

31 ST. MARK'S CRESCENT, LONDON NW1
Proposed Basement and Lower Ground Floor Extension

USE OF CANAL TO TRANSPORT EXCAVATED MATERIAL FROM BASEMENT CONSTRUCTION

Introduction

We have been instructed by London Basement to undertake a structural inspection of the canal wall to assess its adequacy to allow the discharge of excavated material to Regents Canal via the rear of the property.

We have also been asked to provide a method to allow the safe removal of the excavated material.

Survey and Findings

The canal wall is constructed of solid brickwork with piers at each end on the boundary line with adjoining properties and 2 no. piers equally spaced on the canal side of the wall. A trial pit was excavated on the garden side of wall. This extended to the top of the foundations to a depth of 1.55m from ground level.

At foundation level the wall is 450mm thick over a height of 3 no. brick courses, reducing in thickness to 330mm to approximately 380mm from the top of the wall, reducing further to 225mm for the remaining height. Ground level (garden side) is approximately 200mm below the top of the wall and the water level is approximately 1.75m from the top of the wall.

It was clear that the canal wall was distorted and bowing with an outward lean away from the garden. This was measured to be approximately 125mm over the height of the wall.

It was apparent that the level of the garden varied, generally gently rising away from the rear elevation of the house towards the canal wall.

Conclusion and Recommendations

The canal wall has suffered from significant structural movement. It was apparent that the movement was long standing with no indication of recent progressive movement.

It is considered that remedial repairs would not be appropriate. Therefore, we recommend rebuilding the wall.

CWPM CONSULTING LTD

1st Floor, Unit 7, Brook Business Centre, Cowley Mill Road, Uxbridge, Middlesex, UB8 2FX
Tel 01895 231000 Fax 01895 230044 Email cwpm@cwpmconsulting.com
www.cwpmconsulting.com

Director S T Hopkins IEng AMIStructE Associate Director T K Sharma BEng (Hons) MSc DIC CEng MIStructE
VAT 247 2993 71 Registered in England and Wales 10235429

Our proposals for rebuilding the canal wall are given on accompanying drawing no. 13517/C01. This indicates the upper 1.2m of the wall over its full length is removed and rebuilt to match the existing, to include the reconstruction of the piers.

To reduce the surcharge imposed on the wall we recommend that the rear garden is regraded and levelled, therefore reducing the retained height by approximately 210mm.

To safely remove excavated material during the construction of the basement we recommend the ground level is reduced and terraced as indicated on drawing no. 13517/C1, and the canal wall reduced in height by approximately 850mm to the same level as the proposed lowered ground level.

A conveyor system fully supported using braced scaffolding would be adopted to transport excavated material to a barge moored alongside the canal wall. We understand the conveyor imposes a load of 50kg/m during use.

The reduction in dead weight due to the temporary partial removal of 850mm of the canal wall, and reduction in surcharge against the canal wall by the lowered ground level would allow the installation and use of the conveyor during the basement works without imposing additional load and causing a detrimental effect to the canal wall.

On completion of the removal of all excavated material the canal wall should be rebuilt as detailed on drawing no. 13517/C01.

All appropriate Health and Safety measures must be undertaken to ensure safety for contractors during the works and users of the canal.



S. T. HOPKINS
CWPM CONSULTING LTD