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12 Ossian Road, Haringey, N4 4EA

BASEMENT IMPACT ASSESMENT

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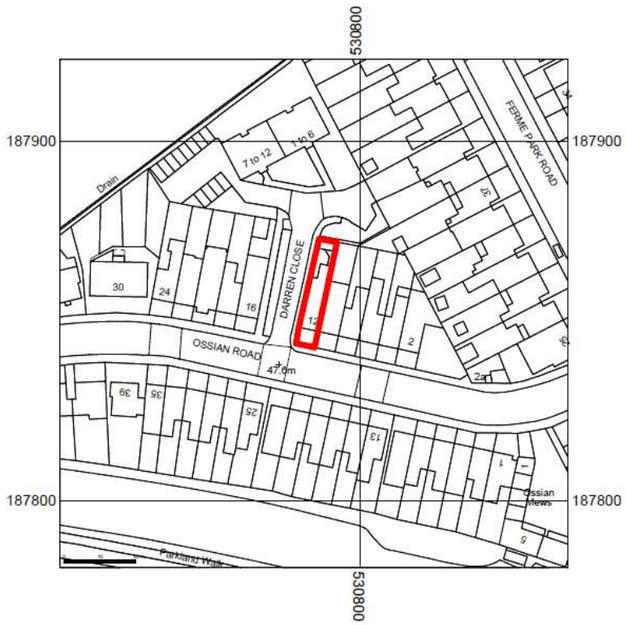


Figure 1 – Site Location

12 Ossian Road, N4 4EA

1.0 INTRODUCTION AND SCOPE

This Basement Impact Assessment has been prepared by KPT Design Ltd in support of the planning application for proposed works at **12 Ossian Road, N4 4EA**.

The proposed development includes alterations and extension of the existing lower-ground/basement accommodation, together with associated structural alterations. The basement structure comprises reinforced-concrete retaining walls formed in a controlled underpinning sequence, together with a new reinforced-concrete basement slab and associated temporary works required to maintain stability during construction.

This report has been prepared to address the requirements of the London Borough of Haringey Local Validation List in relation to basement development.

The purpose of the assessment is to consider:

- land and ground stability;
- structural stability of the subject and adjoining properties;
- groundwater, surface-water drainage and flood risk;
- heritage and archaeology where relevant;
- interaction between permanent and temporary works;
- potential ground movement;
- construction methodology;
- monitoring and mitigation measures;
- cumulative effects associated with the proposed basement works; and
- construction logistics and environmental controls through an outline Construction Environmental Management Plan.

The assessment is based on the planning-stage information available at the time of preparation, including the architectural information and KPT Design structural drawings.

The principal structural proposals comprise:

- 200-300 mm reinforced-concrete retaining walls formed in a sequential underpinning arrangement;
- reinforced-concrete basement floor construction;
- local removal and alteration of existing basement and ground-floor structure;
- new structural steelwork and timber floor members;
- local new foundations; and
- temporary propping, walings and trench support associated with the staged excavation works.

This report should be read in conjunction with the architectural drawings, KPT Design structural drawings and any relevant temporary works, geotechnical, drainage, waterproofing, arboricultural, heritage and other specialist information.

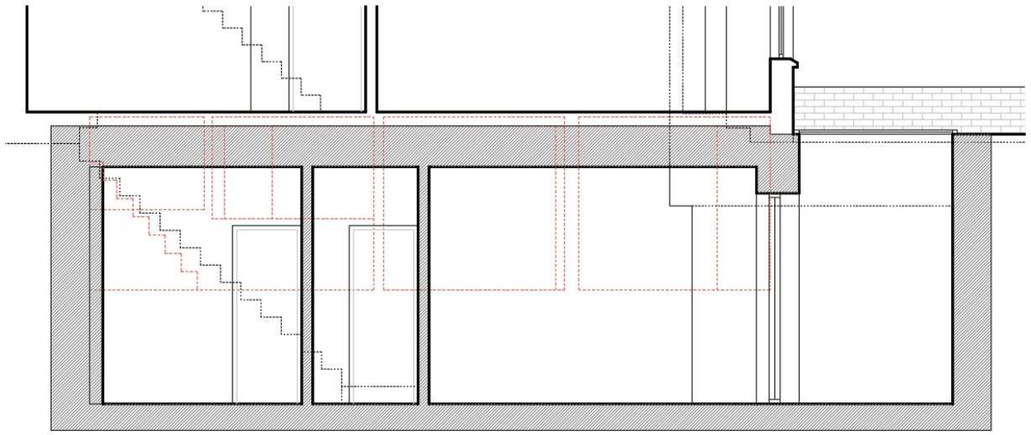


Figure 2 – Proposed Basement Extension

Figure 43 – Existing Property and Site



Existing foundation depths, local ground conditions and certain adjoining structural conditions remain subject to confirmation by trial pits and local opening-up.

Where site conditions differ materially from those assumed, the relevant design and construction methodology shall be reviewed by the Structural Engineer before the affected works proceed.

This BIA is a planning-stage assessment and does not replace the detailed structural design, contractor's temporary works design, construction method statements, Party Wall procedures or Building Regulations approval.

The report has been prepared by a Chartered Structural Engineer.

2.0 EXISTING BUILDINGS AND SITE

2.1 The Site

The application site is located at 12 Ossian Road, Haringey. The property is a residential dwelling fronting Ossian Road, with pedestrian access from the public highway to the front of the site and private access to the side/rear areas of the property.

The site is located within an established residential area, with neighbouring residential properties located in close proximity to the subject building.

The proposed basement works are contained principally beneath the footprint of the existing building and are therefore constrained by the existing external walls, adjoining structures, existing foundations, existing highway and the proximity of neighbouring properties.

The existing site levels and the relationship between the proposed basement and surrounding external ground levels are shown on the architectural and structural drawings submitted with the planning application.

2.2 Existing Building

The existing property comprises a traditional masonry residential building arranged over ground and upper floor levels, together with an existing lower-ground/basement area.

The primary structure comprises loadbearing masonry walls supporting traditional floor and roof construction.

The existing lower-ground structure includes masonry walls and existing foundations, portions of which are to be retained and portions of which will be modified or replaced as part of the proposed basement works.

The structural sections indicate that an existing basement is already present within part of the building. The proposed works require local removal of the existing basement wall and progressive replacement with new reinforced-concrete retaining walls constructed in an underpinning sequence.

The existing structure has been assessed based on the information presently available. The precise construction, depth and condition of some existing foundations remain subject to confirmation on site prior to commencement of the relevant works.

Trial pits are therefore proposed at selected locations to confirm the existing foundation width, depth and local ground conditions.

2.3 Site Constraints and Adjoining Structures

The existing property comprises a traditional masonry residential building arranged over ground and upper floor levels, together with an existing lower-ground/basement area.

The principal constraints affecting the proposed basement works are:

- the need to maintain the stability of the existing building throughout excavation and underpinning;
- the close proximity of neighbouring properties;
- the relationship between the proposed basement and existing/adjoining foundations;

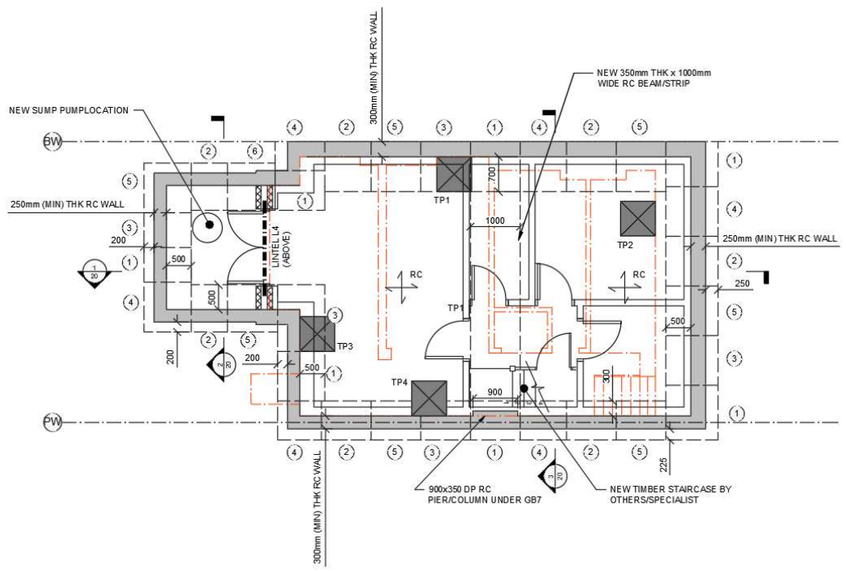


Figure 4– Proposed Basement Plan

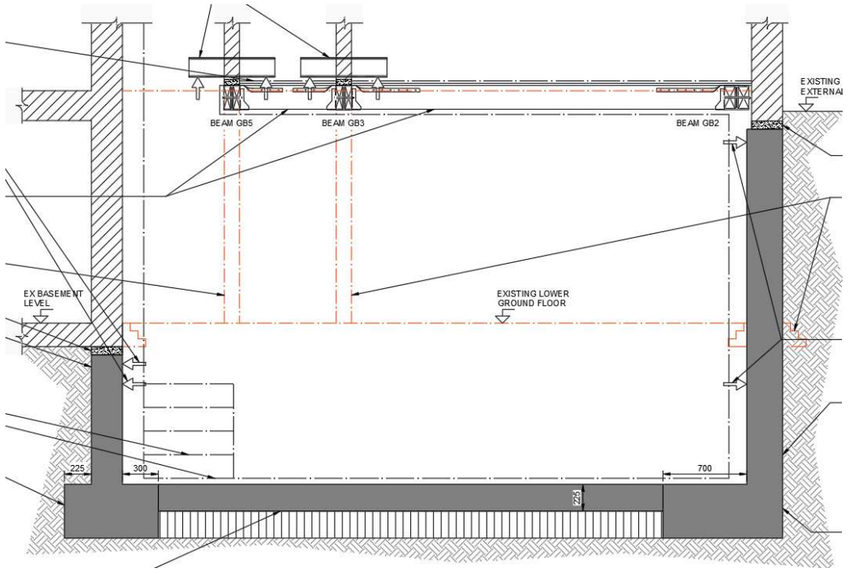


Figure 5 – Proposed Section 3-3

- restricted access associated with a residential site;
- the requirement for controlled excavation and spoil removal;
- the need to maintain temporary lateral support to existing walls during construction; and
- the need to limit ground movement, vibration and disturbance to neighbouring properties.

The existing neighbouring basement construction and depth are to be verified before works affecting this interface commence.

Where required, local trial pits and/or opening-up shall be undertaken to establish the relationship between the proposed underpinning works and the neighbouring foundations.

The proposed construction methodology has therefore been developed around a short-bay underpinning sequence, together with temporary trench support, walings and propping, so that unsupported excavation is minimised and the existing and neighbouring structures remain adequately supported throughout the works.

The contractor shall verify all existing dimensions, foundation levels, ground conditions, service locations and adjoining construction before commencing excavation. Any material difference from the assumptions adopted within the structural design shall be referred to the Structural Engineer before works proceed.

3.0 PROPOSED WORKS

The proposed development comprises the extension and reconfiguration of the existing lower-ground/basement accommodation beneath 12 Ossian Road.

The structural works include the formation of new reinforced-concrete retaining walls and basement slab, together with associated alterations to the existing structure above and local foundation works.

The proposed basement structure comprises generally:

- **200-300 mm thick reinforced-concrete retaining walls**, formed in a controlled underpinning sequence;
- a **225 mm thick reinforced-concrete basement slab**;
- reinforced-concrete underpinning/retaining wall footings;
- local removal of sections of the existing basement construction as the new retaining structure is progressively installed;
- new structural steelwork at ground-floor level;
- new timber floor joists where required;
- local new pad and strip foundations;
- local masonry alterations and rebuilding associated with the proposed structural works; and
- associated temporary works required to maintain the stability of the existing and adjoining structures throughout construction.

The basement general arrangement identifies the proposed reinforced-concrete retaining walls and slab together with the underpinning sequence and proposed trial pit locations.

The proposed sections indicate that sections of the existing basement wall are to be removed progressively as part of the underpinning process and replaced with the new reinforced-concrete retaining structure. The new retaining wall is also shown extending below the external ground level where required to provide the necessary retained height and support.

The works above basement level include new steel beams and local alterations to the existing floor structure. New timber joists are proposed where required to support the revised arrangement.

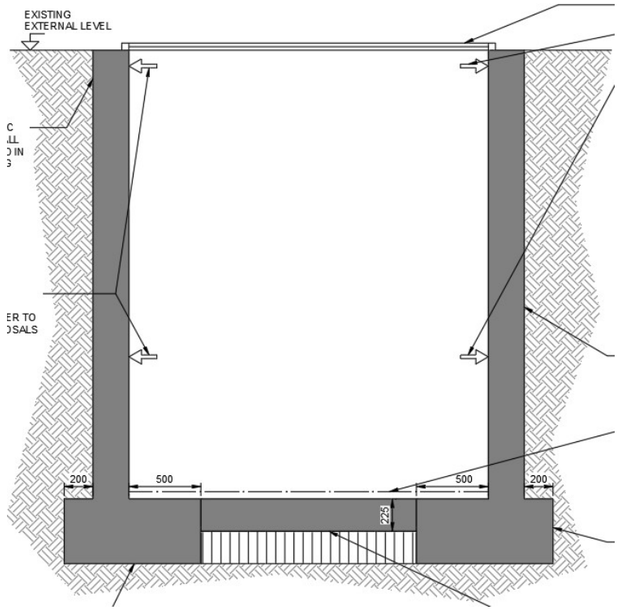


Figure 6 – Proposed Section 2-2

The permanent basement construction has been developed to provide a continuous reinforced-concrete retaining structure capable of resisting the permanent vertical and lateral actions from the existing building, retained ground and associated surcharge loads.

The final waterproofing system is to be coordinated with the architectural and waterproofing specialist's design. The basement general arrangement currently identifies a proposed cavity drainage system and sump arrangement, with final details to be confirmed by the specialist designer.

The proposed works will be constructed in a controlled sequence so that the stability of the existing structure and adjoining properties is maintained throughout the excavation and construction process. Detailed temporary works and construction sequencing are described separately within this report.

4.0 SITE CONSTRAINTS/ ADJOINING PROPERTIES

4.1 Site Constraints

The property is located within an established residential street with neighbouring properties situated immediately adjacent to the site boundaries.

The principal constraints associated with the proposed basement works are:

- close proximity of adjoining residential properties;
- maintaining stability of the existing building throughout excavation and underpinning;
- interaction between the proposed basement works and adjoining foundations;
- restricted residential site access;
- proximity of Ossian Road to the front of the property;
- proximity of Darren Close to the side of the property;
- requirement for controlled excavation and temporary support;
- existing underground services and drainage; and
- control of ground movement and vibration during construction.

The basement works will therefore be undertaken in a controlled sequence with short-bay underpinning, staged excavation and temporary support as required.

4.2 Adjoining Properties

The subject property is located between **No. 10 Ossian Road and Darren Close**, with the neighbouring building situated right next to the proposed basement works.

The proposed excavation and underpinning works have the potential to interact with the existing foundations of the adjoining building. The structural design and construction methodology therefore require the neighbouring structure to remain adequately supported throughout all stages of the works.

The current structural sections indicate that the depth and configuration of the neighbouring foundations have not yet been fully confirmed. In addition, the presence, depth and construction of neighbouring basement structures are to be verified prior to commencement of works affecting these interfaces.

Local trial pits and/or opening-up will therefore be undertaken, where necessary, to establish:

- foundation depth;
- foundation width and construction;
- relationship between adjoining foundations and the proposed underpinning;
- local ground conditions at foundation level; and
- the presence and extent of any existing adjoining basement construction.

The results of these investigations are to be reviewed by the Structural Engineer before the relevant underpinning works commence.

Where the adjoining foundation arrangement differs materially from that assumed within the structural design, the underpinning and temporary works details will be reviewed and amended as necessary before excavation proceeds.



Figure 7 – Existing Property

4.3 Existing Building and Boundary Stability

The existing external and internal loadbearing walls are to remain adequately supported throughout the basement works.

The temporary works strategy includes staged underpinning, trench support, walings and propping to limit the extent of unsupported excavation and maintain stability during construction.

The existing walls above the basement are to be temporarily supported where required before sections of the existing basement structure are removed. The sequence drawings specifically identify temporary propping and staged installation of the new structural elements before removal of existing walls.

No significant length of existing wall or foundation is to be left unsupported during the works.

4.4 Ossian Road / Highway Interface

Ossian Road lies immediately to the front of the property.

The basement works are predominantly contained within the site boundary; however, construction access and the highway interface require careful management due to the constrained residential location.

Construction access, deliveries, unloading, spoil removal, material storage and highway management are addressed within the Haringey Development Management.

4.5 Services and Drainage

The location of existing drainage and underground services shall be confirmed prior to excavation.

The structural drawings identify existing drainage features and manholes within the site.

Where existing services pass through or adjacent to the proposed works, they shall be appropriately protected, supported, diverted or rerouted as necessary.

Any modifications to the drainage system shall be coordinated with the proposed basement waterproofing and drainage design.



Bedrock geology

London Clay Formation-Clay, silt and sand

These sedimentary rocks are marine in origin. They are detrital and comprise coarse- to fine-grained slurries of debris from the continental shelf flowing into a deep-sea environment, forming distinctively graded beds.

JARS		CORES		BULK	
2478 0·6 2480 2·1 2482 3·7 2484 5·2 2486 6·7 2480 8·2		2479 1·1 2481 2·6 2483 4·1 2485 5·6 2487 7·2 2490 8·7 2491 9·6			

Description	Thickness	Depth
	m	m
MADE GROUND (clay, topsoil, etc.)	0·9	0·9
Firm brown mottled CLAY	4·0	4·9
Firm/stiff dark brown fissured CLAY with crystals	2·1	7·0
Stiff blue fissured CLAY	3·0	10·0
GENERAL REMARKS No water encountered. Terminated at scheduled depth.		
TOTALS	10·0	10·0

Figure 8 – Available Ground Conditions

5.0 GROUND CONDITIONS AND GEOTECHNICAL BASIS

5.1 General

The proposed basement works require excavation below the existing lower-ground/basement level and the formation of new reinforced-concrete underpinning and retaining walls.

The behaviour of the proposed structure is therefore dependent upon the existing foundation arrangement, the nature and strength of the underlying soils, groundwater conditions and the interaction between the proposed excavation and adjoining structures.

At the planning stage, the geotechnical assessment is based on available published geological information, the existing building arrangement and the structural design assumptions shown on the KPT Design drawings.

5.2 BGS Maps Ground Conditions

After review of the Geological Survey maps of the area the site is located in an area where the foundations are sitting within the Langley Silt Member. It is underlaid by the London Clay Formation. An extract from the BGS online viewer is shown below:

Considering the available information, we are of the opinion that no site-specific soil investigation is required. It is recommended that a qualified engineer reviews the ground conditions once the first retaining/underpins are installed on site. As there are existing basement in the area it is not expected that high water table will be present.

We have reviewed the available borehole data available from British Geological Survey from nearby located sites and they have re-confirmed the summary above. It appears that the boreholes have not encountered water at all which makes the construction process safer.

5.3 Preliminary Bearing Capacity

The current structural design has been developed on the basis that the proposed underpinning and foundations will bear onto competent natural strata capable of supporting the design bearing pressures adopted within the structural design.

The basement general arrangement currently refers to a permissible bearing pressure of **120 kN/m²**. The final design bearing value shall be confirmed following review of the trial pit findings and any available geotechnical information.

Should soft, loose, disturbed, made ground or otherwise unsuitable material be encountered at the proposed founding level, the Structural Engineer shall be notified before concrete is placed.

Any additional excavation required to reach suitable founding strata shall be reviewed and agreed before proceeding.

5.4 Groundwater

Groundwater conditions are to be considered as part of the basement design and construction methodology.

At this stage, a site-specific groundwater monitoring record has not been provided to KPT Design.

Accordingly, groundwater conditions encountered in the adjacent boreholes confirm that no ground water has been found within the proposed new basement depth.

If groundwater is encountered at a level which could affect the basement excavation, underpinning works or permanent basement structure, the construction methodology and temporary works arrangements shall be reviewed accordingly.

Any temporary groundwater control measures shall be designed so that they do not cause adverse ground movement or loss of fines from beneath the subject or adjoining properties.

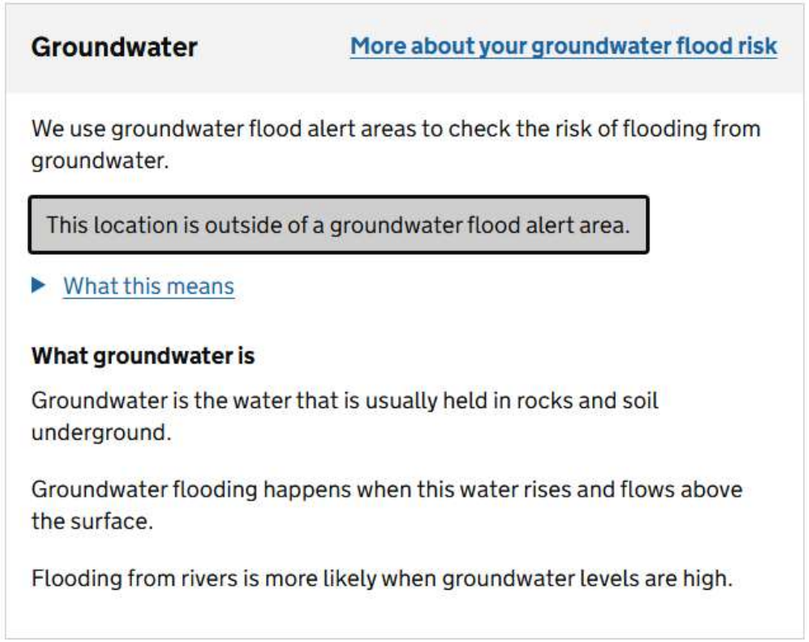


Figure 9– Groundwater Flood

6.0 GROUNDWATER, SURFACE WATER AND FLOOD RISK

6.1 6.1 General

The proposed works include excavation below the existing lower-ground/basement level and the construction of new reinforced-concrete retaining walls and basement slab.

The potential effects of groundwater, surface water and flooding have therefore been considered as part of the Basement Impact Assessment.

The assessment is intended to consider both:

- the potential effect of groundwater and surface water on the proposed basement construction; and
- whether the proposed works could materially alter groundwater flow, surface-water drainage or flood risk to adjoining properties.

6.2 Groundwater

At the present stage, no site-specific groundwater monitoring data has been provided to KPT Design.

Groundwater conditions are therefore to be verified during trial pit/opening-up works.

Particular attention shall be given to:

- groundwater level;
- evidence of perched groundwater;
- seepage through made ground or granular layers;
- groundwater inflow during excavation;
- potential seasonal variation; and
- any indication that groundwater flow could be affected by the proposed basement structure.

Where groundwater is encountered, its level and rate of inflow shall be recorded.

If groundwater conditions are found to be more significant than assumed, the temporary works, excavation methodology and permanent waterproofing design shall be reviewed before excavation proceeds.

6.3 Temporary Groundwater Control

Any groundwater entering the excavation shall be managed in a controlled manner.

Local sump pumping may be used where appropriate for minor inflows. However, uncontrolled dewatering or significant lowering of groundwater levels shall not be undertaken without review by the Structural Engineer and, where necessary, a geotechnical specialist.

Temporary groundwater control measures shall be selected to avoid:

- loss of fines from surrounding soils;
- settlement of the subject or adjoining properties;

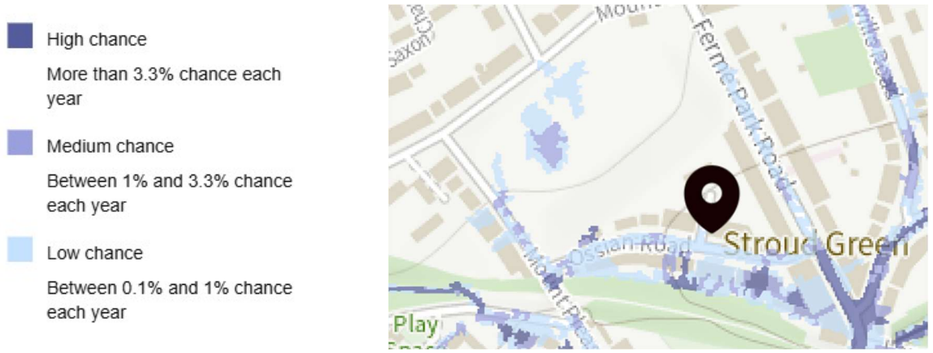


Figure 10 – Surface Water Risk Map

- instability of excavation faces;
- adverse effects on neighbouring foundations; and
- uncontrolled discharge of silty water.

Where pumping is required, appropriate measures shall be provided for silt removal and controlled discharge.

The discharge location and method shall be agreed before pumping commences.

6.4 Surface Water

The proposed basement works are predominantly contained beneath the existing building footprint.

The development is therefore not expected to result in a significant increase in impermeable site area solely as a consequence of the basement construction.

Existing and proposed surface-water drainage arrangements shall nevertheless be maintained or modified as necessary to ensure that surface water is positively collected and discharged without increasing flood risk to the subject or neighbouring properties.

This flood risk summary reports very low risk means that this area has a chance of flooding of less than 0.1% each year

Surface water shall not be allowed to discharge into open excavations during construction.

The Contractor shall provide temporary measures as necessary to prevent rainwater runoff entering the basement excavation.

6.5 Permanent Basement Drainage and Waterproofing

The permanent basement shall incorporate a waterproofing system designed by a suitably qualified waterproofing specialist.

The basement general arrangement identifies a cavity drainage system and sump/pump arrangement, with final sizing and specification to be confirmed by the specialist designer.

The final drainage and waterproofing design shall consider:

- groundwater conditions established during investigation and excavation;
- potential water pressure against basement walls and slab;
- cavity drainage requirements;
- sump capacity;
- duty and standby pump provision where required;
- high-level alarm provision where appropriate;
- suitable discharge arrangements;
- maintenance and access requirements; and
- non-return protection where connection to drainage systems could be affected by surcharge.

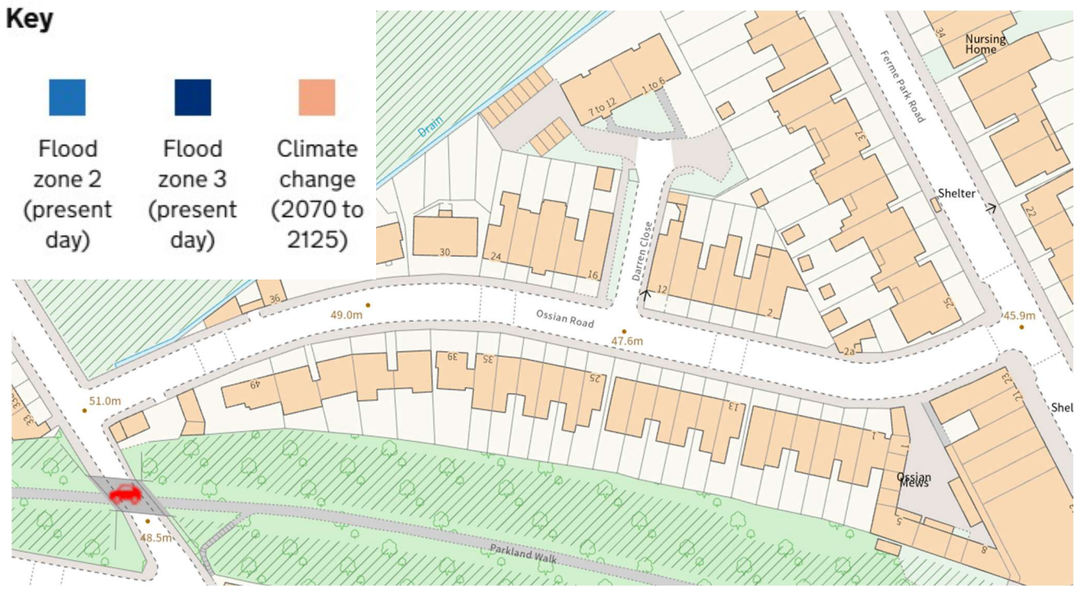


Figure 11 – Flood Risk Map

6.6 Flood Risk

The flood risk to the site should be assessed using the current Environment Agency flood mapping and the London Borough of Haringey Flood Risk information.

The assessment should consider, as applicable:

- flooding from rivers and the sea;
- surface-water flooding;
- groundwater flooding;
- sewer surcharge;
- artificial sources; and
- the implications of climate change.

After review of the Environment Agency (EA) Flood Risk for the property it was confirmed that it is located within Flood Zone 1. That is a very low risk means that each year this area has a chance of flooding of less than 0.1%.

6.7 Drainage and Flood Mitigation Measures

The site is located within Flood Zone 1 (Low Risk) and Very Low Risk of Surface Water Flooding. As the proposed development has a basement construction it will also require mitigation against the impacts of flooding. The works should be constructed in a flood resilient manner in accordance with the 'Flood resilient construction of new buildings (Ministry of Housing, Communities and Local Government (2007))' guidance. All good building practices will be followed during the final design and construction process. As such the following mitigation measures have been proposed:

Construction

- Ensure construction materials used are flood resilient.
- New basement floor to be of solid concrete construction.
- The waterproofing of the basement should be done by a specialist in line with the requirements set in BS 8102:2009.
- Any ventilation points to be above the critical surface flood level.

Gas / water supply

- All plumbing insulation to be of closed-cell design.

Drainage

- Non-return valves to be fitted to all drain and sewer outlets to the main sewer to guard against surcharge of the building drainage.
- Manhole covers to be double sealed.

6.8 Impact on Surrounding Properties

Based on the proposed form of construction, the new basement is not intended to act as a significant barrier to regional groundwater flow.

However, this assumption is subject to confirmation of the local ground and groundwater conditions.

If the site investigation identifies significant groundwater flow through permeable strata, the potential effect of the proposed retaining walls on groundwater movement shall be reviewed before the permanent design is finalised.

Provided the groundwater and drainage mitigation measures described above are implemented, the proposed basement works are not anticipated to materially increase flood risk to neighbouring properties.

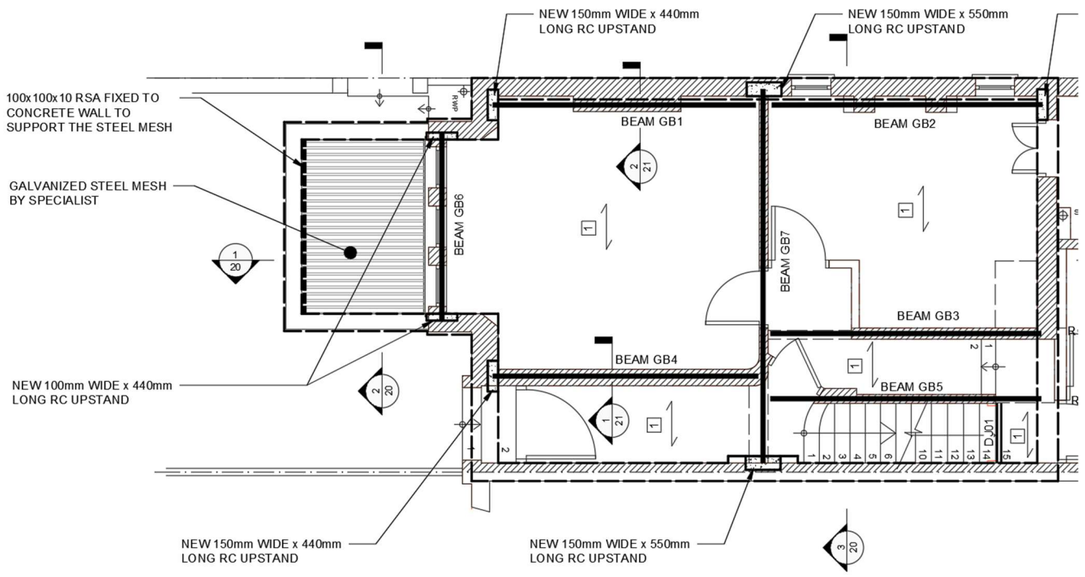


Figure 12– Partial Ground Floor

7.0 STRUCTURAL DESIGN PHILOSOPHY

7.1 Design Basis

The structural works have been developed in accordance with the relevant Eurocodes, UK National Annexes, British Standards and Building Regulations.

The design considers permanent and imposed loads, earth pressures, groundwater where applicable, surcharge from adjoining ground/buildings and temporary construction-stage actions.

The proposed structure comprises reinforced concrete, structural steelwork and timber elements. The current drawings specify reinforced concrete generally to C28/35, steelwork to S355 and structural timber to C24.

7.2 Superstructure and Stability

The existing building is predominantly loadbearing masonry construction.

New steel beams, local steelwork and replacement timber floor members are proposed where required to support the revised layout.

Lateral stability will continue to be provided principally by the retained masonry walls acting with the floor and roof diaphragms. Temporary stability during alteration works is addressed separately within the construction methodology.

7.3 Basement Structure

The proposed basement comprises generally:

- 200-300 mm reinforced-concrete retaining walls formed in an underpinning sequence;
- reinforced-concrete underpinning footings; and
- a 225 mm reinforced-concrete basement slab.

The retaining walls are designed to resist vertical loads from the structure above together with lateral earth pressure, surcharge and groundwater pressure where applicable.

Existing basement walls will be removed progressively as the new retaining structure is installed.

7.4 Site Verification

The design is subject to confirmation of existing foundation depths, adjoining foundation levels, local ground conditions and existing structural interfaces.

Trial pits and local opening-up are therefore required before the relevant works proceed.

Where site conditions differ materially from the design assumptions, the affected works shall be reviewed by the Structural Engineer before construction continues.

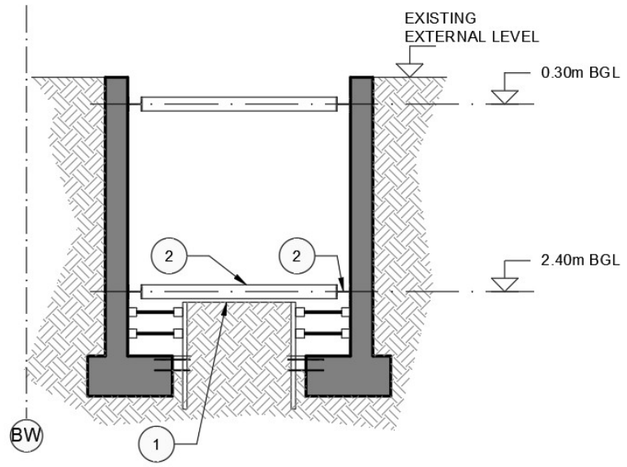


Figure 13 – Critical Stage Section 2-2

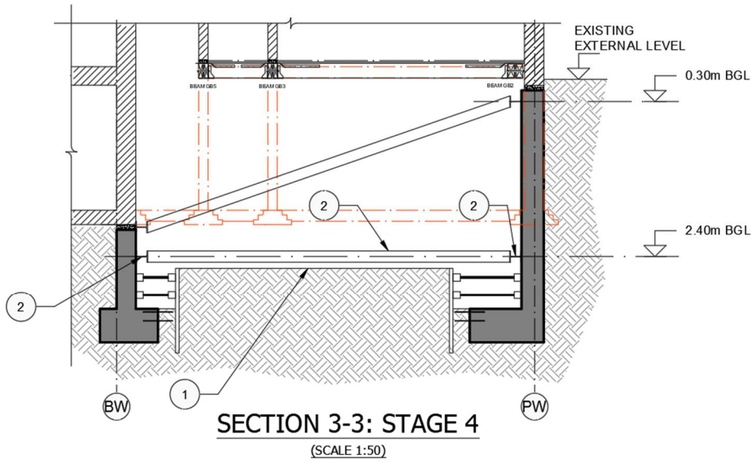


Figure 14 – Critical Stage Section 3-3

8.0 CONSTRUCTION METHODOLOGY AND TEMPORARY WORKS

8.1 General

The basement works will be constructed in a controlled sequence using traditional underpinning techniques.

The Contractor will be responsible for the detailed design, installation, inspection and maintenance of all temporary works required to maintain the stability of the existing and adjoining structures during construction.

8.2 Underpinning Sequence

The new reinforced-concrete retaining walls will be formed in short underpinning bays, generally not exceeding approximately 1.0 m in width.

Adjacent bays will not be excavated simultaneously. Each underpin will be cast and allowed to achieve sufficient strength before excavation of the next adjoining bay proceeds.

The existing walls will remain supported throughout the sequence and the central excavation will not commence until the perimeter retaining walls have been completed.

8.3 Excavation and Temporary Support

Temporary trench sheeting, timber bearers, walings and props will be installed progressively as excavation proceeds.

The temporary works drawings indicate staged propping at approximately -0.30 m and -2.40 m levels, together with walings and horizontal/raking props as required.

Excavation will proceed in stages with temporary support maintained until the permanent reinforced-concrete walls and basement slab are capable of providing the required restraint.

8.4 Construction Sequence

The proposed sequence generally comprises:

- temporary support to retained walls where required;
- progressive underpinning of the perimeter walls;
- installation of walings and props;
- staged reduction of ground levels;
- completion of the perimeter retaining structure;
- excavation of the central basement area;
- construction of heave protection, drainage and the reinforced-concrete basement slab; and
- removal of temporary propping once the permanent structure has achieved adequate strength.

The proposed sequence is illustrated on KPT drawings LP2294-12OR-201 and LP2294-12OR-202. Any material change to the proposed sequence or temporary works arrangement shall be reviewed by the Structural Engineer and Temporary Works Designer before implementation.

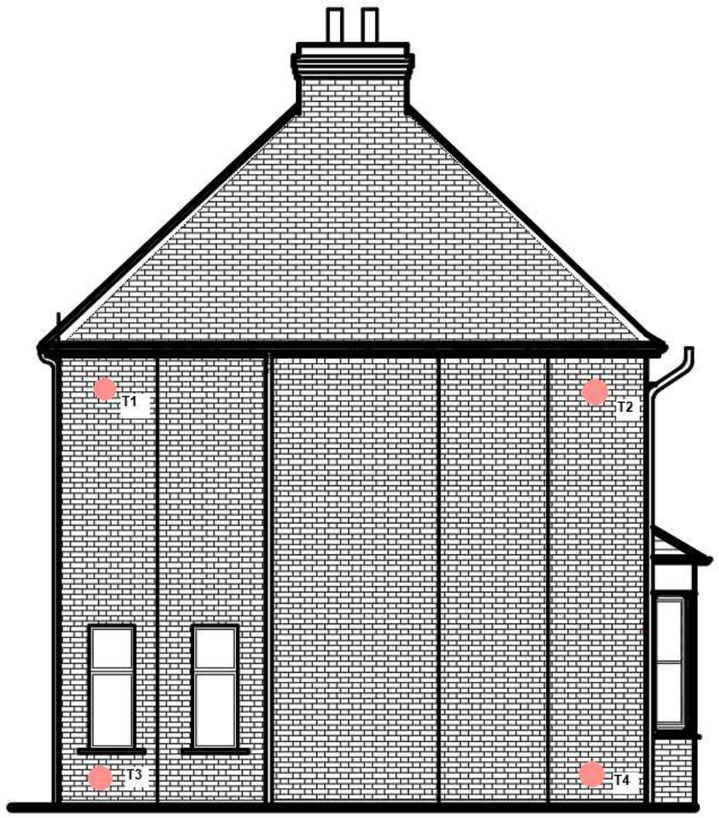


Figure 15 – Suggested Targets for the Movement Monitoring

9.0 GROUND MOVEMENT AND MONITORING

9.1 Ground Movement

Some limited ground movement may occur during excavation and underpinning works.

The proposed short-bay underpinning sequence, temporary propping and staged excavation are intended to limit movement to no higher than Burland Scale 1 “very light” to ensure that the proposed development would have no undue impact on the structural integrity of adjoining and neighbouring buildings in accordance with Policy DM18 of the Haringey Development Management. Also to maintain the stability of the subject and adjoining structures throughout construction.

The works shall be carried out in accordance with the structural and temporary works drawings, with no significant length of wall or foundation left unsupported.

9.2 Condition Surveys

A photographic condition survey of the subject property and adjoining properties should be undertaken before commencement of the basement works.

Existing cracks, defects and other relevant features should be recorded so that any subsequent change can be identified.

9.3 Monitoring

Movement monitoring shall be undertaken during the basement excavation and underpinning works.

Monitoring points should be established in line with Figure 15 on the visible masonry wall. Also two monitoring points should be established on the party wall similarly to where T3 and T4 are.

Vertical and horizontal movement to be measured at all target locations indicated on the figure. Tilt along height of wall to be monitored. Any reference points used to be positioned as far away from the excavation as possible, so as not to be influenced by any ground movement caused by works.

Contractor to monitor all walls for cracking and report any cracks from the works to the contract administrator.

The monitoring regime should include:

- baseline readings before commencement;
- regular readings during underpinning and excavation;
- continued monitoring during installation and removal of temporary works; and
- final readings following completion of the basement structure.

9.4 Trigger Levels

Movement trigger levels and the associated action procedure shall be agreed by the Structural Engineer prior to commencement of the basement works.

If movement approaches or exceeds the agreed trigger levels, the affected works shall stop locally and the Structural Engineer and Temporary Works Designer shall review the condition before works continue.

Any necessary additional propping, modification to the construction sequence or other remedial measures shall be implemented before further excavation proceeds.

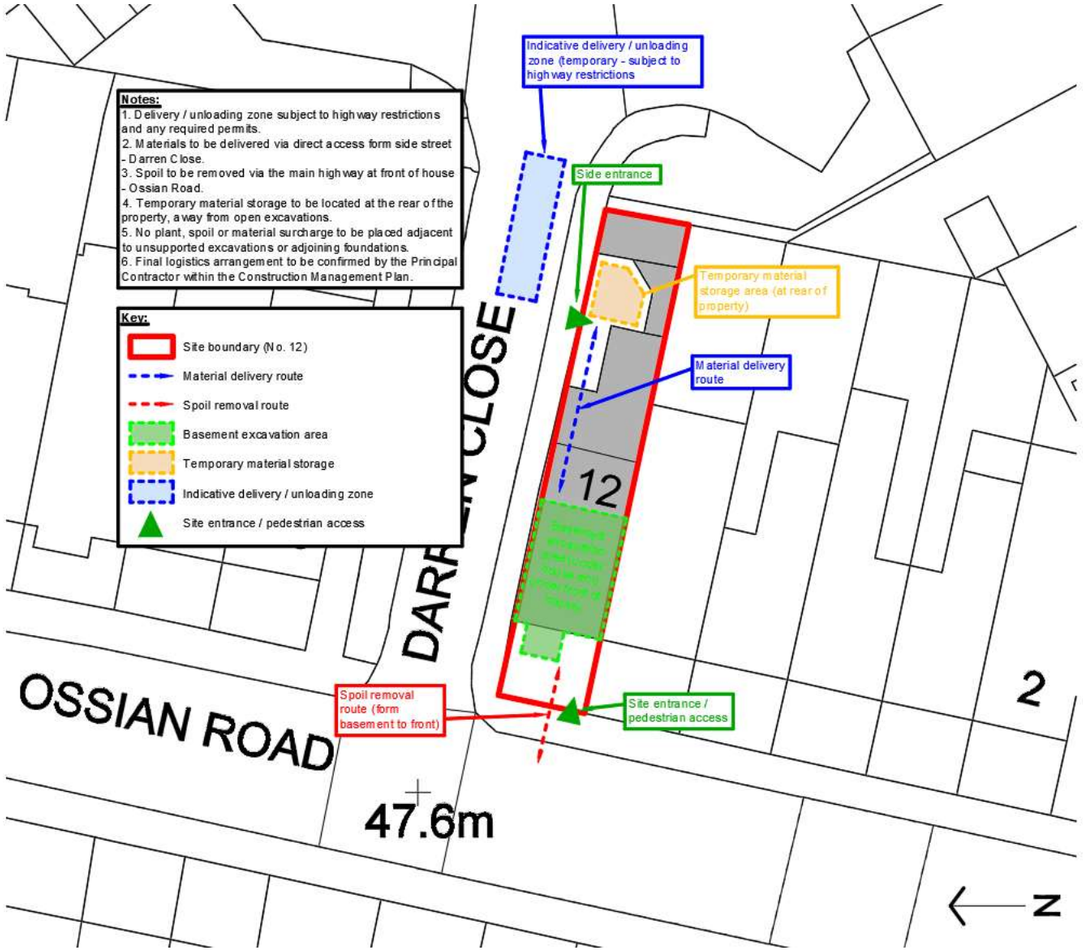


Figure 17 – Indicative Construction Logistic Plan

10.0 NOISE AND VIBRATION

Construction activities associated with the basement works have the potential to generate temporary noise and vibration.

The basement works are proposed to be undertaken using controlled excavation and sequential underpinning techniques, with vibration-generating operations kept to the minimum reasonably practicable.

Appropriate plant, equipment and working methods shall be selected to minimise disturbance to the existing building, adjoining properties and neighbouring occupiers.

Where breaking-out or other vibration-generating activities are required, these shall be carefully controlled and undertaken using suitable low-impact methods where practicable.

Noise and vibration shall be managed in accordance with the principles of BS 5228 and the measures set out within the Haringey Draft Local Plan.

Movement monitoring of the subject and adjoining structures is addressed separately within Section 9.0

11.0 OUTLINE CONSTRUCTION ENVIRONMENTAL MANAGEMENT PLAN (CEMP)

11.1 General

This Outline Construction Environmental Management Plan has been prepared in connection with the proposed basement and associated structural works at **12 Ossian Road, London N4 4EA.**

The purpose of the CEMP is to establish the principal measures to be adopted during construction to minimise disturbance to neighbouring occupiers, protect the adjoining properties and public highway, and manage construction activities in a safe and controlled manner.

The London Borough of Haringey requires an Outline CEMP for basement and subterranean developments and identifies matters including vehicle movements, loading and unloading, material storage, waste management, noise, vibration, dust, highway impacts, phasing and emergency contact arrangements.

The final detailed construction arrangements shall be developed by the appointed Principal Contractor prior to commencement of the works and shall incorporate any planning conditions, highway requirements and other statutory approvals applicable to the development.

11.2 Site Access and Construction Logistics

Construction access will be from **Ossian Road and from Darren Road**.

The indicative construction logistics arrangement is shown on **Figure 17 – Indicative Construction Logistics Plan**.

The proposed strategy comprises:

- temporary delivery and unloading from Darren Close, subject to applicable highway restrictions and permits;
- transfer of construction materials through the existing building;
- controlled transfer of excavated spoil from the basement to the front of the property for removal;
- temporary storage of materials principally within the **rear part of the site**;
- basement excavation beneath the front portion of the main house; and
- maintenance of safe pedestrian access throughout the construction period.

Due to the constrained nature of the site, large construction vehicles will not enter the property. Materials will be transferred from the frontage using appropriately sized equipment and manual handling methods where necessary.

Deliveries shall be pre-arranged and coordinated to minimise vehicle waiting and disturbance to neighbouring occupiers.

11.3 Construction Vehicles and Highway Management

Construction vehicle movements shall be kept to the minimum reasonably practicable.

Vehicles shall not wait or queue on Ossian Road or Darren Close where this could cause obstruction or adversely affect other highway users.

Where reasonably practicable, deliveries shall be scheduled outside periods of peak local traffic and coordinated so that only one principal delivery vehicle attends the site at a time.

Any requirement for:

- parking bay suspension;
- skip placement on the highway;
- temporary occupation of the pavement;
- temporary traffic management;
- road-space suspension; or
- other highway licences

shall be agreed with the relevant Highway Authority prior to implementation.

Pedestrian access along the public highway shall be maintained at all times.

11.4 Loading, Unloading and Material Storage

Loading and unloading shall take place at the Darren Close side entrance within the area indicated on the construction logistics plan, subject to highway restrictions and any necessary permits.

Materials shall then be transferred through the existing house to the relevant work area.

Temporary material storage shall be located principally toward the **rear of No. 12**, away from the principal basement excavation where reasonably practicable.

Materials shall be stored safely and in a manner that does not obstruct access or impose excessive loading on existing structures.

No significant quantities of plant, spoil, skips or construction materials shall be placed adjacent to unsupported excavations, underpinning bays or adjoining foundations unless the additional surcharge has been specifically considered by the Structural Engineer or Temporary Works Designer.

11.5 Excavated Material and Waste Management

Excavated material shall be removed progressively during the basement works to avoid excessive accumulation on site.

Spoil shall be transferred from the basement excavation to the front of the property in controlled quantities and removed using appropriately sized vehicles or skips.

Construction and demolition waste shall be segregated where reasonably practicable and opportunities for reuse and recycling shall be adopted.

Waste shall be removed by appropriately licensed waste carriers and disposed of at authorised facilities.

Skips and waste containers shall be covered where necessary to prevent dust or debris being deposited on neighbouring land or the public highway.

No waste materials shall be burnt on site.

11.6 Noise Control

Construction activities associated with excavation, breaking-out, underpinning, concrete works and structural alterations have the potential to generate temporary noise.

Noise-generating activities shall be controlled in accordance with the principles of **BS 5228** and good construction practice.

Measures shall include, where appropriate:

- selection of suitably sized and maintained plant;
- use of lower-noise equipment where practicable;
- avoidance of unnecessary engine idling;
- locating stationary plant away from neighbouring properties where practicable;
- limiting the duration of particularly noisy operations; and
- undertaking noisy activities only during permitted working periods.

Particularly disruptive operations shall be planned in advance so that their duration is minimised.

11.7 Vibration Control

The basement is proposed to be formed using controlled excavation and sequential underpinning rather than driven piling techniques.

Vibration-generating works shall nevertheless be kept to the minimum reasonably practicable.

Breaking-out and similar operations shall be undertaken using appropriate low-impact equipment where practicable.

Where unexpected vibration or movement is observed, the affected activity shall cease locally, and the Structural Engineer and/or Temporary Works Designer shall review the condition before work proceeds.

Structural movement monitoring is addressed separately within **Section 9.0** of this report.

11.8 Dust and Air Quality

Suitable measures shall be adopted to minimise dust and airborne debris during the works.

Measures shall include, where appropriate:

- damping down dusty materials and excavation areas;
- covering skips and vehicles carrying loose material;
- appropriate dust extraction or suppression during cutting and breaking operations;
- keeping access routes reasonably clean;
- regular housekeeping within the site;
- avoiding unnecessary stockpiling of excavated material; and
- prompt cleaning of any material accidentally deposited on the public highway.

Construction activities shall be undertaken so far as reasonably practicable to prevent dust affecting neighbouring properties.

11.9 Working Hours

Construction working hours shall comply with any restrictions imposed by the London Borough of Haringey.

Deliveries, excavation and other potentially disruptive operations shall be undertaken within the agreed working periods.

Work outside normal permitted hours shall only be undertaken where specifically agreed or where necessary in response to an emergency or safety-critical situation.

11.10 Temporary Works and Excavation Safety

The basement construction shall proceed in accordance with the structural drawings, temporary works requirements and construction sequence described within **Section 8.0** of this report.

The proposed works include sequential underpinning, staged excavation, temporary walings, props and local trench support.

Temporary works shall remain in place until the permanent structure has achieved adequate strength and stability.

The Contractor shall not materially alter the agreed underpinning, excavation, propping or de-propping sequence without prior review by the Structural Engineer and Temporary Works Designer.

Open excavation areas shall be appropriately protected and unauthorised access prevented.

11.11 Protection of Adjoining Properties

The stability of the existing building and adjoining properties shall be maintained throughout the basement works.

Prior to commencement of significant structural works, photographic condition surveys should be undertaken to the subject building and adjoining properties where access is available.

Movement monitoring shall be undertaken during the basement works in accordance with **Section 9.0**.

Construction activities shall remain within the site boundary unless separate agreement has been obtained for access to adjoining land.

The Contractor shall maintain reasonable access to neighbouring properties and shall seek to avoid unnecessary obstruction or disturbance.

11.12 Site Security and Housekeeping

The construction site shall be appropriately secured throughout the works.

Suitable temporary barriers, hoardings or other protective measures shall be installed where required.

The Contractor shall maintain the site in a safe and orderly condition, including:

- safe storage of construction materials;
- regular removal of waste;
- maintenance of clear access routes;
- suitable temporary lighting where required;
- protection of open excavations;
- appropriate signage; and
- routine inspection of the site frontage and adjoining pavement.

Mud, dust or debris deposited on the highway as a result of construction activities shall be removed promptly.

Wheel-cleaning measures shall be provided where necessary to prevent material being carried onto Ossian Road or Darren Close.

11.13 Construction Programme, Communication and Emergency Arrangements

The works are anticipated to proceed broadly in the following sequence:

1. site establishment and enabling works;
2. local demolition and temporary support;
3. sequential underpinning of the perimeter walls;
4. installation of temporary walings and props;
5. staged basement excavation;
6. construction of the reinforced-concrete retaining walls and basement slab;
7. removal of temporary support following achievement of adequate permanent structural strength;
8. completion of associated structural alterations; and
9. completion and finishing works.

The detailed programme shall be prepared by the Principal Contractor prior to commencement.

Appropriate communication shall be maintained with neighbouring occupiers regarding significant disruptive operations, deliveries or other activities where advance notification is appropriate.

A **24-hour emergency contact number** shall be provided and maintained for the duration of the construction works, consistent with Haringey's validation requirements.

11.14 Status of the Outline CEMP

This section represents a **planning-stage Outline Construction Environmental Management Plan**.

The appointed Principal Contractor shall develop the final site-specific construction arrangements before commencement of the works, including detailed vehicle management, programme, site establishment, waste management, environmental controls and emergency procedures.

Any detailed CEMP required by planning condition shall be prepared in accordance with the principles established within this report and the requirements of the London Borough of Haringey.

12.0 Conclusions and Recommendations

The proposed basement works at **12 Ossian Road, Haringey N4 4EA** have been reviewed with respect to land stability, structural stability, groundwater and drainage, heritage and archaeology, construction methodology and the potential effects on adjoining properties.

The proposed scheme comprises reinforced-concrete retaining walls constructed in a controlled underpinning sequence, together with a new reinforced-concrete basement slab and associated structural alterations.

Based on the information available at planning stage, there is **no objection in principle** to the proposed basement development from a structural engineering perspective, subject to the following:

- existing foundation depths, adjoining foundation levels and local ground conditions being confirmed by trial pits and opening-up;
- the structural design being reviewed where site conditions differ materially from the current assumptions;
- the bearing pressure adopted in the structural drawings being coordinated and confirmed prior to construction;
- underpinning and excavation being undertaken strictly in accordance with the agreed sequence;
- temporary works being designed, installed and maintained by suitably competent persons;
- groundwater conditions being monitored and managed in a controlled manner;
- the permanent waterproofing and sump/pump system being designed by an appropriate specialist;
- condition surveys and movement monitoring being undertaken during the basement works;
- the measures set out within the Outline CEMP being implemented by the Principal Contractor; and
- all relevant Party Wall, Building Regulations, planning and statutory requirements being addressed before and during construction.

The proposed short-bay underpinning, staged excavation and temporary propping strategy is considered appropriate in principle for maintaining stability during construction, subject to confirmation of site conditions and detailed temporary works design.

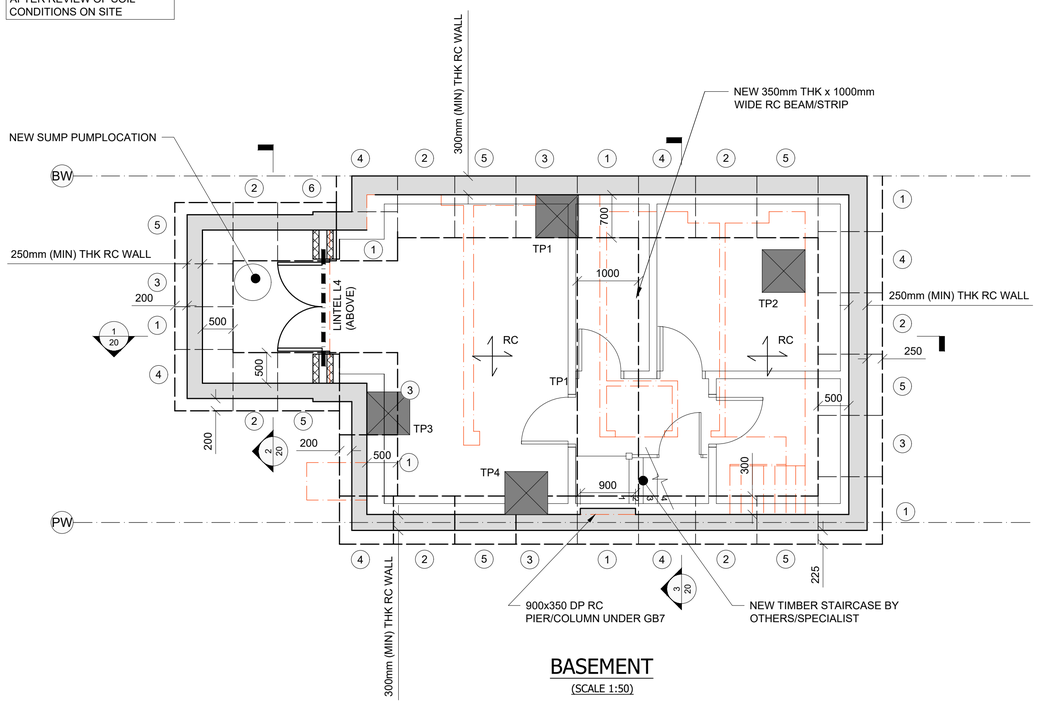
The available heritage mapping indicates that the site is outside the identified heritage and archaeological areas of interest relevant to the proposed works.

Subject to the recommendations and controls set out within this report, the basement works are not anticipated to result in unacceptable effects on the structural stability of the subject property, adjoining properties, groundwater regime or surrounding highway.

Any material departure from the assumed ground conditions, structural arrangement or proposed construction sequence shall be referred to the Structural Engineer before the affected works proceed.

Appendix 01: Structural Drawings

FORMATION LEVEL OF NEW FOOTINGS TO BE CONFIRMED AFTER REVIEW OF SOIL CONDITIONS ON SITE



BASEMENT

(SCALE 1:50)

LEGEND:

- CONCRETE WALL
- LOAD BEARING BLOCKWORK
- DENOTES EXISTING WALLS PROPOSED FOR REMOVAL
- RC — 225 mm THK REINFORCED CONCRETE SLAB

LINTEL SCHEDULE

LINTEL REF.	SIZE	COMMENTS
L1	CATNIC CG 90/100	OR SIMILAR APPROVED

- ALL LINTELS TO HAVE MIN. 150mm END BEARING

DENOTES LINTEL ABOVE OPENING

DENOTES LINTEL UNDER

UNDERPIN WALL NOTES :-

1. THE BEARING STRATA SHALL BE APPROVED BY THE ENGINEER AND THE LOCAL AUTHORITY'S BUILDING INSPECTOR BEFORE CASTING FOUNDATIONS. ANY ADDITIONAL EXCAVATION SHALL BE REPLACED WITH A GRADE C16/20 CONCRETE. IN THE EVENT OF EXTENSIVE ADDITIONAL EXCAVATION BEING REQUIRED, THE ENGINEER MUST BE INFORMED IMMEDIATELY AND FRESH INSTRUCTIONS OBTAINED.

2. CONCRETE MIX FOR FOUNDATIONS SHALL BE GRADE C28/35 WITH A MINIMUM OF 300KG OF ORDINARY PORTLAND CEMENT PER CUBIC METRE AND A MAXIMUM WATER/CEMENT RATIO OF 0.60. CONCRETE SHALL BE LEFT FOR AT LEAST 24 HOURS BEFORE DRY PACKING. THE CONCRETE OF THE UNDERPIN WALL SHALL BE STOPPED OFF 50MM BELOW THE UNDERSIDE OF THE EXISTING FOOTING.

3. THE UNDERSIDE OF THE FOUNDATION IS TO BE DUG TO A STRATA CAPABLE OF SUSTAINING A PERMISSIBLE GROUND BEARING PRESSURE OF 125 kN/m^2.

4. THE UNDERSIDE OF THE EXISTING STRIP FOUNDATION SHALL BE TRIMMED AND CLEANED OF ALL MUD AND DEBRIS BEFORE DRY PACKING. THE UNDERPIN WALL SHALL BE CARRIED OUT IN SHORT BAYS OF ABOUT 1 METRE IN LENGTH IN THE SEQUENCE OF CONSTRUCTION AS TYPICALLY DETAILED BELOW. THE DRY PACK SHALL BE A 1:3 SHARP SAND/CEMENT WELL RAMMED HOME IN HORIZONTAL LAYERS NOT EXCEEDING 75MM THICK. DRY PACKING SHALL BE LEFT FOR AT LEAST 48 HOURS BEFORE COMMENCING EXCAVATION FOR ANY ADJACENT UNDERPIN WALL BAYS.

5. THE CENTRAL AREA OF EXCAVATION SHALL NOT BE CARRIED OUT UNTIL THE PERIMETER WALLS HAVE BEEN COMPLETED.

6. BACKFILLING BEHIND RETAINING WALLS SHALL BE A GRADE C16/20 CONCRETE USING ORDINARY PORTLAND CEMENT.

7. THE CONTRACTOR IS TO KEEP A RECORD OF THE SEQUENCE AND DIMENSIONS OF THE UNDERPIN WALL BAYS ACTUALLY CARRIED OUT INCLUDING RELEVANT DETAILS OF EXCAVATION, CASTING CONCRETE AND PROPPING UP FOR EACH SECTION.

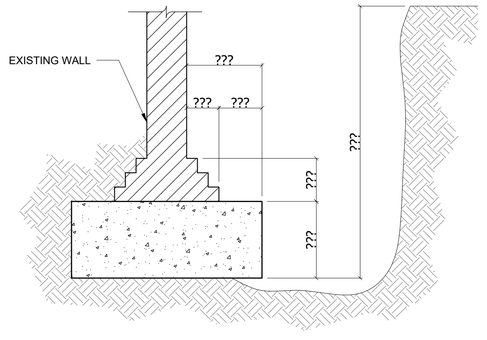
8. EXCAVATED MATERIAL INTENDED FOR BACKFILLING IS TO BE KEPT PROTECTED FROM DRYING OUT OR WETTING AND IS TO BE PLACED IN MAXIMUM 150MM LAYERS, CAREFULLY COMPACTED WITH A PNEUMATIC OR ELECTRIC PERCUSSION TOOL WITH COMPACTING PLATE.

3	1	4	2	5	3	1	4	2	5	3	

TYPICAL RETAINING WALL CAST SEQUENCE

NOTE :-

THE SEQUENCE NUMBERING IS FOR IDENTIFICATION PURPOSES ONLY. THE SEQUENCE OF UNDERPIN WALL BAYS IS TO BE AGREED ON SITE WITH THE DISTRICT SURVEYOR, BUT AT ALL TIMES THE MINIMUM REQUIREMENT FOR THE TIME LAPSE BETWEEN THE CONSTRUCTION OF ADJACENT BAYS MUST BE ADHERED TO. SEE UNDERPINNING WALL NOTES FOR MINIMUM SEQUENCE REQUIREMENTS.



TRIAL PIT- DIMENSIONS REQUIRED

(SCALE 1:20)

NOTES

GENERAL
ALL STRUCTURAL ENGINEERING DRAWINGS ARE TO BE READ IN CONJUNCTION WITH THE SPECIFICATION AND ALL RELEVANT ARCHITECT'S DRAWINGS AND SPECIFICATIONS.
DO NOT SCALE FROM ANY STRUCTURAL ENGINEER'S DRAWING.
ALL DIMENSIONS ARE IN MILLIMETRES AND LEVELS IN METRES.
ALL WATERPROOFING (DPM & DPC) WORKS TO ARCHITECT'S DETAILS.
ALL FIRE PROTECTION WORKS TO ARCHITECT'S DETAILS UNLESS SPECIFICALLY NOTED OTHERWISE.

ABBREVIATIONS:
UNO - UNLESS NOTED OTHERWISE
OSA - OR SIMILAR APPROVED
SSL - STRUCTURAL SLAB LEVEL
FFL - FINISHED FLOOR LEVEL
THE CONTRACTOR IS RESPONSIBLE FOR THE DESIGN, INSTALLATION AND MAINTENANCE OF ALL NECESSARY TEMPORARY WORKS TO ENSURE THE STRENGTH AND STABILITY OF THE BUILDING THROUGHOUT THE COURSE OF THE WORKS. DRAWINGS AND CALCULATIONS DETAILING ALL TEMPORARY WORKS SHALL BE SUBMITTED TO THE ENGINEER FOR COMMENT PRIOR TO COMMENCEMENT OF THE WORKS.

THE EXISTING STRUCTURAL INFORMATION SHOWN ON THESE DRAWINGS IS BASED ON VISUAL INSPECTION OF THE BUILDING AND UPON LIMITED OPENING-UP WORKS. ALL DETAILS OF THE EXISTING CONSTRUCTION ARE SUBJECT TO CONFIRMATION BY THE CONTRACTOR DURING THE WORKS ON SITE.

STEEL
ALL STEELWORK TO BE GRADE S355 TO BS EN 10025. (UNO)
- THE STEEL STRUCTURE IS EXECUTION CLASS 2 (EXC2). IT IS HIGHLY RECOMMENDED THAT THE STEEL CONTRACTOR(S) / FABRICATOR(S) APPOINTED FOR THE PROJECT ARE MEMBERS OF THE BCSA. OTHERWISE, THE MAIN CONTRACTOR OR CLIENT SHOULD COMPLETE THE DETAILED DESIGN FOR THOSE ELEMENTS SHOWN ON THE DESIGN DRAWINGS AND PRODUCE COORDINATED DRAWINGS SHOWING ALL CONNECTION DETAILS.
- THE STEELWORK FABRICATOR SHALL PRODUCE AND SUBMIT TWO COPIES OF DIMENSIONED FABRICATION DRAWINGS TO THE ENGINEER FOR COMMENT. THE ENGINEER REQUIRES TEN WORKING DAYS TO RETURN AND COMMENT.
- ALL JOINTS TO BE DESIGNED IN ACCORDANCE WITH BS EN 1993-1-8.
- MINIMUM 4No. BOLTS IN ALL STEEL-TO-STEEL CONNECTIONS. ALL BOLTS ARE TO BE GRADE 8.8 SHEARDIZED TO BS 4921, CLASS 1. ALL BOLTS, NUTS AND WASHERS ARE TO BE TO BS 5950: PART 2 CLAUSE 2.2. WASHERS ARE TO BE PLACED BENEATH ROTATED ITEM.
- ALL WELDS TO BE MINIMUM 6mm LEG LENGTH CONTINUOUS FILLET WELDS UNLESS SPECIFICALLY NOTED OTHERWISE. ALL STEELWORK TO BE BLAST CLEANED TO SA2. ALL STEELWORK COATINGS TO BE AS SPECIFICATION AND IN ACCORDANCE WITH BS EN ISO 12944 (1998). ALL DURABILITY CATEGORIES ARE TO BE HIGH (H) UNO.
- ALL STEELWORK EXCEPT THAT CAST INTO CONCRETE IS TO BE PROTECTED BY PAINTING WITH TWO COATS OF HIGH QUALITY ZINC PHOSPHATE PRIMER WITH TOUCH UP ON SITE AFTER ERECTION. ANY STEELWORK EXPOSED TO EXTERNAL ENVIRONMENT TO BE HOT-DIPPED GALVANISED.
- AFTER ERECTION ON SITE, ALL AREAS OF DAMAGED PRIMER AROUND BOLTS SHALL BE ADEQUATELY CLEANED AND PRIMED. NO CUTTING OR WELDING OF STEEL MEMBERS ON SITE WILL BE PERMITTED WITHOUT PRIOR APPROVAL.

CONCRETE
CONCRETE TO BE IN ACCORDANCE WITH BS EN 206-1 AND AS FOLLOWS:
- BLINDING - C16/20
- MASS CONCRETE - C25/30
- REINFORCED CONCRETE - C28/35 (UNO)

MASONRY
- ALL LOADBEARING BLOCKWORK TO HAVE A MINIMUM CHARACTERISTIC STRENGTH OF 7.3N/mm² (UNO).
- ALL LOADBEARING BRICKWORK IS TO HAVE A MINIMUM CHARACTERISTIC STRENGTH OF 20N/mm² (UNO) AND TO BE MEDIUM DENSITY OF MAX 1450kg/m³
- ALL MASONRY TO BE DENSE GROUP 1 UNITS, UNO.
- MORTAR TO BE GRADE III CEMENT (M4) ABOVE DPC, AND GRADE II (M6) BELOW DPC, UNO
- PROVIDE STAINLESS STEEL CAVITY WALL TIES AT THE FOLLOWING CENTRES:
- TYPICALLY 450 CRS VERTICALLY & 600 CRS HORIZONTALLY;
- AROUND WALL OPENING; 225 CRS VERTICALLY & 300 CRS HORIZONTALLY;
- AT WIND POST, 600 CRS VERTICALLY;
- FLOOR & ROOF LEVELS; 450 CRS HORIZONTALLY

PADSTONES
ALL PADSTONES TO BE CONCRETE, MIN. GRADE C25/30 USING MAX 20mm AGGREGATE.
PADSTONE NOMINAL SIZE TO BE 440 LG x 215 DP x WIDTH OF WALL (UNO).
ALL STEEL BEAMS ON PADSTONES TO BE BOLTED TO PADSTONES WITH MIN 2 No. M10 RESIN ANCHORS, OSA (UNO).

TIMBER
ALL LOAD-BEARING TIMBER MEMBERS TO BE GRADE C24, UNO.
ANY NON-LOAD-BEARING MEMBERS TO BE GRADE C16, UNO.
ALL TIMBER SHALL COMPLY WITH BS EN 1995, BS EN 338, AND BS EN 14081-1.
ALL STRUCTURAL PLYWOOD SHALL COMPLY WITH BS EN 1995-1-1, BS EN 635, AND BS EN 314-2.
ALL STRUCTURAL TIMBER SHALL HAVE A MOISTURE CONTENT OF LESS THAN 18%, OR IN ACCORDANCE WITH THE SERVICE CLASS AS PER BS EN 1995-1-1.
TIMBER TO BE PRESSURE IMPREGNATED WITH PRESERVATIVE AND CUT ENDS BRUSH TREATED.
PROVIDE DPC BETWEEN TIMBER JOIST AND MASONRY SUPPORT AT EXTERNAL WALL. DPC TO BE 300–450mm WIDE (TYP.), EXTENDING THE FULL WIDTH OF THE BEARING AND A MINIMUM OF 150mm BEYOND THE BEARING ON EACH SIDE.

Rev:	Date:	Drn:	Eng:	Changes:
01	02.10.26	II	TP	SECTIONS ADDED
-	20.09.26	IZ	TP	PRELIMINARY ISSUE

KPT DESIGN
Structural & Civil Consulting Engineers
E:mail@kptdesign.com T:0203 3998 880

PROJECT:
12 OSSIAN ROAD, N4 4EA

TITLE:
BASEMENT GENERAL ARRANGEMENT

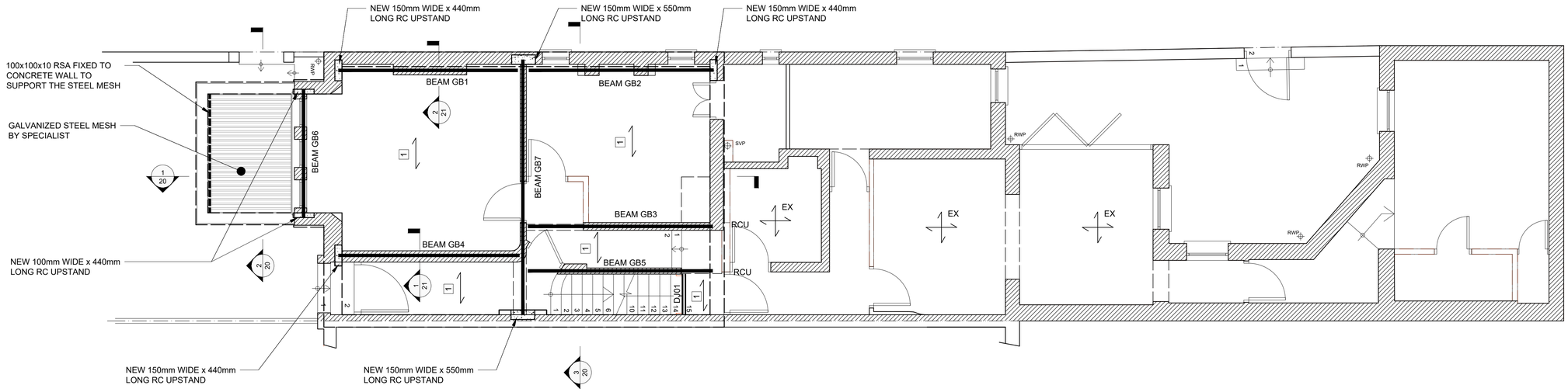
PURPOSE OF ISSUE:
INFORMATION

SCALE:	CHECKED:	INITIAL DATE:
AS NOTED ON A1	TP	NOV 2025

DRAWING No: LP2294-12OR-009

REVISION: 01

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GROUND FLOOR PLAN

(SCALE 1:50)

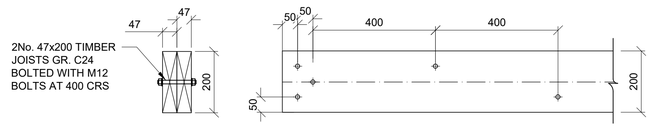
LEGEND:

- EXISTING STRUCTURE
- WALLS UNDER
- 1 — 47 mm x 200 mm DEEP TIMBER JOISTS GRADE C24 AT 400 mm CRS
  NOGGINS TO BE INSTALLED AT MAX 2m BETWEEN ALL NEW JOISTS THAT SPAN MORE THAN 3m
- EX — EXISTING FLOOR STRUCTURE. SPAN AND TYPE TBC ON SITE

STEEL BEAM SCHEDULE

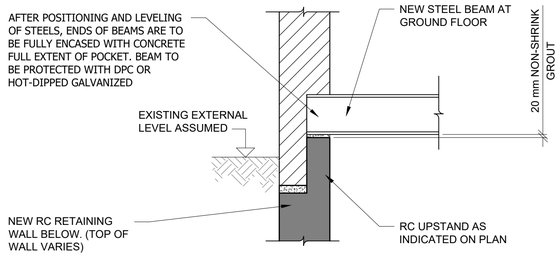
BEAM REF.	TYPE	SHEAR (kN)	MOMENT (kNm)	END MOMENT (kNm)	COMMENTS
GB1	203x203x46 UC	-	-	-	-
GB2	203x203x46 UC	-	-	-	-
GB3	203x133x30 UB	-	-	-	CRANKED IF REQUIRED
GB4	203x203x46 UC	-	-	-	-
GB5	203x133x30 UB	-	-	-	CRANKED IF REQUIRED
GB6	203x133x30 UB	-	-	-	-
GB7	254x254x89 UC	-	-	-	-
TOP OF STEEL TO BE CONFIRMED BY ARCHITECT					

- ALL SHEAR AND MOMENT VALUES ARE ULTIMATE LIMIT STATE
- ALL STEELWORK TO HAVE 1 HOUR FIRE PROTECTION - DETAILS BY ARCHITECT
- ALL STEEL GRADE TO BE S355 U.N.O.



DOUBLED JOISTS DETAIL DJ01

(SCALE 1:10)



TYPICAL RC UPSTAND DETAIL

(SCALE 1:20)

NOTES

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UNO - UNLESS NOTED OTHERWISE
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Rev:	Date:	Drn:	Eng:	Changes:
01	02.10.26	II	TP	SECTIONS ADDED
-	20.09.26	IZ	TP	PRELIMINARY ISSUE

KPT DESIGN
Structural & Civil Consulting Engineers
E:mail@kptdesign.com T:0203 3998 880

PROJECT:
12 OSSIAN ROAD, N4 4EA

TITLE:
GROUND FLOOR GENERAL ARRANGEMENT

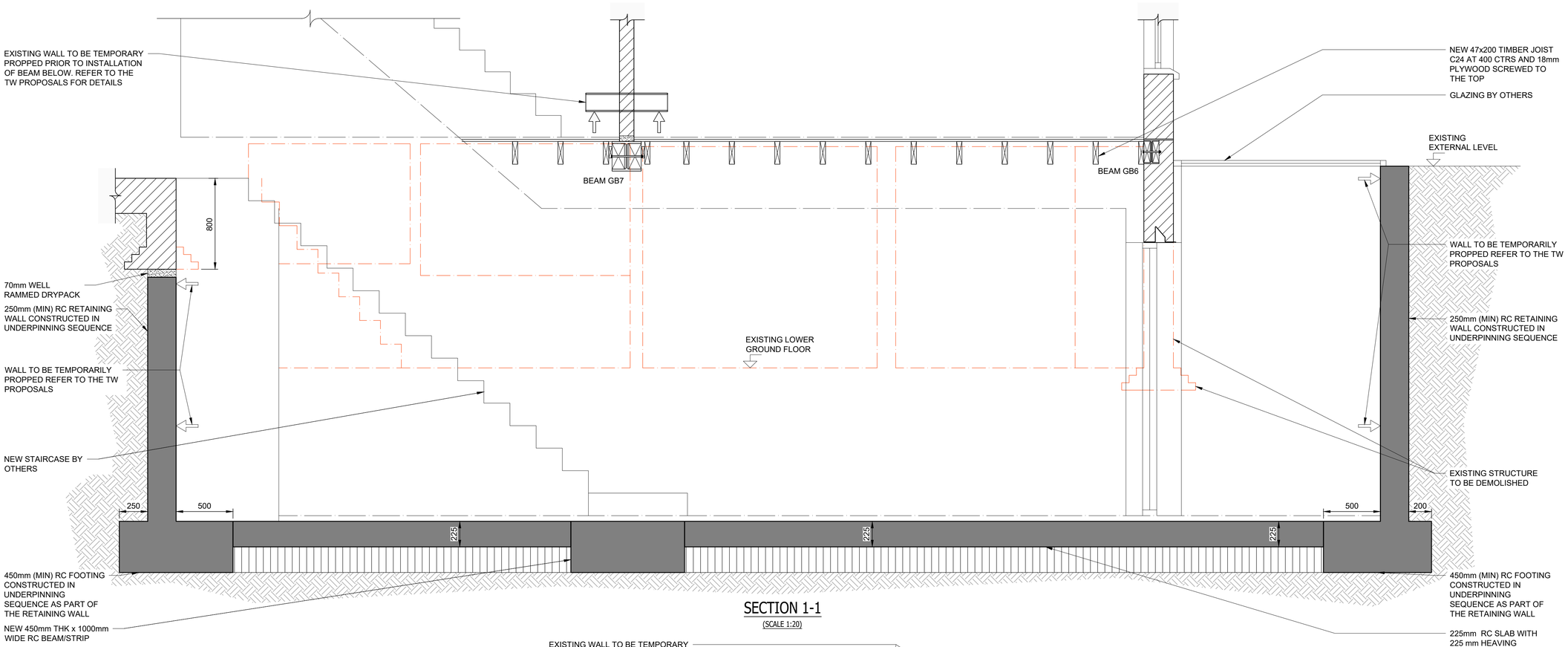
PURPOSE OF ISSUE:
INFORMATION

SCALE:	CHECKED:	INITIAL DATE:
AS NOTED ON A1	TP	NOV 2025

DRAWING No: LP2294-12OR-010

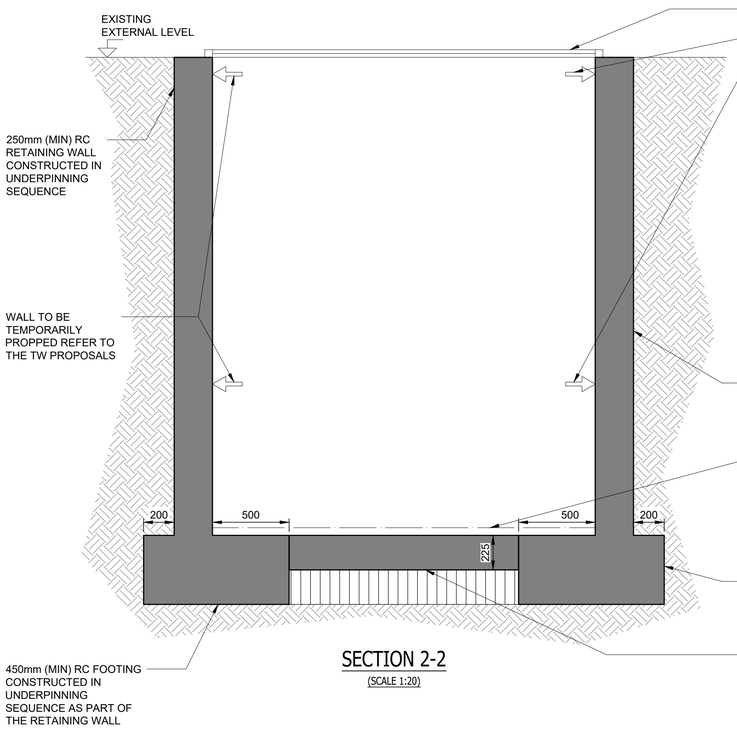
REVISION: 01

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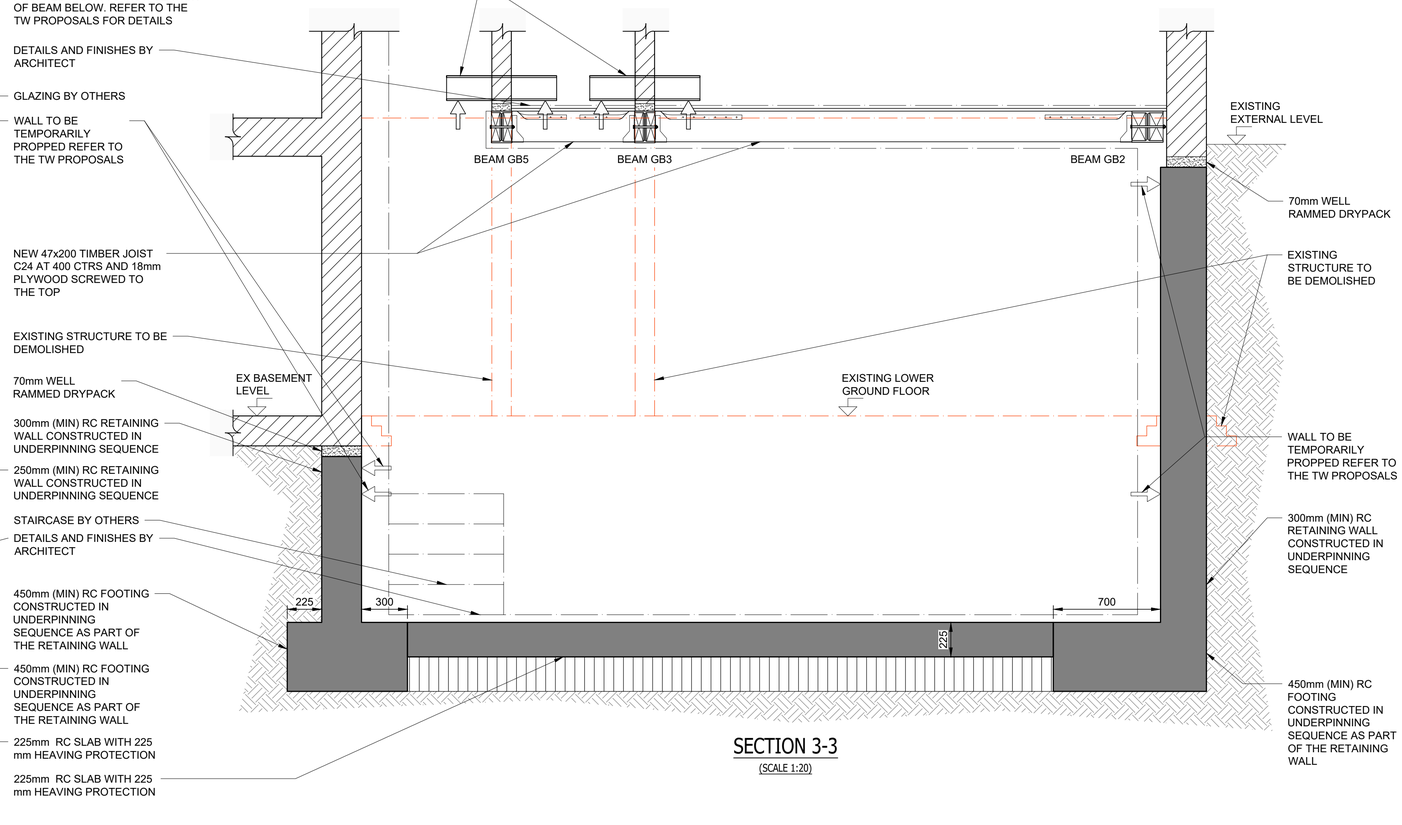
SECTION 1-1

(SCALE 1:20)



SECTION 2-2

(SCALE 1:20)



SECTION 3-3

(SCALE 1:20)

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Rev:	Date:	Drn:	Eng:	Changes:
-	02.10.26	II	TP	PRELIMINARY ISSUE

KPT DESIGN
Structural & Civil Consulting Engineers
E:mail@kptdesign.com T:0203 3998 880

PROJECT:
12 OSSIAN ROAD, N4 4EA

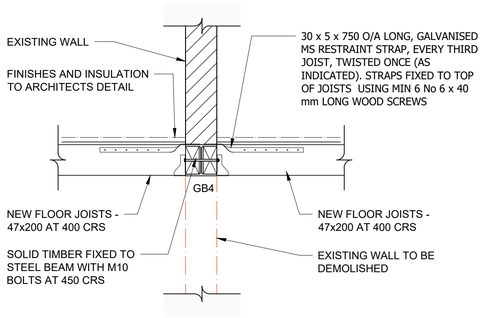
TITLE:
SECTIONS AND DETAILS - SHEET 01

PURPOSE OF ISSUE:
INFORMATION

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AS NOTED ON A1	TP	NOV 2025

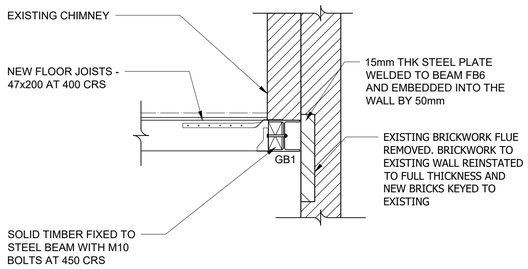
DRAWING No:
LP2294-12OR-020

REVISION:
-



SECTION 1-1

(SCALE 1:20)



SECTION 2-2

(SCALE 1:20)

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Rev:	Date:	Drn:	Eng:	Changes:
-	02.10.26	II	TP	PRELIMINARY ISSUE

Structural & Civil Consulting Engineers
E:mail@kptdesign.com T:0203 3998 880

PROJECT:
12 OSSIAN ROAD, N4 4EA

TITLE:
SECTIONS AND DETAILS - SHEET 02

PURPOSE OF ISSUE:
INFORMATION

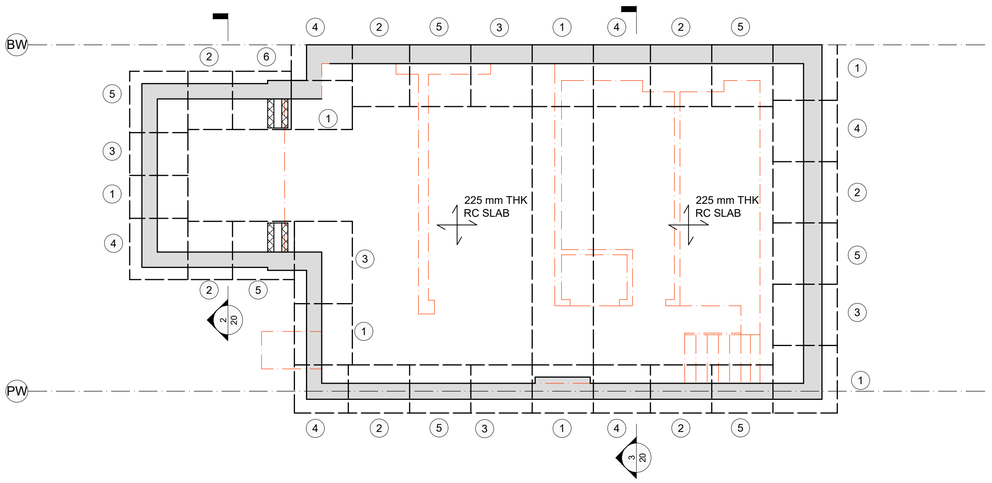
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AS NOTED ON A1	TP	NOV 2025

DRAWING No: LP2294-12OR-021

REVISION: -

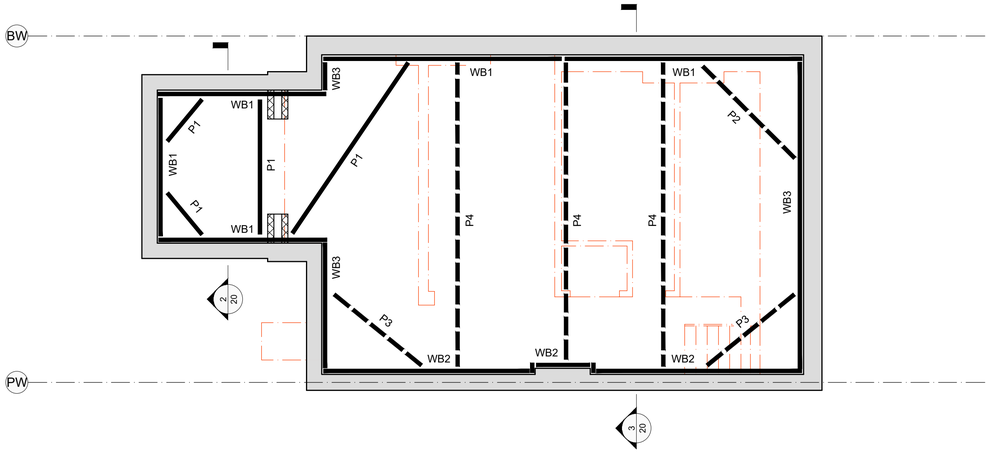
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Appendix 02: Proposed Sequence of Works



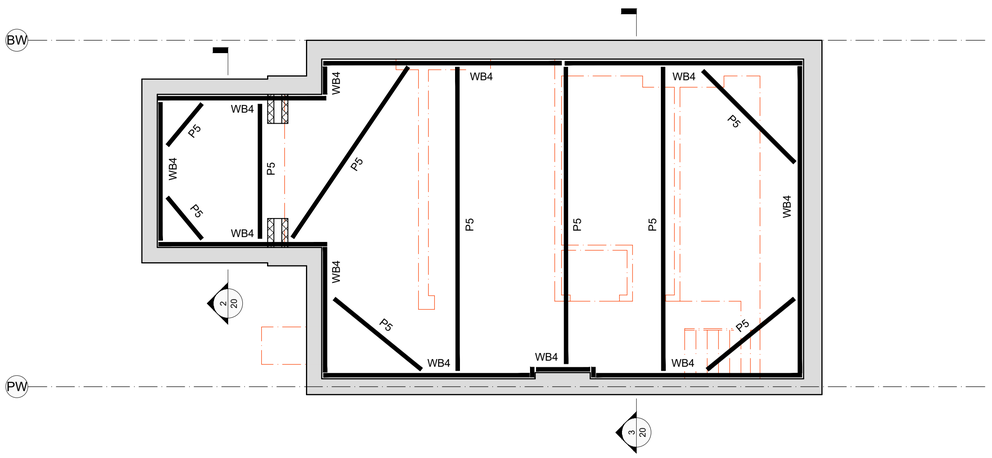
UNDERPINNING PLAN

(SCALE 1:50)



PROPPING PLAN AT LEVEL -0.30m

(SCALE 1:50)



PROPPING PLAN AT LEVEL -2.20m

(SCALE 1:50)

PROP SCHEDULE			
PROP TYPE	LEVEL (m)	SECTION SIZE	COMMENTS
P1	-0.30	152x152x30 UC OR SUPERSLIM SOLDIERS BY RMD KWIKFORM	-
P2	-0.30	152x152x23 UC OR SUPERSLIM SOLDIERS BY RMD KWIKFORM	RAKING TO -0.95m APPROX
P3	-0.95	152x89x19 UB OR SUPERSLIM SOLDIERS BY RMD KWIKFORM	RAKING TO -2.0m APPROX
P4	-0.30	152x89x19 UB OR SUPERSLIM SOLDIERS BY RMD KWIKFORM	RAKING TO -2.0m APPROX
P5	-2.40	152x152x23 UC OR SUPERSLIM SOLDIERS BY RMD KWIKFORM	-

WALING BEAM SCHEDULE			
WALING BEAM TYPE	LEVEL (m)	SECTION SIZE	COMMENTS
WB1	-0.30	152x152x23 UC OR SUPERSLIM SOLDIERS BY RMD KWIKFORM	-
WB2	-2.00 (APPROX)	152x152x23 UC OR SUPERSLIM SOLDIERS BY RMD KWIKFORM	-
WB3	-0.95 (APPROX)	152x152x23 UC OR SUPERSLIM SOLDIERS BY RMD KWIKFORM	-
WB4	-2.40	152x152x23 UC OR SUPERSLIM SOLDIERS BY RMD KWIKFORM	-

NOTE :

THE SEQUENCE NUMBERING IS FOR IDENTIFICATION PURPOSES ONLY. THE SEQUENCE OF UNDERPIN WALL BAYS IS TO BE AGREED ON SITE WITH THE DISTRICT SURVEYOR, BUT AT ALL TIMES THE MINIMUM REQUIREMENT FOR THE TIME LAPSE BETWEEN THE CONSTRUCTION OF ADJACENT BAYS MUST BE ADHERED TO. SEE UNDERPINNING WALL NOTES FOR MINIMUM SEQUENCE REQUIREMENTS.

NOTE:
REFER TO SECTIONS FOR THE SUGGESTED SEQUENCE.

UNDERPIN WALL NOTES :-

1. THE BEARING STRATA SHALL BE APPROVED BY THE ENGINEER AND THE LOCAL AUTHORITY'S BUILDING INSPECTOR BEFORE CASTING FOUNDATIONS. ANY ADDITIONAL EXCAVATION SHALL BE REPLACED WITH A GRADE C16/20 CONCRETE. IN THE EVENT OF EXTENSIVE ADDITIONAL EXCAVATION BEING REQUIRED, THE ENGINEER MUST BE INFORMED IMMEDIATELY AND FRESH INSTRUCTIONS OBTAINED.

2. CONCRETE MIX FOR FOUNDATIONS SHALL BE GRADE C28/35 WITH A MINIMUM OF 300KG OF ORDINARY PORTLAND CEMENT PER CUBIC METRE AND A MAXIMUM WATER/CEMENT RATIO OF 0.60. CONCRETE SHALL BE LEFT FOR AT LEAST 24 HOURS BEFORE DRY PACKING. THE CONCRETE OF THE UNDERPIN WALL SHALL BE STOPPED OFF 50mm BELOW THE UNDERSIDE OF THE EXISTING FOOTING.

3. THE UNDERSIDE OF THE FOUNDATION IS TO BE DUG TO A STRATA CAPABLE OF SUSTAINING A PERMISSIBLE GROUND BEARING PRESSURE OF 120 kN/m².

4. THE UNDERSIDE OF THE EXISTING STRIP FOUNDATION SHALL BE TRIMMED AND CLEANED OF ALL MUD AND DEBRIS BEFORE DRY PACKING. THE UNDERPIN WALL SHALL BE CARRIED OUT IN SHORT BAYS OF ABOUT 1 METRE IN LENGTH IN THE SEQUENCE OF CONSTRUCTION AS TYPICALLY DETAILED BELOW. THE DRY PACK SHALL BE A 1:3 SHARP SAND/CEMENT WELL RAMMED HOME IN HORIZONTAL LAYERS NOT EXCEEDING 75MM THICK. DRY PACKING SHALL BE LEFT FOR AT LEAST 48 HOURS BEFORE COMMENCING EXCAVATION FOR ANY ADJACENT UNDERPIN WALL BAYS.

5. THE CENTRAL AREA OF EXCAVATION SHALL NOT BE CARRIED OUT UNTIL THE PERIMETER WALLS HAVE BEEN COMPLETED.

6. BACKFILLING BEHIND RETAINING WALLS SHALL BE A GRADE C16/20 CONCRETE USING ORDINARY PORTLAND CEMENT.

7. THE CONTRACTOR IS TO KEEP A RECORD OF THE SEQUENCE AND DIMENSIONS OF THE UNDERPIN WALL BAYS ACTUALLY CARRIED OUT INCLUDING RELEVANT DETAILS OF EXCAVATION, CASTING CONCRETE AND PROPPING UP FOR EACH SECTION.

8. EXCAVATED MATERIAL INTENDED FOR BACKFILLING IS TO BE KEPT PROTECTED FROM DRYING OUT OR WETTING AND IS TO BE PLACED IN MAXIMUM 150mm LAYERS, CAREFULLY COMPACTED WITH A PNEUMATIC OR ELECTRIC PERCUSSION TOOL WITH COMPACTING PLATE.

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THE CONTRACTOR IS RESPONSIBLE FOR THE DESIGN, INSTALLATION AND MAINTENANCE OF ALL NECESSARY TEMPORARY WORKS TO ENSURE THE STRENGTH AND STABILITY OF THE BUILDING THROUGHOUT THE COURSE OF THE WORKS. DRAWINGS AND CALCULATIONS DETAILING ALL TEMPORARY WORKS SHALL BE SUBMITTED TO THE ENGINEER FOR COMMENT PRIOR TO COMMENCEMENT OF THE WORKS.

THE EXISTING STRUCTURAL INFORMATION SHOWN ON THESE DRAWINGS IS BASED ON VISUAL INSPECTION OF THE BUILDING AND UPON LIMITED OPENING-UP WORKS. ALL DETAILS OF THE EXISTING CONSTRUCTION ARE SUBJECT TO CONFIRMATION BY THE CONTRACTOR DURING THE WORKS ON SITE.

STEEL
ALL STEELWORK TO BE GRADE S355 TO BS EN 10025. (UNO)
- THE STEEL STRUCTURE IS EXECUTION CLASS 2 (EXC2). IT IS HIGHLY RECOMMENDED THAT THE STEEL CONTRACTOR(S) / FABRICATOR(S) APPOINTED FOR THE PROJECT ARE MEMBERS OF THE BCSA. OTHERWISE, THE MAIN CONTRACTOR OR CLIENT SHOULD COMPLETE THE DETAILED DESIGN FOR THOSE ELEMENTS SHOWN ON THE DESIGN DRAWINGS AND PRODUCE COORDINATED DRAWINGS SHOWING ALL CONNECTION DETAILS.
- THE STEELWORK FABRICATOR SHALL PRODUCE AND SUBMIT TWO COPIES OF DIMENSIONED FABRICATION DRAWINGS TO THE ENGINEER FOR COMMENT. THE ENGINEER REQUIRES TEN WORKING DAYS TO RETURN AND COMMENT.
- ALL JOINTS TO BE DESIGNED IN ACCORDANCE WITH BS EN 1993-1-8.
- MINIMUM 4No. BOLTS IN ALL STEEL-TO-STEEL CONNECTIONS. ALL BOLTS ARE TO BE GRADE 8.8 SHERARDIZED TO BS 4921, CLASS 1. ALL BOLTS, NUTS AND WASHERS ARE TO BE TO BS 5950: PART 2 CLAUSE 2.2. WASHERS ARE TO BE PLACED BENEATH ROTATED ITEM.
- ALL WELDS TO BE MINIMUM 6mm LEG LENGTH CONTINUOUS FILLET WELDS UNLESS SPECIFICALLY NOTED OTHERWISE. ALL STEELWORK TO BE BLAST CLEANED TO SA2. ALL STEELWORK COATINGS TO BE AS SPECIFICATION AND IN ACCORDANCE WITH BS EN ISO 12944 (1998). ALL DURABILITY CATEGORIES ARE TO BE HIGH (H) UNO.
- ALL STEELWORK EXCEPT THAT CAST INTO CONCRETE IS TO BE PROTECTED BY PAINTING WITH TWO COATS OF HIGH QUALITY ZINC PHOSPHATE PRIMER WITH TOUCH UP ON SITE AFTER ERECTION. ANY STEELWORK EXPOSED TO EXTERNAL ENVIRONMENT TO BE HOT-DIPPED GALVANISED.
- AFTER ERECTION ON SITE, ALL AREAS OF DAMAGED PRIMER AROUND BOLTS SHALL BE ADEQUATELY CLEANED AND PRIMED. NO CUTTING OR WELDING OF STEEL MEMBERS ON SITE WILL BE PERMITTED WITHOUT PRIOR APPROVAL.

CONCRETE
CONCRETE TO BE IN ACCORDANCE WITH BS EN 206-1 AND AS FOLLOWS:
* BLINDING - C16/20
* MASS CONCRETE - C25/30
* REINFORCED CONCRETE - C28/35 (UNO)

MASONRY
- ALL LOADBEARING BLOCKWORK TO HAVE A MINIMUM CHARACTERISTIC STRENGTH OF 7.3N/mm² (UNO).
- ALL LOADBEARING BRICKWORK IS TO HAVE A MINIMUM CHARACTERISTIC STRENGTH OF 20N/mm² (UNO) AND TO BE MEDIUM DENSITY OF MAX 1450kg/m³
- ALL MASONRY TO BE DENSE GROUP 1 UNITS, UNO.
- MORTAR TO BE GRADE III CEMENT (M4) ABOVE DPC, AND GRADE II (M6) BELOW DPC, UNO
- PROVIDE STAINLESS STEEL CAVITY WALL TIES AT THE FOLLOWING CENTRES:
- TYPICALLY 450 CRS VERTICALLY & 600 CRS HORIZONTALLY;
- AROUND WALL OPENING; 225 CRS VERTICALLY & 300 CRS HORIZONTALLY;
- AT WIND POST, 600 CRS VERTICALLY;
- FLOOR & ROOF LEVELS; 450 CRS HORIZONTALLY

PADSTONES
ALL PADSTONES TO BE CONCRETE, MIN. GRADE C25/30 USING MAX 20mm AGGREGATE.
PADSTONE NOMINAL SIZE TO BE 440 LG x 215 DP x WIDTH OF WALL (UNO).
ALL STEEL BEAMS ON PADSTONES TO BE BOLTED TO PADSTONES WITH MIN 2 No. M10 RESIN ANCHORS, OSA (UNO).

TIMBER
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ANY NON-LOAD-BEARING MEMBERS TO BE GRADE C16, UNO.
ALL TIMBER SHALL COMPLY WITH BS EN 1995, BS EN 338, AND BS EN 14081-1.
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TIMBER TO BE PRESSURE IMPREGNATED WITH PRESERVATIVE AND CUT ENDS BRUSH TREATED.
PROVIDE DPC BETWEEN TIMBER JOIST AND MASONRY SUPPORT AT EXTERNAL WALL. DPC TO BE 300–450mm WIDE (TYP.), EXTENDING THE FULL WIDTH OF THE BEARING AND A MINIMUM OF 150mm BEYOND THE BEARING ON EACH SIDE.

Rev:	Date:	Drn:	Eng:	Changes:
-	02.10.26	II	TP	PRELIMINARY ISSUE

KPT DESIGN
Structural & Civil Consulting Engineers
E:mail@kptdesign.com T:0203 3998 880

PROJECT:
12 OSSIAN ROAD, N4 4EA

TITLE:
UNDERPINNING AND PROPPING PLANS

PURPOSE OF ISSUE:
INFORMATION

SCALE:	CHECKED:	INITIAL DATE:
AS NOTED ON A1	TP	NOV 2025

DRAWING No: LP2294-12OR-200

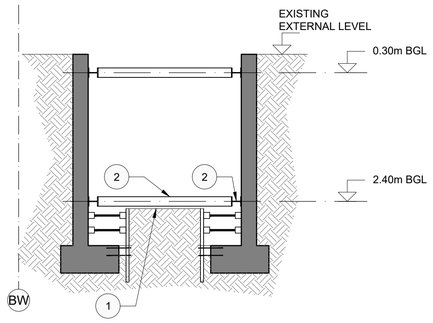
REVISION: -

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SECTION 2-2: AS EXISTING

(SCALE 1:50)

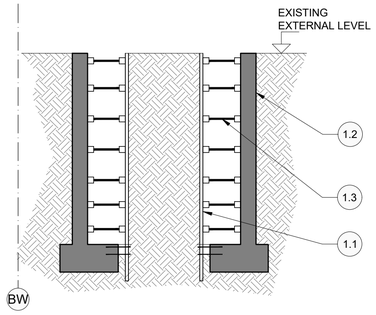


SECTION 2-2: STAGE 3

(SCALE 1:50)

SEQUENCE OF WORKS:

1. REDUCE LEVEL TO 2.50m BELOW THE EXTERNAL GROUND LEVEL
2. INSTALL WALER BEAMS AND HORIZONTAL PROPS AS SHOWN.



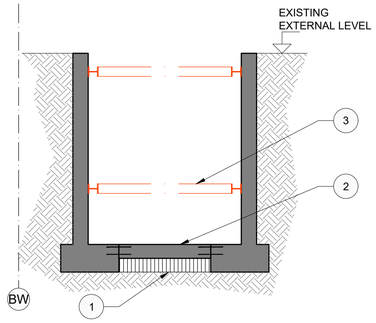
SECTION 2-2: STAGE 1

(SCALE 1:50)

SEQUENCE OF WORKS:

1. CARRY OUT UNDERPIN IN HIT AND MISS SEQUENCE TO ALL ROUND AS SPECIFIED ON PLANS AS PER ITEMS BELOW:
   - 1.1. INSTALL STANDARD TRENCH SHEETING, STRUTS AND WALINGS TO ALL EXPOSED SIDES AS EXCAVATION PROCEEDS FOR UNDERPIN IN SHAFTS.
   - 1.2. CAST UNDERPIN, WAIT 24HR TO CURE.
   - 1.3. TRENCH SHEETING TO THE BACK OF THE EXCAVATION. THE ACROW PROPPING AND THE TIMBER BEARERS TO BE RETAINED AGAINST SOIL IN MIDDLE.

REPEAT PROCESS UNTIL ALL PERIMETER WALLS CONSTRUCTED

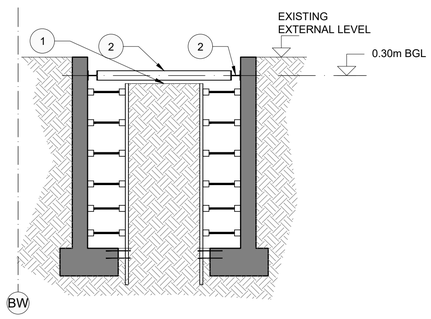


SECTION 2-2: STAGE 4

(SCALE 1:50)

SEQUENCE OF WORKS:

1. REDUCE GROUND LEVEL TO FORMATION LEVEL AND REMOVE ALL TRENCH SHEETING, TIMBER BEARERS AND PROPS INSTALLED AT PREVIOUS STAGES
2. INSTALL THE BLINDING, THE NECESSARY DRAINAGE AND CAST SLAB AT THE CORRECT LEVEL
3. REMOVE TEMPORARY PROPPING AFTER CONCRETE HAS REACHED FULL STRENGTH.



SECTION 2-2: STAGE 2

(SCALE 1:50)

SEQUENCE OF WORKS:

1. REDUCE LEVEL TO 0.40 m BELOW THE EXTERNAL GROUND LEVEL
2. INSTALL WALER BEAMS AND HORIZONTAL PROPS AS SHOWN.

NOTES

GENERAL

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ALL FIRE PROTECTION WORKS TO ARCHITECT'S DETAILS UNLESS SPECIFICALLY NOTED OTHERWISE.

ABBREVIATIONS:

UNO - UNLESS NOTED OTHERWISE
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- BLINDING - C16/20
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MASONRY

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- TYPICALLY 450 CRS VERTICALLY & 600 CRS HORIZONTALLY;
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- AT WIND POST. 600 CRS VERTICALLY;
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PADSTONES

ALL PADSTONES TO BE CONCRETE, MIN. GRADE C25/30 USING MAX 20mm AGGREGATE.
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ALL STEEL BEAMS ON PADSTONES TO BE BOLTED TO PADSTONES WITH MIN 2 No. M10 RESIN ANCHORS, OSA (UNO).

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Rev:	Date:	Drn:	Eng:	Changes:
-	02.10.26	II	TP	PRELIMINARY ISSUE

KPT DESIGN
Structural & Civil Consulting Engineers
E:mail@kptdesign.com T:0203 3998 880

PROJECT:
12 OSSIAN ROAD, N4 4EA

TITLE:
TEMPORARY WORKS SEQUENCE - SHEET 01

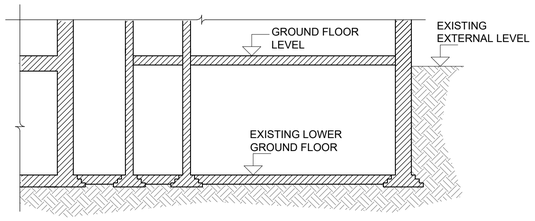
PURPOSE OF ISSUE:
INFORMATION

SCALE:	CHECKED:	INITIAL DATE:
AS NOTED ON A1	TP	NOV 2025

DRAWING No: LP2294-12OR-201

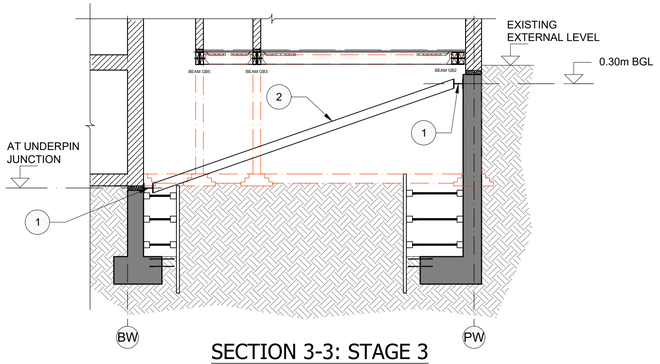
REVISION: -

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SECTION 3-3: AS EXISTING

(SCALE 1:50)

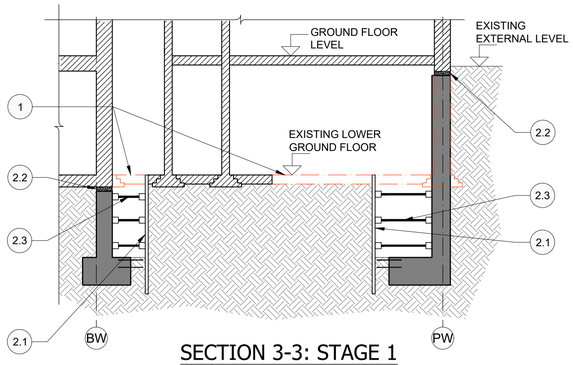


SECTION 3-3: STAGE 3

(SCALE 1:50)

SEQUENCE OF WORKS:

1. INSTALL WALER BEAMS AT HIGH AND LOW LEVEL
2. INSTALL PROPS AS SPECIFIED ON PLAN



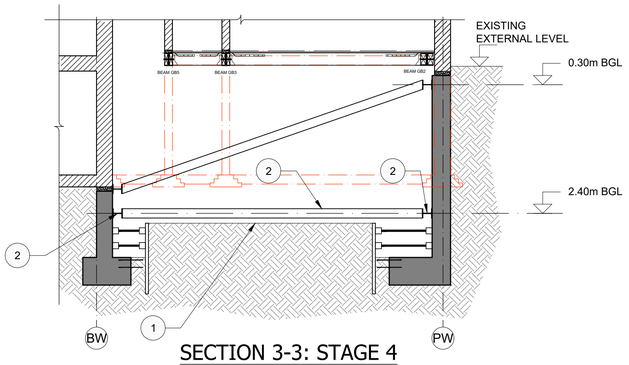
SECTION 3-3: STAGE 1

(SCALE 1:50)

SEQUENCE OF WORKS:

1. PARTIALLY DEMOLISH EXISTING BASEMENT SLAB.
2. CARRY OUT UNDERPIN IN HIT AND MISS SEQUENCE TO ALL ROUND AS SPECIFIED ON PLANS AS PER ITEMS BELOW:
   - 2.1. INSTALL STANDARD TRENCH SHEETING, STRUTS AND WALINGS TO ALL EXPOSED SIDES AS EXCAVATION PROCEEDS FOR UNDERPIN IN SHAFTS.
   - 2.2. CAST UNDERPIN, WAIT 24HR TO CURE, THEN DRYPACK BETWEEN EXISTING WALL FOOTING AND NEW UNDERPIN.
   - 2.3. TRENCH SHEETING TO THE BACK OF THE EXCAVATION. THE ACROW PROPPING AND THE TIMBER BEARERS TO BE RETAINED AGAINST SOIL IN MIDDLE.

REPEAT PROCESS UNTIL ALL PERIMETER WALLS CONSTRUCTED

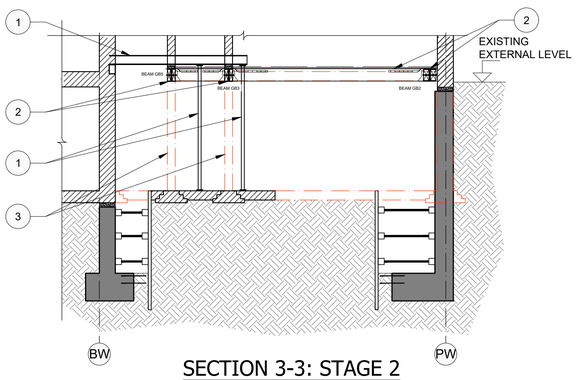


SECTION 3-3: STAGE 4

(SCALE 1:50)

SEQUENCE OF WORKS:

1. REDUCE LEVEL TO 2.50m BELOW THE EXTERNAL GROUND LEVEL
2. INSTALL WAILER BEAMS AND HORIZONTAL PROPS AS SHOWN.

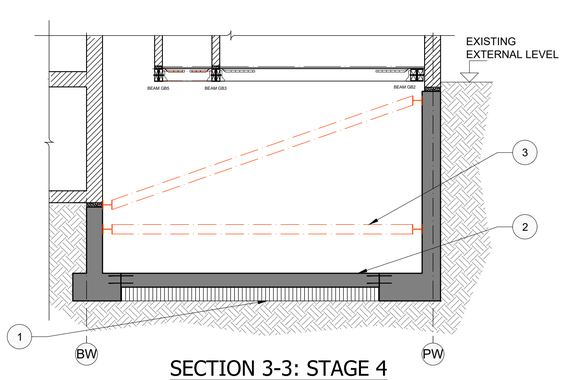


SECTION 3-3: STAGE 2

(SCALE 1:50)

SEQUENCE OF WORKS:

1. INSTALL PROPPING FOR THE WALLS ABOVE
2. INSTALL GROUND FLOOR STEEL BEAMS AND FLOOR JOISTS IN SECTIONS
3. CAREFULLY REMOVE INTERNAL WALLS IN BASEMENT



SECTION 3-3: STAGE 4

(SCALE 1:50)

SEQUENCE OF WORKS:

1. REDUCE GROUND LEVEL TO FORMATION LEVEL AND REMOVE ALL TRENCH SHEETING, TIMBER BEARERS AND PROPS INSTALLED AT PREVIOUS STAGES
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Rev:	Date:	Drn:	Eng:	Changes:
-	02.10.26	YY	ZZ	PRELIMINARY ISSUE

Structural & Civil Consulting Engineers
E:mail@kptdesign.com T:0203 3998 880

PROJECT:
12 OSSIAN ROAD, N4 4EA

TITLE:
TEMPORARY WORKS SEQUENCE - SHEET 02

PURPOSE OF ISSUE:
INFORMATION

SCALE:	CHECKED:	INITIAL DATE:
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DRAWING No: LP2294-12OR-202

REVISION: -

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