



Structural Engineering Inspection Report

on

79 Chinbrook Road, London SE12 9QL

for

Concrete Investments Ltd

Project No. 9360

13 April 2016

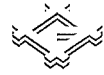
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1.0 INTRODUCTION

- 1.1 Gurney Consulting Engineers has been appointed to undertake a structural inspection of the property in advance of its proposed purchase by the Client.
- 1.2 The inspection was concerned with the building structure only. No investigations were made into services such as plumbing, electrical supply or drainage, except as noted, nor of any non-structural elements such as doors or window frames. No inspection was made of external drives, paths, garden walls or outbuildings.
- 1.3 We have not inspected woodwork or other parts of the structure which were covered, inaccessible or unexposed and are therefore unable to report that any such part is free from defect.
- 1.4 Our inspection was undertaken on 6 April 2016. At the time of our inspection access was not available to the basement area, roof space or the outbuildings.
- 1.5 We do not accept any responsibility to any third party or persons other than the person commissioning this report.

2.0 EXISTING BUILDING

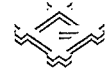
- 2.1 Number 79 Chinbrook Road comprises a large residential property comprising timber roof and floor construction supported on loadbearing masonry walls. See photographs 1-3.
- 2.2 The property is built over four storeys, with two main floors at ground and first floor level, a part basement to the rear of the property and two rooms built into the roof space, also at the rear of the property.
- 2.3 The property is built on a sloping site, with the ground level to the property to the east (no. 81) at a higher level and to the west (No. 77) at a lower level. The front driveway is generally level, but the rear garden falls away from the building.
- 2.4 The front parking access comprises loose laid gravel and there is a concrete path to the side access leading to the rear garden area.



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- 2.5 The vegetation around the property comprises a variety of established trees and shrubs on the property boundaries. There are mature trees within the public footpath to Chinbrook Road, some 20m from the building. The foot path construction to the base of the trees has been raised up by the action of the tree roots.
- 2.6 External access to the basement is via concrete steps within a stairwell formed by retaining walls to the rear of the property. See photograph 4. Internally, the basement is accessed via timber stairs. At the time of our visit, sections of stair tread were missing and there was a sign warning of unsafe flooring. Based on this and the lack of lighting, we did not inspect the basement during our visit.
- 2.7 There are single storey garage buildings to both sides of the property.
- 2.8 The front elevation has two full height bay windows and is finished with pebbledash.
- 2.9 The rear and side elevation are typically exposed brickwork.
- 2.10 The external wall construction comprises solid brickwork finished internally with plaster.
- 2.11 Reference to the geological maps for the area shows the site to be founded on London Clay.
- 2.12 Estate Agents' floor plans are included within the Appendix and are referred to within the following sections of the report.
- 3.0 OBSERVATIONS**
- 3.1 The ceiling and wall finishes have deteriorated and the property has not been well maintained in recent years.
- 3.2 There is cracking apparent to wall and ceiling finishes throughout the property.
- 3.3 The bay window construction to the left hand side of the front elevation has been subject to significant movement. Large cracks have developed within the masonry walls



- for the full height. At first floor level, lateral movement of up to 50mm was noted to the masonry structure. See photographs 5-13.
- 3.4 Cosmetic repairs have been undertaken to the cracks in the past and the timber window framing adapted to suit the movement of the masonry walls.
- 3.5 The internal loadbearing walls perpendicular to the front elevation at first floor level have significant diagonal and vertical cracking and the door frames within the walls are not square. Whilst the cracking and distress are most significant at first floor, similar cracking was noted at ground floor, where there is horizontal cracking also. See photographs 14-20.
- 3.6 There is cracking to the ceiling finishes to the underside of the roof at first floor. See photograph 21.
- 3.7 There is tearing to the wall paper within Bedroom 4, where the wall between it and the Master Bedroom meets the ceiling. The floor level appears to fall towards the external wall. See photographs 22-23.
- 3.8 There is tearing to the wall paper where the wall between Bedrooms 2 and 3 meets the external wall.
- 3.9 Vertical cracking was also noted to the right hand bay window construction beneath the windows at first floor level.
- 3.10 The floor levels to the ground floor reception rooms appears to fall toward the external wall and garage.
- 3.11 Diagonal cracking was noted to the wall between the Dining Room and front reception room where it meets the internal and external walls. See photographs 24-25.
- 3.12 Externally, movement is apparent to the concrete footpaths to the side and rear of the property. See photograph 26.
- 3.13 Cracking was noted to the external exposed sections of concrete surround to the garage to the left hand side of the property. See photograph 27.



3.14 The rainwater goods are in a poor state of repair and are overflowing and affecting the elevations and soffits.

3.15 The external access stair and enclosure serving the first floor from the rear garden is in a poor state of repair.

4.0 DISCUSSION

4.1 From our inspection it is apparent that the property has not been well maintained in recent years and relatively minor cracking and other non-structural defects are present throughout the property that require attention.

4.2 The cracking and defects noted within parts of the the masonry structure suggest that the foundations are inadequate or that movement of the foundations has occurred.

4.3 The movement at the left hand bay window structure is significant and the repairs to the cracking and decorations and adaptation of the window frames suggest that this has been ongoing for some time, possibly since original construction.

4.4 The cracking and defects noted to the internal walls are also significant and have been ongoing for some time.

4.5 No cracking or defects suggesting foundation movement or inadequacy were noted to the rear and left hand elevation. No access was available to the right hand elevation and so this has not been inspected. However, cracking to the internal walls and apparent unevenness of floor levels, particularly toward the right hand elevation suggest that these walls may also have been subject to foundation movement.

4.6 The building is founded in London Clay which is prone to volume change under the influence of trees and can also be affected by water escaping from defective drains or water services.

4.7 The site is uneven and falls away to the rear garden, with the adjacent properties at different levels also.



- 4.8 Whilst the property is surrounded by established trees and shrubs, these are not considered to be significant with regards to the defects noted. However, we do not know if any trees have been removed have been removed in the relatively recent past.
- 4.9 Due to the sloping site and the basement area, it is likely that the foundation levels vary across the site.
- 4.10 In order to identify the cause of foundation movement, investigation should be undertaken to confirm the foundation construction and the founding soils. This would require trial pits to be dug to expose foundations and geotechnical inspection and testing of the founding soils.
- 4.11 As a minimum, we would anticipate that remedial works required would include,
- Demolition and rebuilding of the left hand bay window from a new, sound foundation built from a competent bearing stratum.
 - Underpinning to the internal spine walls on either side of the entrance hall to ensure these are supported by a competent bearing stratum.
 - Provision of safe access into the basement area so that an inspection can be undertaken and any defects noted as these may have a bearing on other areas.
 - Stitch repairs and local rebuilding of cracked and defective masonry and making good.
 - Investigation of existing drainage and water services and undertaking remedial works as required.
- 4.13 We understand that consideration is being given to the demolition of the property and constructing a new building on the site. If this were to be the chosen course of action, the investigation works to the existing structure would not be required. A geotechnical investigation would be required to confirm foundation proposals for the new construction.
- 5.0 CONCLUSION
- 5.1 The property is currently not well maintained and there are defects to decorations and finishes of a non-structural nature throughout.



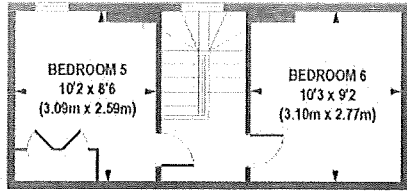
- 5.2 Structural movement is apparent at a number of locations and is considered to be due to inadequate foundations or movement of the foundations since construction.
- 5.3 The left hand bay window structure has been subject to significant movement that may have been occurring since original construction. This should be taken down and rebuilt from a sound foundation on competent soils.
- 5.4 The internal walls, particularly those perpendicular to the front elevation on either side of the entrance hall, have been subject to foundation movement and further investigation would be required to establish the cause of this and confirm remedial works. As a minimum, we would anticipate that underpinning would be required to the walls along with repairs to the cracked masonry.
- 5.5 Inspection of the basement area and right hand elevation should be undertaken once access is available so that any further investigations and remedial works can be determined.
- 5.6 Whilst the rear and left hand elevation do not show signs of distress externally, investigation should be undertaken to confirm foundations and bearing stratum.
- 5.7 The existing drainage and water services should be investigated and any defects rectified.
- 5.8 If it is proposed to demolish the existing building and construct new, sufficient geotechnical investigation should be undertaken to confirm the foundation design parameters for the new construction.

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Robin Brown BEng (Hons), CEng, MStructE
Associate Partner

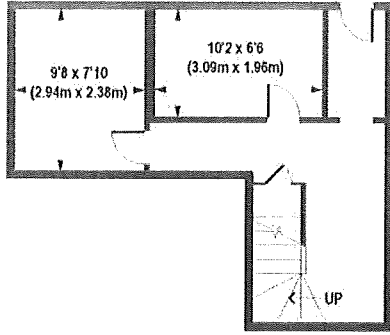
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I C Durkin BSc, CEng, MICE, FConsE
Senior Partner



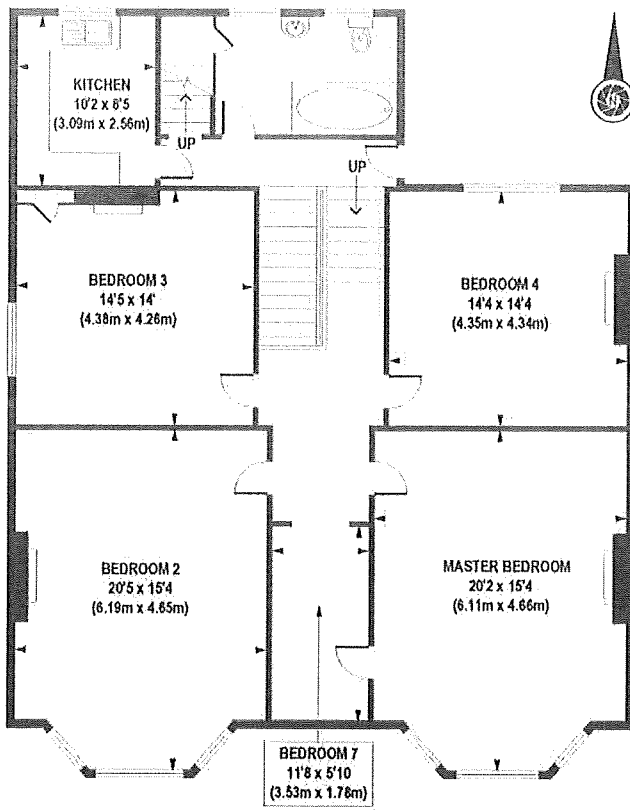
APPENDIX



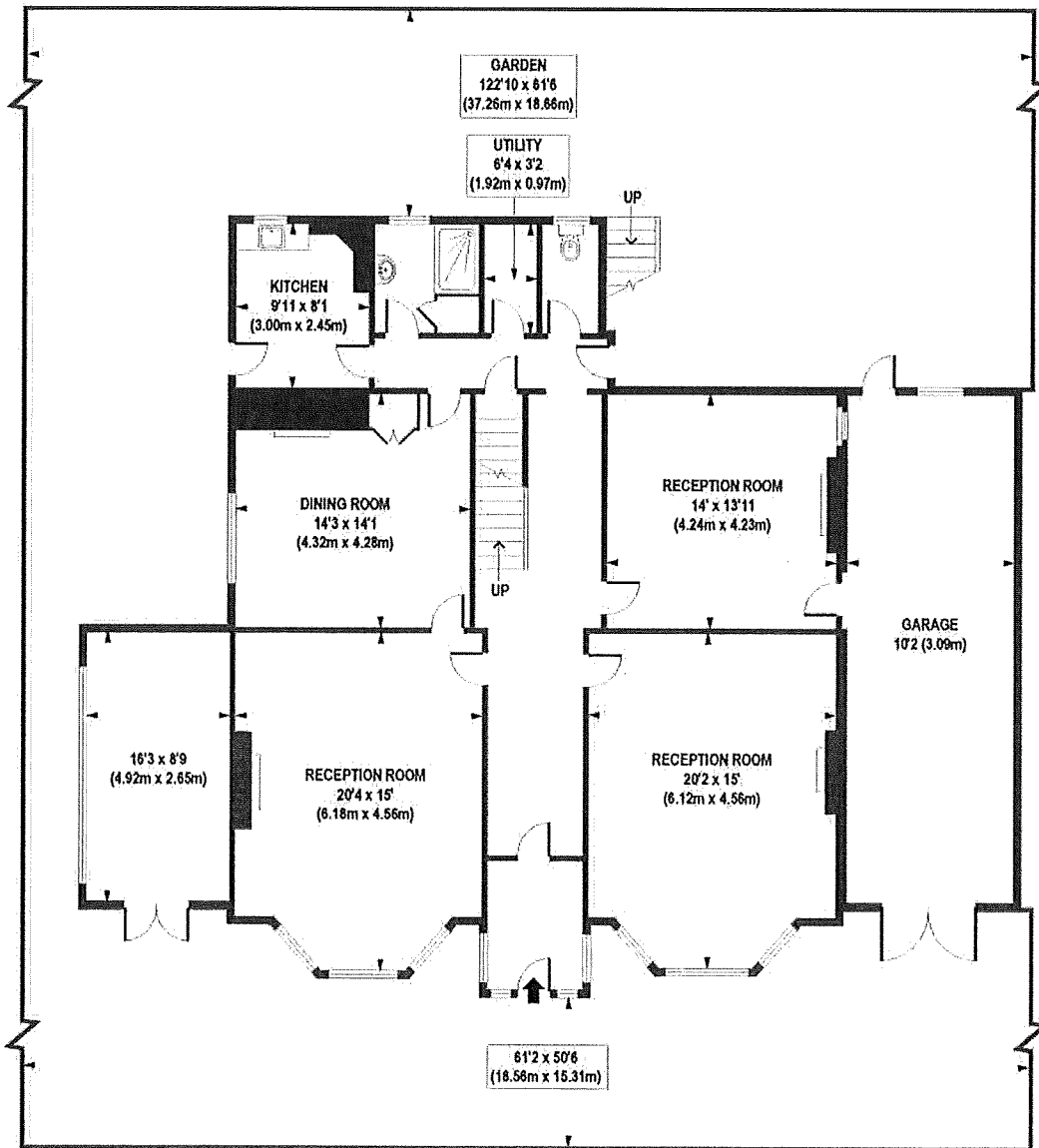
SECOND FLOOR
GROSS INTERNAL
FLOOR AREA 237 SQ FT



BASEMENT
GROSS INTERNAL
FLOOR AREA 288 SQ FT



FIRST FLOOR
GROSS INTERNAL
FLOOR AREA 1462 SQ FT



GROUND FLOOR
GROSS INTERNAL
FLOOR AREA 1445 SQ FT



Photo 1:



Photo 2:



Photo 3:



Photo 4:



Photo 5:

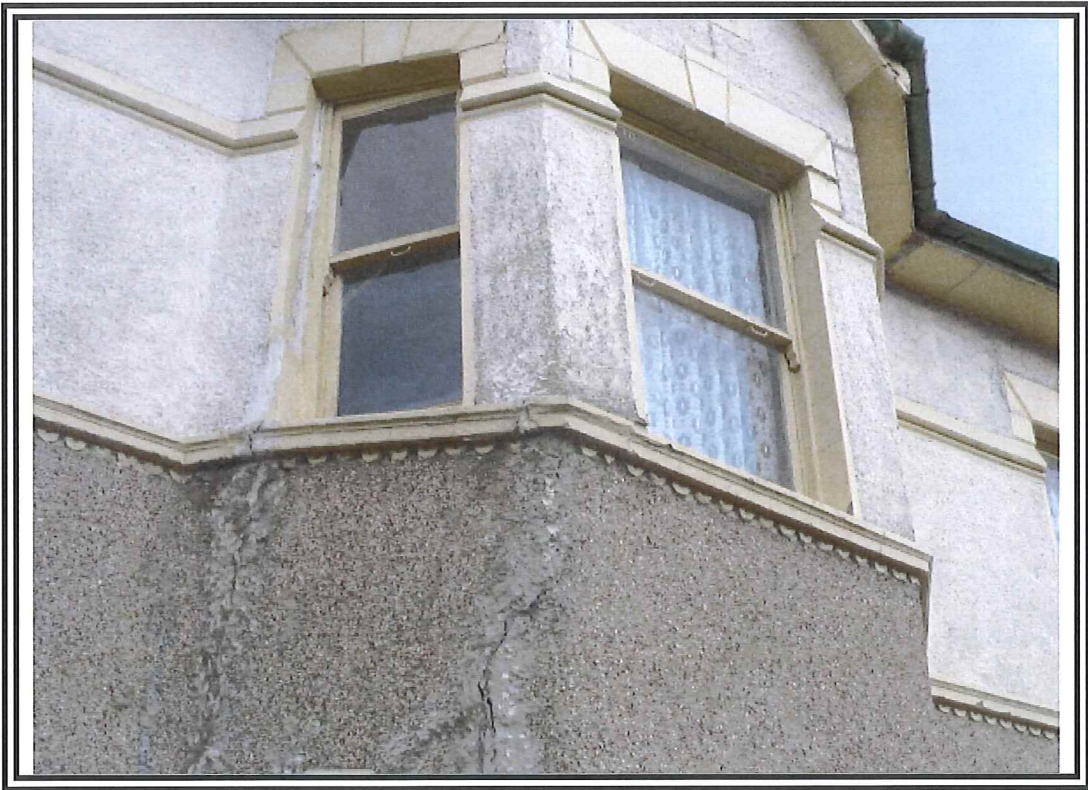


Photo 6:



Photo 7:



Photo 8:



Photo 9:

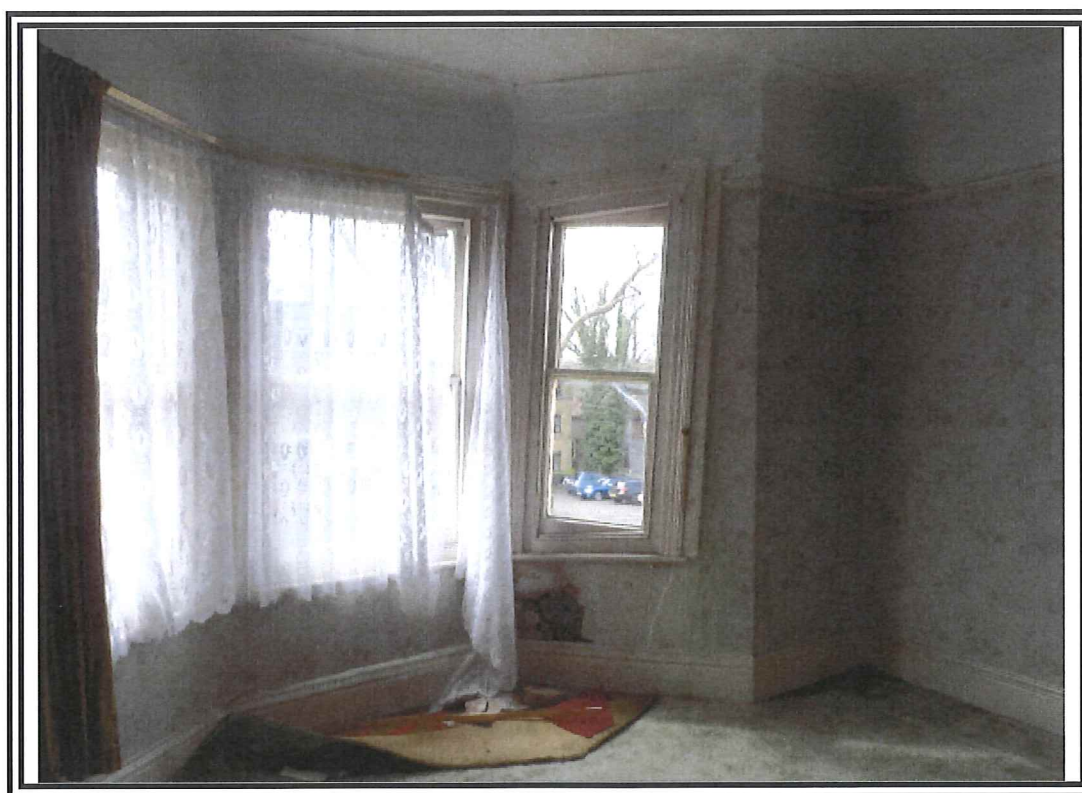


Photo10:



Photo 11:



Photo 12:



Photo 13:



Photo 14:



Photo 15:



Photo 16:



Photo 17:



Photo 18:



Photo 19:

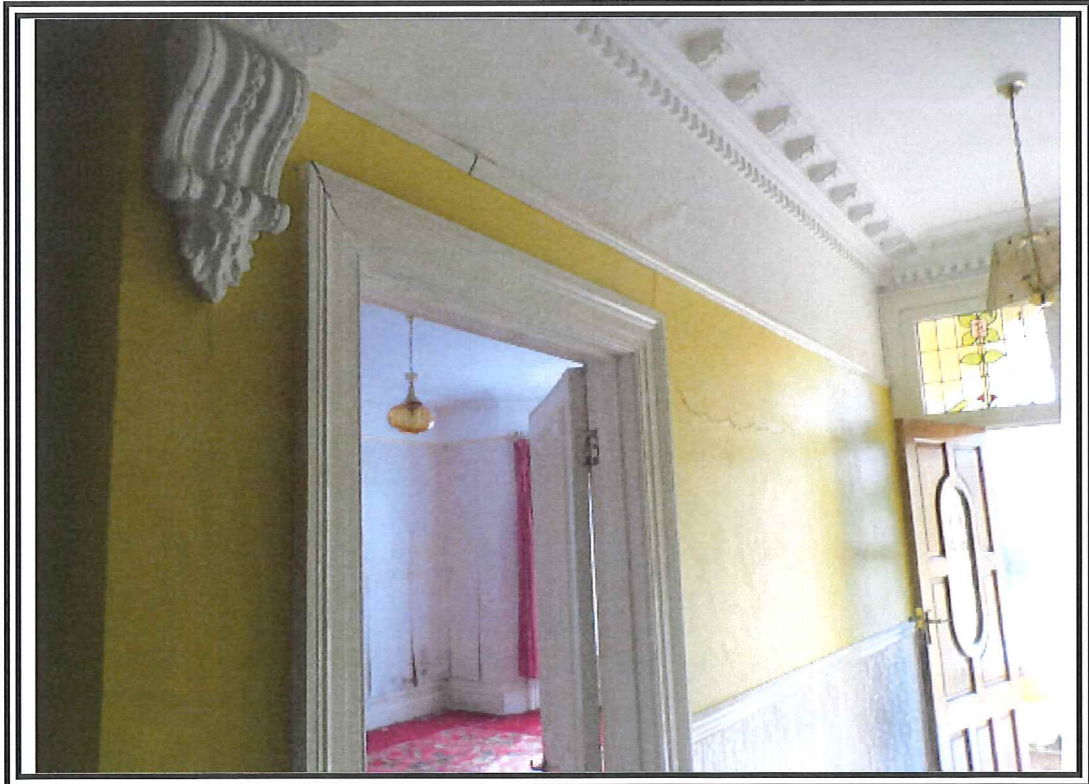


Photo 20:



Photo 21:



Photo 22:



Photo 23:



Photo 24:

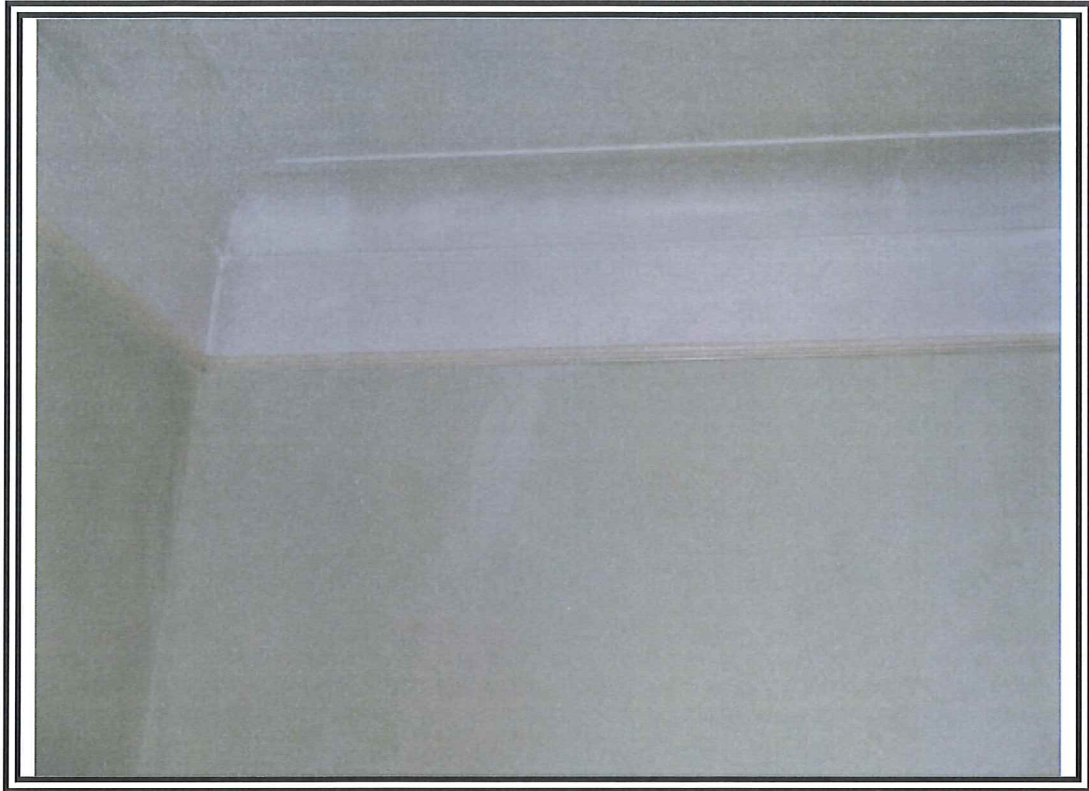


Photo 25:



Photo 26:



Photo 27: