Contract: **London School of Hygiene & Tropical Medicine**
15 – 17 Tavistock Place
London. WC1H 9SH

Permanent Works to Listed Wall Schedule

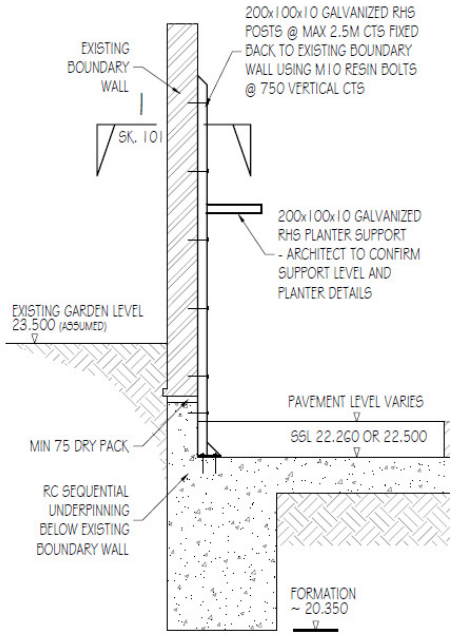
Date: 10th July 2018

Issue: First issue.

Further to investigations works carried out to the listed wall as per our investigations Schedule Rev. B dated 12th June 2018 subsequently approved by the Camden Conservation Officer, a further schedule below to outline the proposed permanent works to the listed wall.

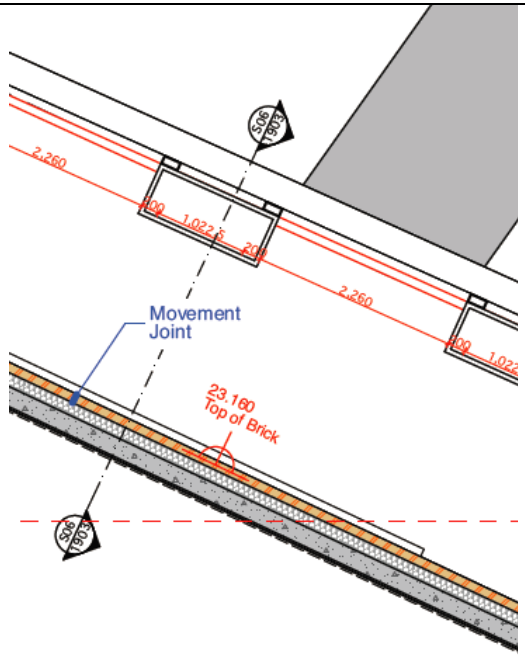
Attached drawings:

TP2 – BMJ – ZZ – 00 – DR – A – 0002 Rev P06.
TP2 – BMJ – ZZ – 00 – DR – A – 1902 Rev P01.
TP2 – BMJ – ZZ – XX – DR – A – 1905 Rev P02.
WCC – SK101.

No.	Location / Item	Purpose	Description of works	Notes
1.	Underpinning to listed boundary wall as per Wilde Carter Clack drawing SK101.	To provide a footing for the moment connection of the 200x100x10mm wall support posts and to also enable the excavation to reduce the ground level on our side to avoid undermining the existing of the listed wall foundation and act as a retaining wall.	 **Figure 1 - Excerpt from SK101** 1. Saw cut the existing ground bearing slab as close to the existing listed wall as possible to isolate the slab from the wall. 2. Form a small hole in the ground bearing slab using hand held breakers working away from the saw cut and wall to form a starting hole in the slab. 3. Once the hole is adequately formed, say 500mm square, gradually work away from	Means of providing restraint to the wall during underpinning operations and whilst forming the underpins pending the completion of the new slab strutting between the underpinning and the new buildings foundations to be developed. A vibration monitor will be attached to the listed wall to measure the level of vibration during underpinning and demolition works with trigger levels set as a starting point at 3mm/s. It is recognised that potential structural

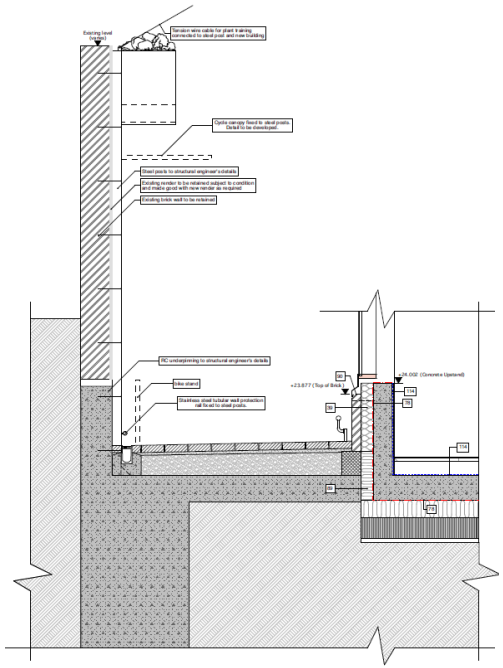
			the hole working along the line of the saw cut using a small excavator with breaker attachment. The saw cut will mean that there will be structural isolation between the slab being broken and the wall to reduce transfer of structure borne noise and vibration. This will enable the underpin trench along the wall to then be excavated. 4. Form underpins to the existing wall by traditional 4,1,3,5,2 method sequentially along the length of the listed wall. Temporary works design to be developed by Specialist contractor and checked by Kier Constructions Engineering Department; Kier Professional Services. 5. Once the new underpin footing is complete and suitably dry packed and cured, trim back the exposed existing footing toe flush with the existing surface of the listed wall above using hand held pneumatic breakers.	damage could occur should vibration levels reach 10mm/s in accordance with BS5228:2009 'Noise and Vibration Control on Construction and Open Sites'. Levelling stud will also be fixed to the base of the listed wall to enable monitoring and measurement of any vertical movement in accordance with movement monitoring approved by Camden Planning Department.
2.	Install 200x100x10mm RHS galvanized support posts with connections to	To provide permanent support to the listed wall by positioning these	1. Core 250mm diameter holes through the existing concrete soffit that forms the bottom of the existing gutter at the post centres along the wall.	As per the Structural Engineers drawing SK101, maximum horizontal centres

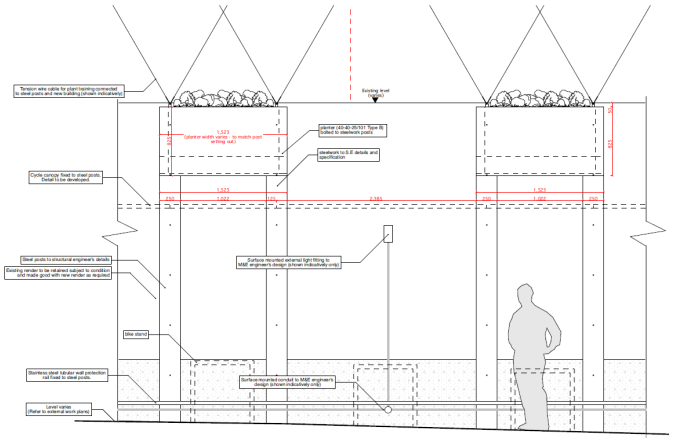
	listed wall.	support posts at set centres along the length of the listed wall.	 2. Install 200x100x10mm galvanized RHS support posts making base plate moment connection to the concrete underpin as per the Wilde Carter Clack drawing SK101. Setting out of posts as per Architects drawing TP2 – BMJ – ZZ – 00 – DR – A – 1902 Rev P01.	between support posts to be 2.5m.

			 **Figure 2 - Excerpt from architects setting out drawing 1902 Rev P01.** 3. Posts to be bolted to the listed wall using M10 resin anchored bolts. 12mm holes will be drilled into the listed wall to a depth of circa 150mm at 750mm vertical centres, the holes will be blown out to remove any excess dust and resin will be pumped into the hole. The M10 bolts will then be twisted into the resin and left to cure in accordance with manufactures instructions and pull out tests carried out. Once cured, the post will be	

			secured to the wall using a nut and washer arrangement onto the bolt and tightened to connect the support post to the existing listed wall to provide permanent restraint of the wall.	
3.	Demolish the abutting roof structure.	The existing shed to be demolished abuts the listed wall via a concrete soffit spanning between the listed wall and the old buildings roof structure, all of which is part of the required demolition works, as per the adjacent photo.	 1. Erect scaffold crash deck under concrete soffit of gutter to provide temporary support. 2. Saw cut the concrete slab as close to the wall as possible to isolate it from the listed wall. 3. Remove steel roof trusses and external fabric. 4. Carefully break away the concrete gutter slab working back towards the saw cut using small hand held pneumatic breakers. 5. As the saw cut will leave approximately 100 – 150mm of slab left embedded in the listed wall, carefully nibble this back flush with the	

			wall using small hand held pneumatic breakers.	
4.	Repairs to the face of the listed wall following demolition of the existing slab that abuts its.	Following site investigations as per our site investigations schedule point 3, it seems on local opening up that the existing concrete gutter soffit is embedded into the listed wall.	 1. Once the concrete slab is flush with the face of the brickwork, reinstate with render to match that of the existing wall below to provide a smooth finish.	The condition of the existing render needs to be confirmed. If in good condition then making good will only be required to match existing. If the condition of the render suggests that it is live and loose, then the existing render would need to be removed, the brickwork wall behind stabilised and re-rendered.
5.	New planters fixed to the face of the installed 200x100x10mm RHS support posts.	To provide a container for planting around the perimeter of the listed wall.	The planter boxes will only be fixed to the support posts and not the listed wall, so no further fixings to the listed wall are required as per Architects drawing TP2 – BMJ – 22 - XX – DR – A – 1905 Rev P02.	There are also tension wires connected between the new building and the planters to allow for plants to creep

			 **Figure 3 - Excerpt of Architects drawing 1905 Rev P02**	up them. These do not connect directly to the listed wall, but are connected to the support posts.

6.	Surface mounted conduit for lighting and security devices to be fixed to the face of the listed wall.	To provide external perimeter lighting and security to the cycle storage area between new building and listed wall	 1. All fixtures and fittings will be surface mounted and fixed using relatively non - intrusive plugs and screws.	