MGA CONTRACTS LTD
STRUCTURAL WATERPROOFING
DAMP PROOF COURSING
TIMBER PRESERVATION

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4H Architecture

Email Only: info@4harchitecture.co.uk

Ref: TH/5442

19th May 2024

Attn: Peter Gal

Dear Sirs

Re: 9 Wedderburn Road, London, NW3 5QS

INSTRUCTIONS

The following report and quotation relates to areas inspected in accordance with your instructions. If there are any omissions or if you believe that we have misinterpreted your instruction, please let us know at once.

Following our recent site visit to look at the lower ground floor of the above property where due to the building being in a conservation area a Type C cavity drain membrane system is recommended to comply with regulations. The existing structure is of solid brick work with a new RC slab installed. The existing walls have been rendered however this is to be removed back to the brick surface providing the brickwork is not damaged in the process.

The proposed system is a Type C Cavity drain membrane system where the system itself does not directly bond to the substrate therefore does not cause any potential bonding damage to the substrate. The system is fixed with hollow brick plugs/ plaster plugs to hold the membrane in place.

The proposed system is to be an 8mm Cavity drain mesh membrane system fixed to the retaining walls and internal walls of the lower ground floor. The system will be fixed at 250mm centres to hold the membrane tight against the wall if dot and dab system is to be installed. The system will have a condensation/ venting strip along the bottom perimeter of the wall.

The new RC slab will require water testing to check for ponding and which wall the slab falls, we will then apply a levelling compound over the slab to either create a flat level surface or a slight wall to the proposed location of the new ground water chamber.

The system will have a pre-formed channel installed around the perimeter of the basement and link to the ground water chamber to remove any potential ingressing water. The system will incorporate inspection/ flushing ports for maintenance of the system.

The slab will be overlaid with a 50mm XPS insulation to create a void filler for the channel.

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The floor will be overlaid with an 8mm Cavity membrane and tape sealed to condensation strip detail.

The proposed location for the new ground water chamber will be in the front plant room below the steps and will discharge into the front manhole using a looping system.

This will require digging out and installing a new RC pit to house the chamber. A base should be poured for the chamber to be sited on followed by concrete poured around once all connections have been installed.
The chamber will require a manhole on top with a brick upstand.

The system can then be finished with walls and floors.

MGA can provide the finish to the floor for the insulation and liquid screed.

Externally to the left rear of the property the garden has been dug away to reveal an existing lead waterproofing detail around the bay window. Following the report by Hutton and Rostron they require a new drainage outlet to remove any potential surface/ ground water abutting the bay window and potentially coming inside. There are 2no options to apply a detail to the rear retaining walls. We recommend option 2 to install the French drain.

This report is based upon problems evident to us at the time of our visit only, however any items which we are drawing your attention to should be deemed as helpful suggestions, and not regarded as a full assessment of problems which may exist now or in the future. This report is without prejudice and is not to be used in any litigation procedures without our written consent being first obtained.

Please note that this report and quotation is in respect of damp penetration only. Timbers in contact with damp masonry may be at risk of fungal decay for which a chemical treatment quotation can be undertaken if requested.

APPROXIMATE DESCRIPTION OF PROPERTY & DATE OF INSPECTION

End terraced building spilt into flats, ground/ lower ground floor apartment, solid brick walls
16th may 2024
WEATHER CONDITIONS – Dry/ Mild
INTENDED USE – Domestic
HABITABLE GRADE REQUIRED - 3
EXISTING STRUCTURE - yes
BELOW GROUND - yes

RESTRICTIONS OF SURVEY

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We were unable to gain access to the adjoining property/external areas adjacent to this property.

STANDARD RECOMMENDATIONS

The following specification is for a Cavity Drain System and is to be read in conjunction with the attached specification and drawing. The specification is generic and is designed to offer you a method of waterproofing that is tried and tested in the type of property you are working with. If you require further information or drawings for the specifics of your project, please contact our Contracts Department or the undersigned.

Your property will require waterproofing to comply with the British Standard for the Protection of Structures Against Water From the Ground (BS8102:2022). BS8102(2022) recommends that in designing the waterproofing system, you should expect that water pressure will come to bear against the structure at some time in the future, as it is impossible to predict future rainfall levels, changes in watercourses, or even possible burst water mains in the street adjoining the property. As it is not possible to determine the amount of water pressure surrounding the structure, BS8102(2022) helps us once more by telling the designer to expect a head of water to the full depth of the structure.

Cavity Drain System is a drained waterproofing system, classified by BS8102(2022) as a 'Type C' method of waterproofing. Cavity Drain System is used to waterproof both new build and existing structures and is used extensively to waterproof structures where rigid tanking has failed.

THE STRUCTURE

Brick and block wall are strong in compression but relatively weak in tension. The lateral bending stress imposed by water pressure can bend a brick or block substrate, which in turn can cause tanking cracking and failure. Cavity Drain System does not impose these stresses on the substrate, and is tolerant to a degree of structural movement in the structure.

The system we recommend will drain the water pressure away before it bears against the internal membrane and BS8102(2022) states that 'Type C' drained waterproofing is considered to be the most trouble free and least likely to fail of all methods of waterproofing.

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IMPORTANT NOTE REGARDING DRAINAGE

Water entering the basedrain channels must be removed from the structure. Natural drainage can be used if available, and the basedrain channel has connectors to allow for connection into a variety of natural drainage if available. However, natural drainage should only be chosen if it is not possible for the natural drainage to 'back-up' or block so that no more water can be removed from the waterproofing system and thus prevent it from working. We recommend that natural drainage should only be used as the sole method of removing water if it is impossible for the water in the natural drainage to back up, for example: on a sloping site where the water is discharged downhill of the structure.

This specification is based on the assumption that a pumping station can be installed to collect ground water subsequently discharging into the main sewerage.

In the vast majority of cases, water will ingress the structure at the junction between wall and floor and will be intercepted by the basedrain and removed to either natural or pumped drainage. If water ingresses through weaknesses in the walls or floor, the air gap created by the Cavity Drain System will prevent water pressurising the membrane and the water will be diverted into the basedrain at the wall floor junction.