security constraints. No formal application/ submission will be made to BRE global'

To this end, a BREEAM assessor has been appointed and are conducting workshops with the design team to see what rating the current design could achieve and what recommendations would need to be taken on to obtain a 'Very Good' rating should a submission be made.

### 6.4 Quality

It is proposed that quality assurance achieved during the course of the project by the following means:

- Design: A developed and coordinated design that meets the Client's requirement has been developed during RIBA Stage 3. A set of materials & workmanship clauses, and any performance specification will be prepared and included in the contract documents during subsequent RIBA Stages and will be appropriate for the procurement route taken
- Heritage Survey: A survey and report has been undertaken by a local expert. The main contractor is to ensure they reinstate heritage features according to the methodology in this report, on a like for like basis as a result of the seismic works
- We are proposing to reuse ironmongery on fenestration with heritage features, although for decorative purposes only, as requested by KSNM
- Site inspections: A full time UK clerk of works is proposed to ensure that the required level of quality is achieved and maintained during the works. The design team will visit at regular intervals to support the clerk of works
- Contractor quality plan - this is a requirement in the tender, in accordance with ISO 9001
- Samples & mock ups, e.g. for the heritage windows

### 6.5 Site visits

All site visits for the design team will be coordinated through the PM and Posts local liaison officer.

#### Post-Contract

- Start up meeting with the successful contractor
- Interim bi-monthly site inspections during the works to assess progress and quality, review health and safety and project processes and to conduct liaison meetings with Post
- Testing and commissioning
- Completion and snagging to achieve sign off

## 06 Post Contract Stage

### 6.6 Meetings

During post contract stages, the following meetings should be arranged as a minimum;

Meeting Topic	Frequency of Meeting	Time of Meeting and Location	Attendees
Project Board	Monthly	Normal Working Hours – UK + teleconference. A minimum of 1 Hours per meeting.	SRO, Project Director, PM, QS, Post, other stakeholders where necessary
Informal stakeholder meeting	Bi Monthly	Normal Working Hours – UK + teleconference. A minimum of 1/2 Hours per meeting.	Project Director, PM, Post, other project team members where necessary
Start Up Meeting	Once	Normal Working Hours – Site. A minimum of 3 Hours per meeting.	Supervisor (CoW), PM, Contractor, Design Team
Progress Meeting – to include H&S, Risk	Monthly	Normal Working Hours – Site + teleco	Supervisor (CoW), PM, Contractor, Design Team Subcontractors where necessary.
Health & Safety and CDM Meeting	Weekly	Normal Working Hours – Site. A minimum of 1 Hours per meeting.	Supervisor (CoW), CDM Coordinator, Contractor, Subcontractors where necessary.
Quality Meeting	Weekly	Normal Working Hours – Site. A minimum of 1 Hours per meeting.	Supervisor (CoW), Contractor, Design Team Subcontractors where necessary.
Commercial Meeting to include Compensation Events/ Change Control/ Risk Reduction	Monthly	Normal Working Hours – Site or UK / Teleconference. A minimum of 2 Hours per meeting.	PM, Contractor, QS
Plan of the Week Meetings	Weekly	Normal Working Hours – Site. A minimum of 1 Hours per meeting.	Site Supervisor, Contractor, specialist sub-contractors
Liaison Meetings	Weekly	Normal Working Hours – Site or BE Office. A minimum of 1 Hours per meeting.	Site Supervisor, Supervisor (CoW), Post Liaison
Testing & Commissioning	Weekly from commencement of testing	Normal Working Hours – Site. A minimum of 1 Hours per meeting.	Site Supervisor, Supervisor (CoW), Contractor, specialist sub-contractors
Completion Meeting	One Off	Normal Working Hours – Site. A minimum of 3 Hours.	Supervisor (CoW), PM, Contractor, Design Team
Post Completion Meeting	One Off	Normal Working Hours – TBA UK. A minimum of 3 Hours	Supervisor (CoW), PM, Contractor, Design Team
Defects Correction Meeting	One Off	Normal Working Hours – TBA Site. A minimum of 1 Hour	Supervisor (CoW), Contractor



## 06 Post Contract Stage

### 6.7 Commissioning & Handover Strategy

The Contractor will develop a full testing and commissioning plan and it is recommended that an independent commissioning engineer is appointed to commission M&E systems and identify deficiencies.

Members of the design team will attend and will witness testing and commissioning of services installations. Representatives from FM provider at Post (Mitie) and TWO will also be invited at this stage.

Completion of the project will see handover to the end user(s) for operations. The contractor will provide training to staff in how to operate and maintain installed services and equipment. A period of training and familiarisation will be allowed within the programme.

### 6.8 Operations and Maintenance Strategy

The requirements will be detailed in the O&M manuals, which will be signed off by the project team and handed over to the FM provider at Post and ESND.

Drawings and newly installed information shall be included within the handover file. The handover file shall include relevant health and safety information.

The tender documents will stipulate what is required from the contractor with this regard, including the O&M manuals, health & safety file and all statutory requirements. The commissioning and handover expectations of the contractor will be described in the tender documents.

The new ACS system will be installed by Post's local contractor. The upgrades to data are being reviewed. prior to switching off the FTN cabinet there will be a requirement for a request to be made to FCDO IDD.

### 6.9 Customer / Post Activities

The Residence will require vacating for the duration of the works. The items below are all identified on the project programme;

- Liaison with the project team on local neighbourly matters, and any issues with local the authorities
- Preparing for and managing the move from and back into the Residence following completion including any furniture, fittings, equipment and personal effects
- Items from GAC will require removing and then reinstatement following the completion of works
- Coordination with current FM provider and FCDO IDD to ensure that any services shared with the Embassy offices continue to be maintained



## 07 Project Outline Programme

### 7.1 Outline Programme

Detailed anticipated programme is contained in Appendix E of this report and can be summarised as follows assuming Stage 3+ / 4 works continue without interruption, key dates;

### 7.2 Observations and Considerations for Next Stage(s)

- Design for data upgrades
- Tender documents
- Tendering process and Commercial Approval Board (CAB)
- Complete Planning
- FBC
- Tender action and recommendation
- Appoint contractor and develop:
  - Riba Stage 4 Structural design
  - Riba Stage 4 MEP design
  - Riba Stage 4 Architectural, Interior and Building Fabric design

Activity	Start	Finish	Status
Planning – submission	27/04/21	27/04/22	In progress
Stage 3 design	01/06/21	28/01/22	Completed
Tender & Procurement	24/03/22	29/04/22	
FBC		15/06/22	
Stage 4 design	04/07/22	14/10/22	
Works	01/09/22	27/08/24	



## Appendices

The following documents will be sent separately;

Appendix A - Survey Information

Appendix B - Risk Register

Appendix C - Designs

Appendix D - Programme

Appendix E - Cost Report