

NOTES :

1. General
All Structural Engineering drawings are to be read with the specification and with all relevant Architects drawings and specifications.

Do not scale from any Structural Engineers drawing. All dimensions are in millimetres and levels in metres.

All waterproofing (DPM & DPC) works to Architects details.

All fire protection works to Architects details unless specifically noted otherwise.

Abbreviations:-
SSL - Structural slab level
CS - Column Slabs
C/C - Column Capped
UND - Unites Noted Otherwise - OSA - On-Site Approved

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.

2. Steel
All steelwork to be grade S275 to BS EN 10025. (UNO)

The steel structure is execution Class 2 (EXC2). It is highly recommended that the S416, BS EN 10025 (5) is appointed for the project as this will ensure that the steelwork is of the highest quality and will comply with the design requirements for these dimensions shown on the drawings and produce co-ordinated drawings showing all connection details etc.

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 bolted connections are to include a minimum of two M16 bolts per member unless specifically indicated otherwise on details. All connection details to be designed by Contractor.

All bolts are to be grade 8.8 strengthened to BS 921 class 1. All bolts and nut washers are to be to BS 5950: Part 2 clause 2.2. Washers are to be painted redcoat treated steel.

All walls to be minimum 150mm from leg length continuous filled walls unless specifically noted otherwise.

All setwork coatings to be as specification and below. Coatings to be provided by Steven Williams Protective & Marine Coatings or similar approved. All coatings to be light grey in colour, red oxide is NOT to be used.

| LOCATION | CATEGORY | PAINT SYSTEM |
|---------------------|---------------|-----------------------------------------------------------------------|
| Internal dampspaces | C2 - Low | CAN03 Epoxy Zinc Phosphate coating (400/125 microns PP1 - Functional) |
| Internal dry | C1 - Very Low | Galvalume (75 microns PP1 - Functional) |
| External | C4 - High | ISO 1464 to achieve a minimum mean coating thickness of 140 microns |

3. Concrete
Concrete to be in accordance with BS EN 206-1 and as follows :

Binding - C16/20
Mass concrete - C25/30
Reinforced concrete - C32/40

4. Masonry
All loadbearing blockwork to have a minimum characteristic strength of 7.5N/mm². All loadbearing brickwork is to have a minimum characteristic strength of 20N/mm².

5. Timber
All timber members to be grade C16 to BS EN 1995 unless noted otherwise. Timber to be pressure impregnated with preservative and cut ends must treated.

6. Foundations
All foundations to be concrete, min grade C20/25 using max 20mm aggregate. All steel bars supported on padstones to be held to padstones with min 2 No. H10 M10 H25 and with HV 200 resin. (O.S.A.)

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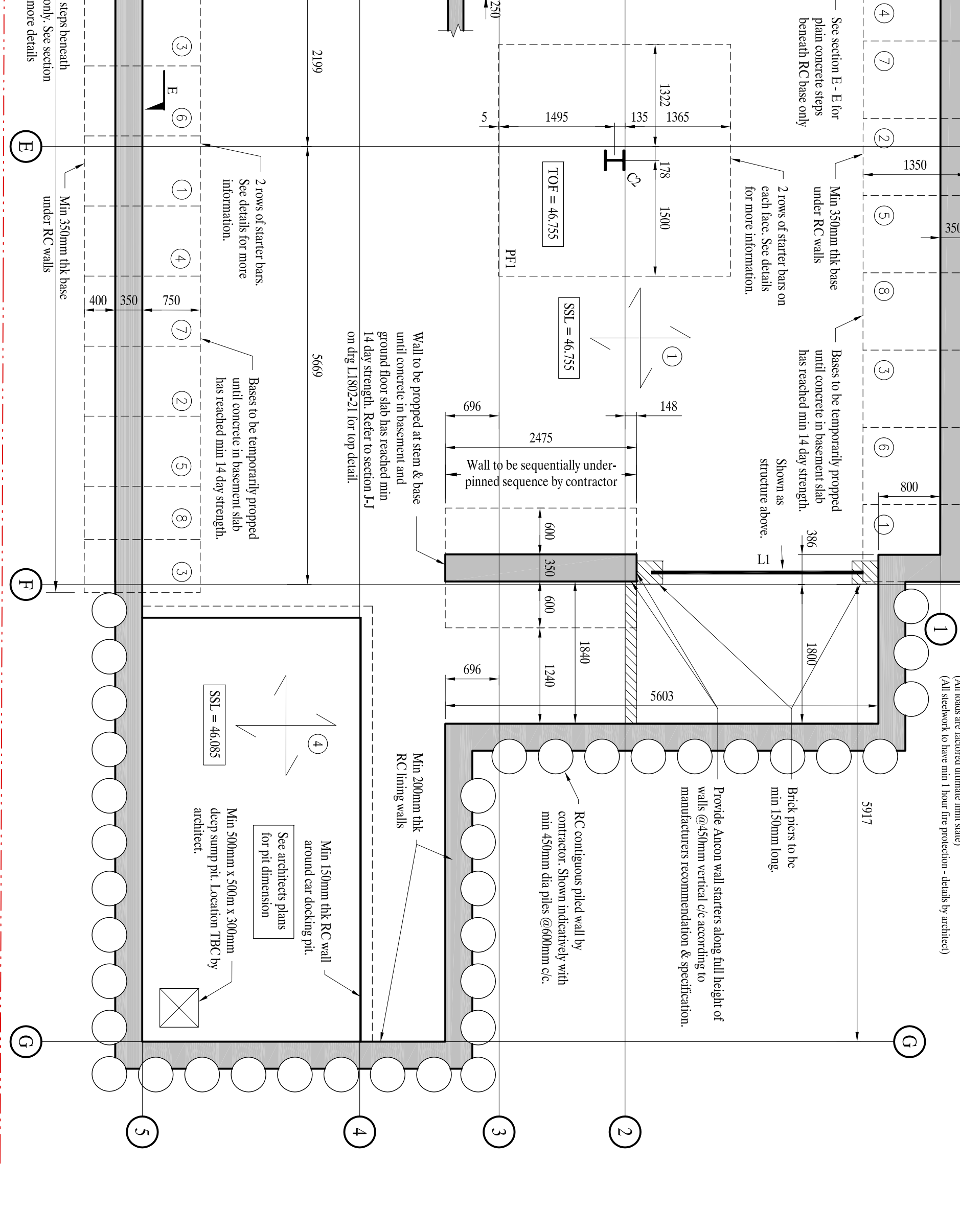
WHITEHALL PARK
17 WADHAM GARDENS
LONDON NW3 3DN

GA OF BASEMENT

| Status : CONSTRUCTION | | | | | |
|-----------------------|--------------|--------------|--|--|--|
| Scale: As noted @ A1 | | Date: Nov 14 | | | |
| Drawn: HS | Engineer: CC | Checked: SPJ | | | |
| Drawing No. | | Revision | | | |
| L1802 09 | | 01 | | | |

| COLUMN | TYPE | AXIAL LOAD (kN) | MOMENT (kNm) | GRADE |
|--------|----------------|-----------------|--------------|--------|
| C1 | 250mm x 300mm | - | - | C32/40 |
| C2 | 25x25x4 UC 132 | 1730 | - | S355 |
| C3 | 25x25x4 UC 73 | 900 | - | S355 |

(All loads are factored ultimate limit state)



| Lintel Schedule | | |
|-----------------|----------------------|---------------------------------------------|
| Lintel number | Type | Comment |
| L1 | No S4 Naylor lintel | Both to be proposed during installation. |
| | 1 No. L10 G10 lintel | G lintel to be positioned towards exterior. |

UNDERPINNING NOTES:-

1. The bearing struts 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 excessive additional excavation being required, the Engineer must be informed immediately and fresh instructions obtained.

2. Concrete mix for foundations shall be grade C32/40 with a minimum of 70kg/m³ of ordinary portland cement per cubic metre and a maximum water/cement ratio of 0.45. Concrete shall be left for at least 24 hours before dry packing. The concrete of the underpins shall be topped off 75mm below the underside of the existing walls.

3. The underside of the underpinning is to be dug to a strata capable of sustaining a permissible ground bearing pressure of 180 kN/m².

4. The underside of the existing strip foundation shall be trimmed and damped of all mud and debris before dry packing. The underpinning shall be carried out in short sections of about 1 metre in length in the sequence of construction as typically detailed by contractor. 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 underpins.

5. The central area of excavation shall not be carried out until the perimeter underpinning has 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 underpinning actually carried out including relevant details of excavation, casting concrete and piling up for each section.

8. Expended 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.

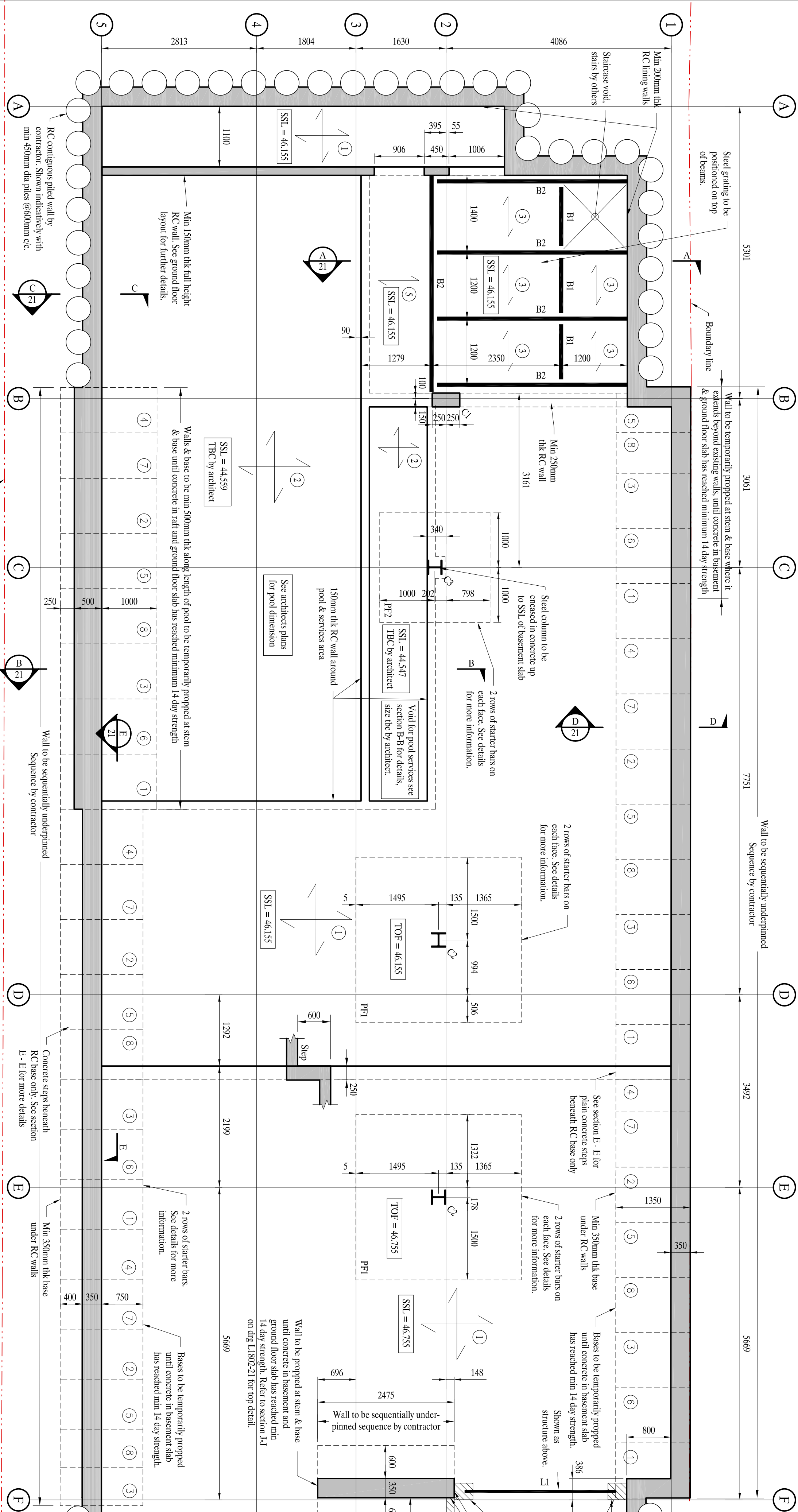
9. Foundations have been designed to impose a bearing pressure of 180 kN/m². The bearing struts shall be approved by the Local Authority's Building Inspector before laying blinding or casting foundations. Any additional excavation shall be replaced with a nominal 150 mm concrete. But in the event of extensive additional excavation being required, the Engineer must be informed immediately and fresh instructions obtained.

Note:
Contractor to submit detailed method statement including temporary works and sequence of underpinning, for approval to prior to commencement.

| | | | | | | | | | | | |
|--|---|---|---|---|---|---|---|---|---|---|---|
| | 6 | 1 | 4 | 7 | 2 | 5 | 8 | 3 | 6 | 1 | 4 |
|--|---|---|---|---|---|---|---|---|---|---|---|

NOTE:-

The sequence numbering is for identification purposes only. The sequence of basement 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 Basement Wall Notes for minimum sequence requirements.



PILING GENERAL NOTES:

1. The drawing is to be read in conjunction with Pringer-James Specification for Foundation and Basement Enclosure Wall Piles, and all other contract documentation.
2. For details of extent of existing buildings refer to architects survey drawings of the existing building. These are issued for information only.
The design team do not take any responsibility for the accuracy or completeness of the information contained on these drawings.
3. For Geotechnical data refer to the Site Investigation Report by TBC.
4. All dimensions are in millimetres and levels in metres o.d. unless noted otherwise.
5. All piles are on grid lines except where noted.
6. The drawings should not be scaled. Any discrepancies in dimensions are to be referred to the Structural Engineer or the Contract Administrator.

7. For piles adjacent to deep excavation (e.g. manholes) particular attention should be given to the design of the piles in both temporary and permanent conditions, e.g. no shaft friction capacity should be taken for piles adjacent to excavation for the height of the excavation.
8. A minimum concrete compressive strength for reinforced bearing piles to be C28/35 (35N/mm² at 28 days)

9. The Contractor's attention is drawn to the requirement for connection of lightning protection cabling to pile reinforcement, as required in details of lightning protection, refer to Services Engineers' drawings and specification.

10. The contractor is to visit the site and must note all visible obstructions to his work. The Contractor must allow for these obstructions when considering the piling equipment and must allow for any protection works he considers appropriate.

11. It is the Contractor's responsibility to ensure that the setting out of the piles complies with the requirements of the specification.

12. a) Minimum reinforcement to concrete piles should not be less than -
Minimum number of longitudinal bars - 5 no.
Minimum diameter of longitudinal bars - 16mm
Minimum diameter of links/mesh - 10mm

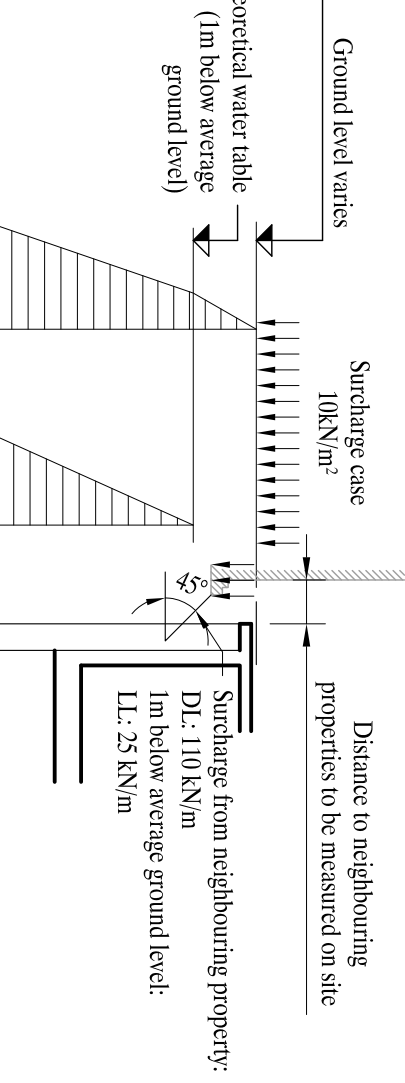
The minimum pile centres of pile reinforcement shall not be less than 20mm centres to allow the packing of slab, pilecap or capping beam reinforcement through the reinforcement. The minimum length of reinforcement cage shall not be less than 6 metres from the top of the pile.
12. b) The length of the reinforcement cage shall be determined by the piling Contractor to adequately reinforce the pile to the length required to resist the forces applied.

12. c) Tensile resistance of the pile concrete shall be ignored, where piles are subject to net uplift forces reinforcement cage to be full length of the pile.
12. d) Where piles are subject to net tensile forces the piling contractor shall in his design limit the sum of the elongation of the pile and upward deflection of the pile to a maximum 5 mm.

13. Live loads on piles vary from zero to the maximum stated at each location and this should be taken into account in any settlement calculations.

GENERAL ARRANGEMENT - BASEMENT

Scale 1:50



TYPICAL CONTIGUOUS PILE WALL LOADINGS

- For coming pile wall, hydrostatic pressure at temporary construction stage may be taken as the predicted water level from the soil investigation report adjusted to give actual maximum level.
 - Embankment wall loads to adjacent property.
 - Deflections due to horizontal forces shall be limited to 20mm at ground level.
- The pile reinforcement projecting from coming piles into the coping beam above should be designed to resist the forces and moments from any in situ concrete retaining wall above the pile. The contractor shall determine these interface moments and forces by considering the concrete retaining walls as an extension of the scant pile wall. The pile reinforcement shall extend a lap length/anchor length into the coping beams. The projecting pile reinforcement length shall take due account of the depth of the coping beam (capping beam depth). For larger dia. pile reinforcement, cranked bars and mechanical reinforcement couplers may be required to provide the anchorage to the pile reinforcement. Where cranked bars and mechanical couplers are required, these shall be the responsibility of the contractor to design and install. The minimum pile reinforcement projecting into coping beams shall not be less than 60mm.
- Superstructure column loads are applied to the coming piles. The contractor shall design the coming piles within a 20m length of coming wall centred on the column to resist all the forces and moments generated by the column. Unless stated otherwise.
 - The contractor shall design the coping pile wall to limit maximum deflection in the coping pile wall and retained building to the maximum deflection of the highway. The pile wall is required to submit and obtain approval to the design via the party wall surveyor from the He should also submit and obtain approval to his design from :- as noted 16 above
 - The City Highway Engineer.
 - The Engineer for the existing retained buildings where appropriate.
- The Building Inspector.
- See Contact Administrator drawings for setting out of the building grid lines. Wherever indicated by the contractor and the city engineer.
- C.A. shall take precedence.
- All design loads are unfactored loadings unless stated otherwise.
- The contractor shall determine the piling platform levels and advise the structural engineer accordingly.
- The coming piling layout shown on the drawings is indicative only. The contractor is responsible for the final design and setting out of all piles.
- The contractor is responsible for all trimming, cutting, recesses and drilling into piles and ensuring that piles are not damaged in the process.

| BEAM | TYPE | SHEAR (kN) | SPICE MOMENT (kNm) | END MOMENT (kNm) | GRADE | Comments |
|------|-------------|------------|--------------------|------------------|-------|---------------|
| B1 | 15x15x37 UC | 50 | - | - | S275 | TOS = +46.0/5 |
| B2 | 20x20x36 UC | 100 | - | - | S275 | TOS = +46.0/5 |

(All loads are factored ultimate limit state)

(All networks to have min 1 hour fire protection - details by architect)