

Soarbond Ltd.,
Chartered Civil and Structural
Consulting Engineers and Planners

W.K.J. Zablocki
B.Sc. C.Eng. MICE

London August 2014

Job No1156

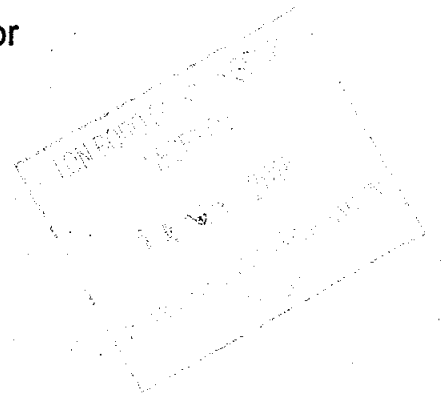
Volume and Ratio calculations for

a loft conversion at

40, Helmsdale Close,

Hayes,

MIDDX. UB 4 9 QS.

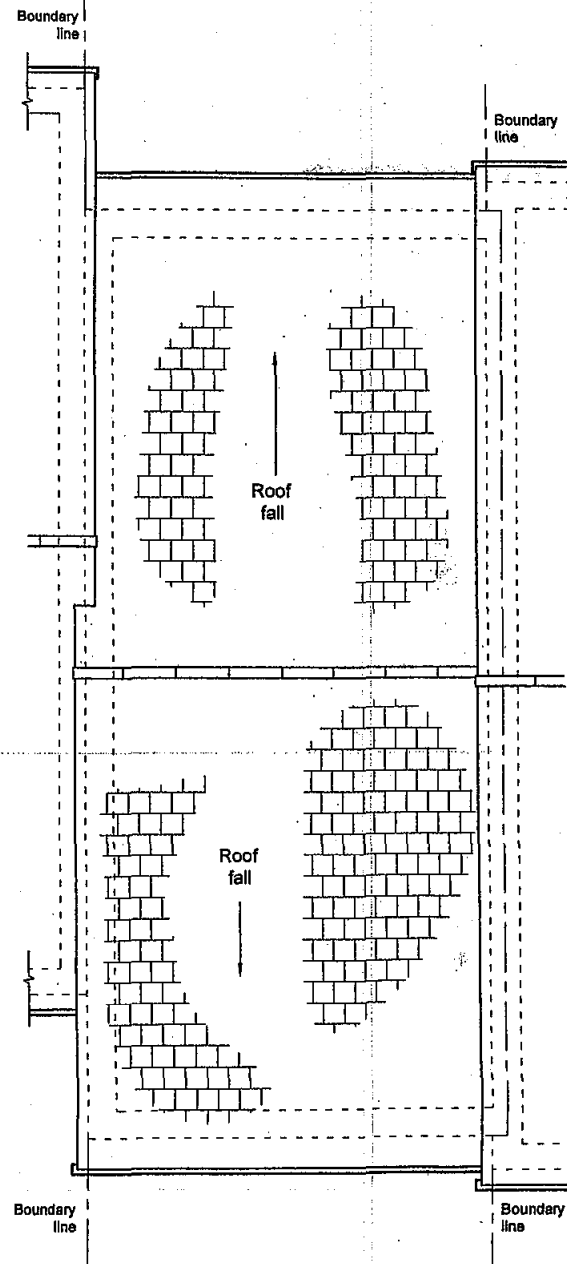


A terraced house owned by Mr. Piotr Smietalo.

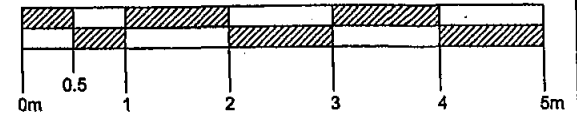
Index:-

V 01 to V 11 volume calculations.

Project 40 Helmsdale Close, Hayes, UB 4			Job ref 1156	
Part of structure Volume Calculations			Calc sheet no V 1	rev
Drawing ref	Calc by	Date	Check by	Date
Ref	Calculations			Output
1.0	<u>Introduction</u> 1.1. 40 Helmsdale Close, Hayes, UB 4 is a single family, terraced house and is situated on the north side of Helmsdale Close, which forms an enclosed, circular "cul de sac" on an estate. It is the penultimate house on this row of houses. These calculations have been prepared to show that the overall increase in roof space is less than 40 m3 as permitted and the requirements for Permitted Development (as SI 2362:2008) are satisfied and a Lawful Development Certificate should be granted for this submission under Class B. There have been no extensions to this 1980's house in the past so this property can claim its full entitlement of permitted development changes to its roof layout. 1.2. The house, at the moment, has two storeys of useable construction. The erection of this future loft addition above the two floors of the main house will form a third floor that will be accessed by new stairs from within the existing stair well. The sketches added to these calculations as V2 to V 8 give the proposed dimensions as this work has still to be carried out. 1.3. These calculations are based on the drawings prepared at 1 : 50 at A3 but reduced by 70 % here to fit into this package as A4 sketches. The drawings have been prepared accurately and have been drawn on AutoCad to 1:1 scale prior to printing. No guarantee can be given that the printed copies are completely accurate yet should be within +/- 3%. 1.4. No scaling of the drawings should be taken as we cannot guarantee that they are exactly to scale after printing. Figured dimensions should be used only. 1.5. A wedge volume is based on half base area multiplied by the perpendicular height and a volume for a pyramid is one third base area multiplied by its perpendicular height to apex. 1.7 The volume of the increased roof is estimated to be 15.0 m3 and we ask if checks are made to allow for 15 m3 extra.			



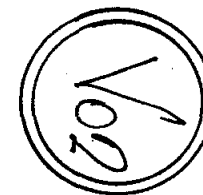
Scale 1: 50



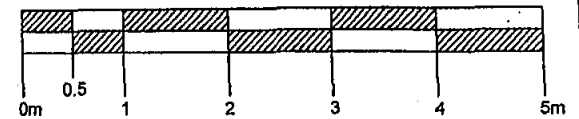
Notes:
1. For general notes see drawing 1156 - 01.

Existing Roof Plan
Scale 1: 50

 SOARBOND Ltd. Structural Engineers 17 Clarendon Road Epsom Surrey, Middlesex TW20 0EX Tel: 0181 807 8863 Mobile: 07799 082 082 Email: info@soarbond.co.uk	
Job No: Redevelopment at 40 Helmedale Close, Hayes, Middlesex UB4 9QS	
Drawing No: Existing Roof Plan	
Client: Mr. Piotr Smietala	
Drawn by: S. Zabolocko	Date: July 2014
Check: W.K.J. Zabolocko	Date: July 2014
Job number: 1156	Scale: 1: 50
Drawing number: 1156 - 02	

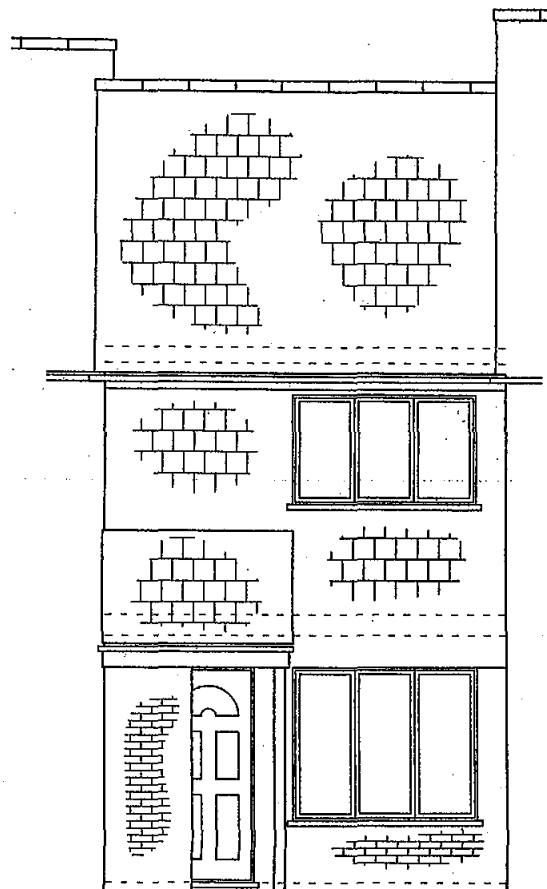


Scale 1: 50

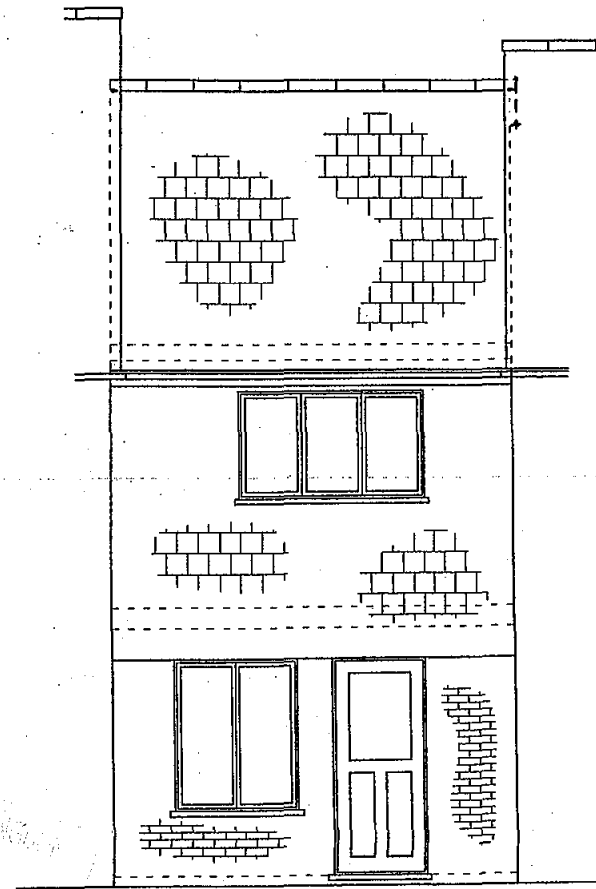


Notes:

1. For general notes see drawing 1156 - 01.

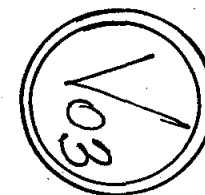


Existing Front Elevation
Scale 1 : 50

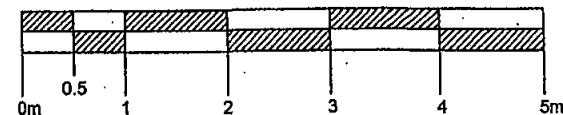


Existing Rear Elevation
Scale 1 : 50

 SOARBOND Ltd. Chartered Engineers 17 Chesham Road, Uxbridge, Middlesex UB4 9QS Tel 0189 8917 9643 mobile 07779 963 899 email soarbond@soarbond.co.uk	
Job No	
Redevelopment at 40 Holmsdale Close, Hayes, Middlesex UB4 9QS	
Drawing Title Existing Front Elevation & Existing Rear Elevation	
Client Mr. Piotr Smietalo	
Drawn by S. Zablocki	Date July 2014
Check'd W.K.J. Zablocki	Date July 2014
Job number 1156	Scale 1 : 50
Drawing number 1156 - 03	

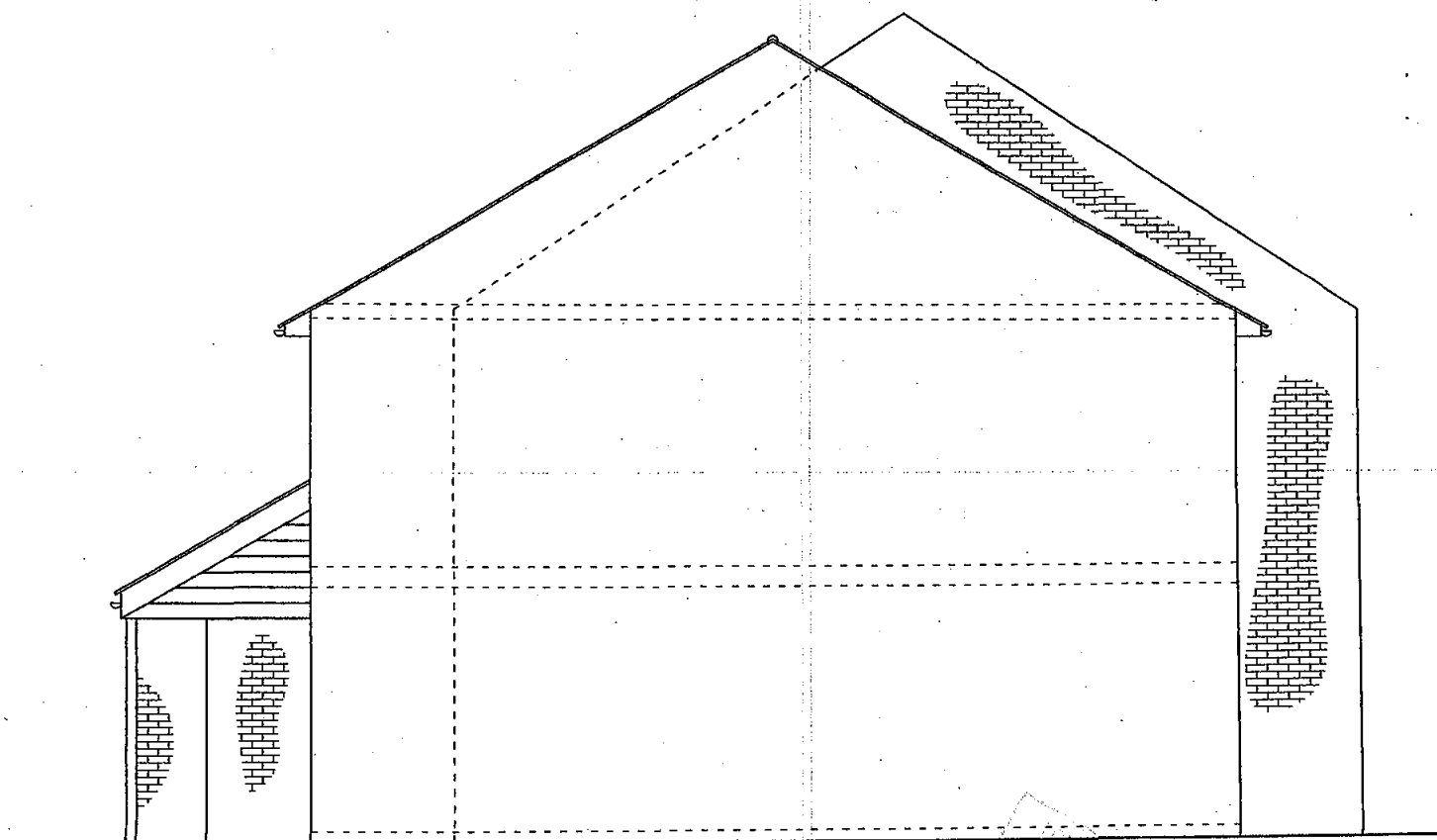


Scale 1: 50



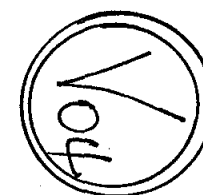
Notes:

1. For general notes see drawing 1156 - 01.

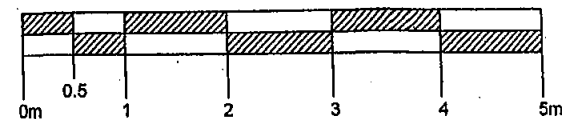


Existing Side Elevation
Scale 1: 50

 SOARBOND Ltd. Chartered Engineers 17 Grosvenor Road Epsom, Surrey, Surrey SM6 3AA Tel: 020 8897 8822 Email: 020 8897 8822 Web: www.soarbond.co.uk	
Job title Redevelopment of 40 Helmsdale Close, Hayes, Middlesex UB4 9QS	
Drawing title Existing Side Elevation	
Client Mr. Piotr Smietala	
Drawn by S. Zabolocki	Date July 2014
Check'd W.K.J. Zabolocki	Date July 2014
Job number 1156	Scale 1 : 50
Drawing number 1156 - 04	

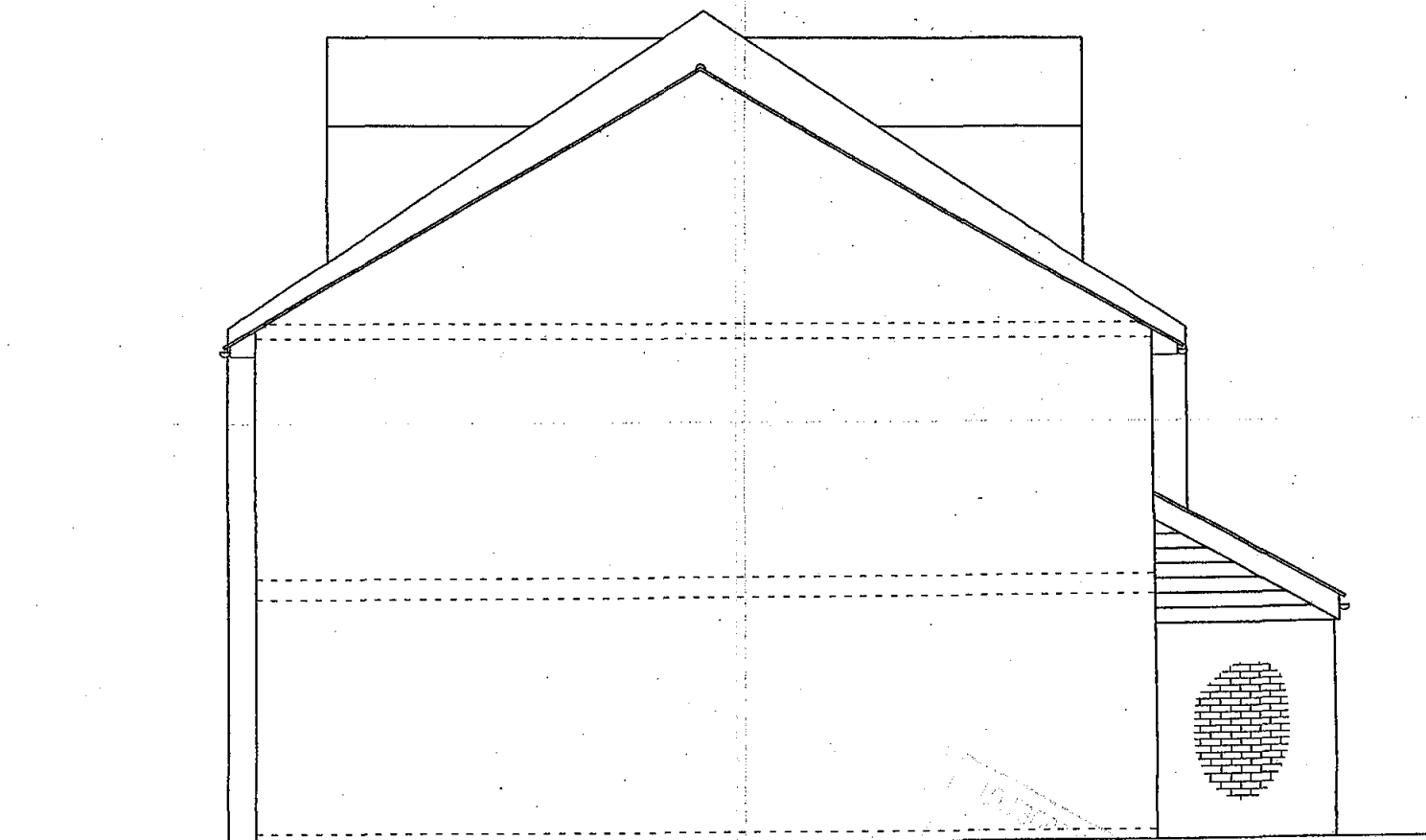


Scale 1: 50



Notes:

1. For general notes see drawing 1156 - 01.

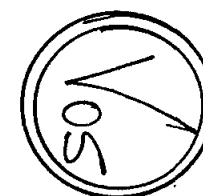


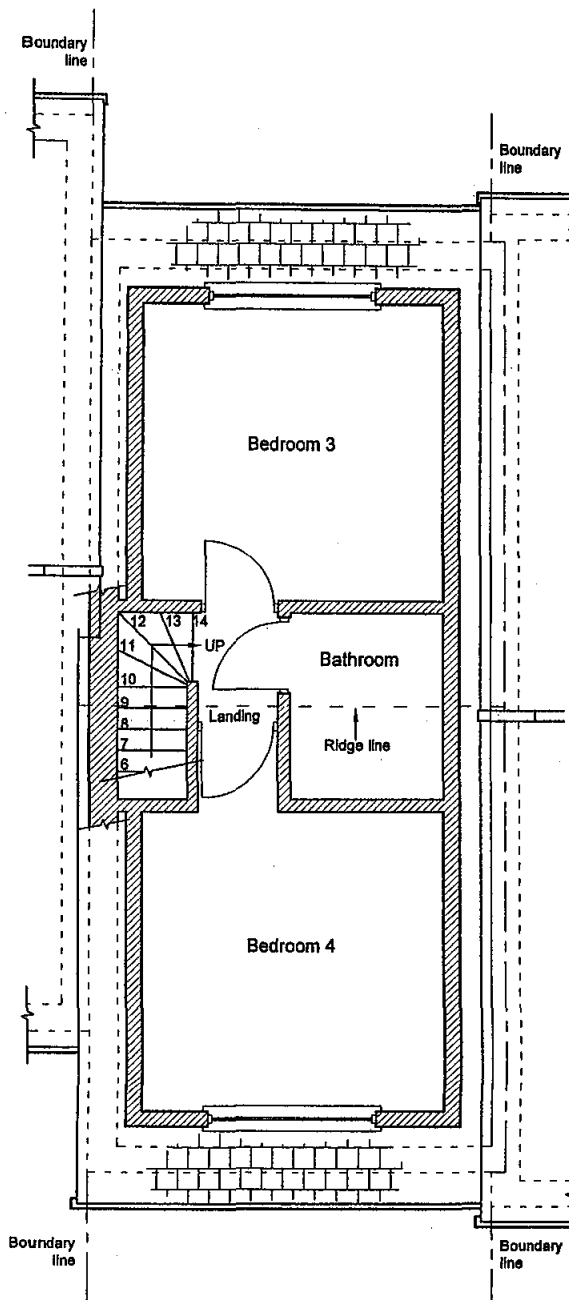
Existing Side Elevation
Scale 1: 50



Job No
Redevelopment at
40 Haindole Close,
Hayes,
Middlesex UB4 9QS
Drawing Title
Existing Side Elevation

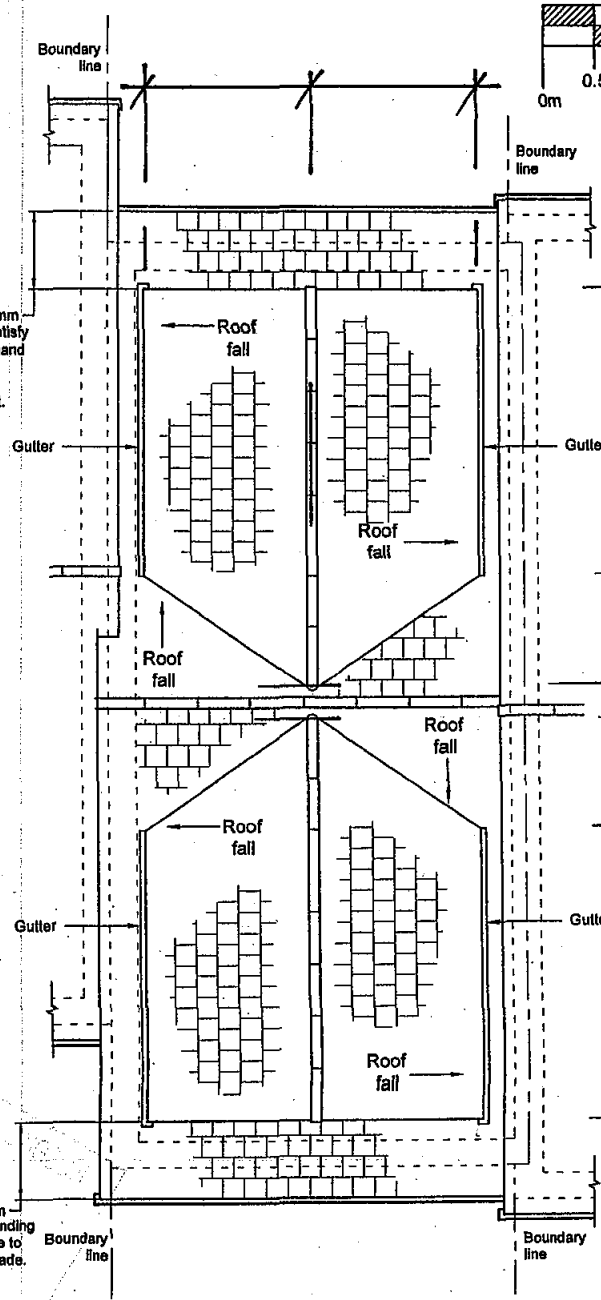
Client
Mr. Piotr Smietala
Drawn by
S. Zablocki
Date
July 2014
Clerk of Works
W.K.J. Zablocki
Date
July 2014
Job number
1156
Scale
1: 50
Drawing number
1156 - 05





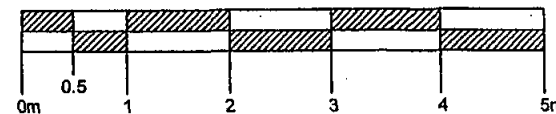
Proposed Loft Plan
Scale 1 : 50

Minimum 700mm
dimension to satisfy
increased demand
for 400mm
minimum
requirement.



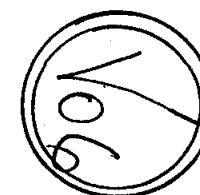
Proposed Roof Plan
Scale 1 : 50

Scale 1: 50



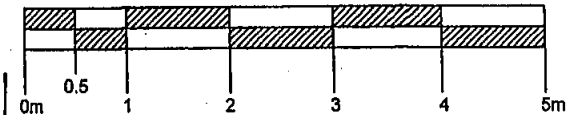
Notes:
1. For general notes see drawing 1156 - 21.

2.65m.
1.05m
1.05m
2.65m.

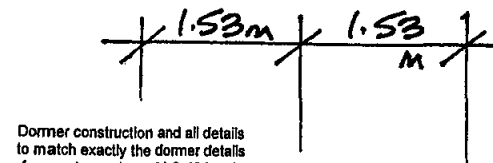


 SOARBOND Ltd. Structural Engineers 17 Commercial Road, London, SE14 5AN Tel: 020 8997 8867 Mobile: 07739 983 846 Email: info@soarbond.co.uk	
Job No: Redevelopment at 40 Helmsdale Close, Hayes, Middlesex UB4 9QS	
Drawing No: Proposed Loft Plan & Proposed Roof Plan	
Client: Mr. Piotr Smietala	
Drawn by:	Date:
S. Zablocki	July 2014
Check:	Date:
W.K.J. Zablocki	July 2014
Job number:	Scale & A3
1156	1 : 50
Drawing number: 1156 - 22	

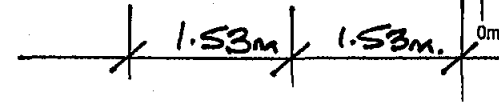
Scale 1: 50



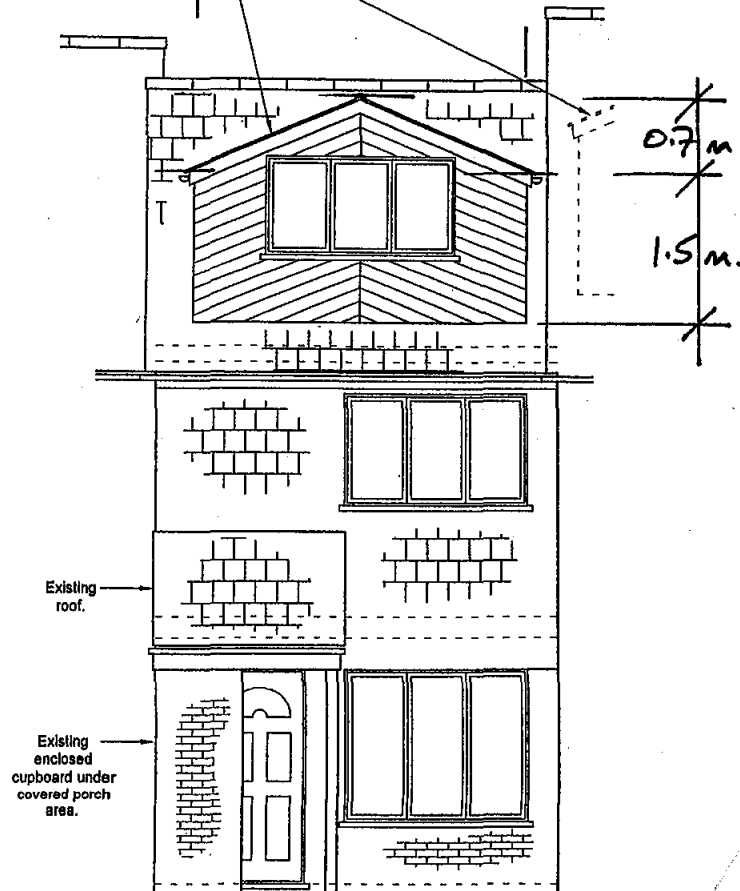
Notes:
1. For general notes see drawing 1156 - 21.



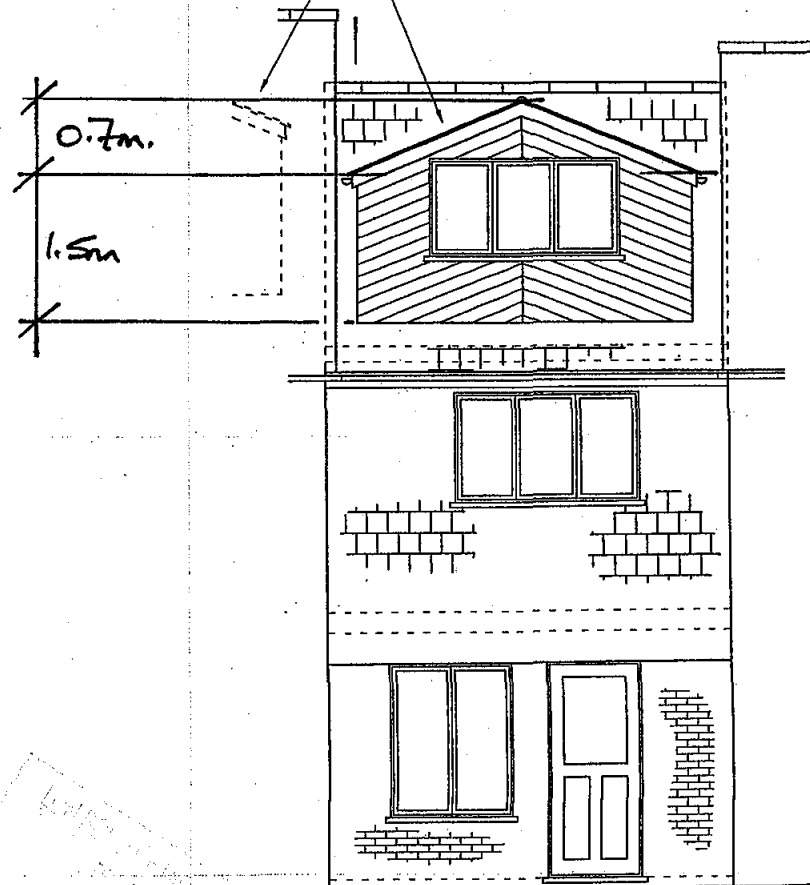
Dormer construction and all details to match exactly the dormer details of property numbers 41 & 42 i.e. the next two neighbours.



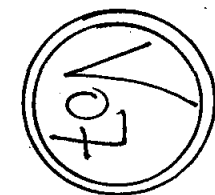
Dormer construction and all details to match exactly the dormer details of property numbers 41 & 42 Helmsdale Close i.e. the next two neighbours.



Proposed Front Elevation
Scale 1: 50

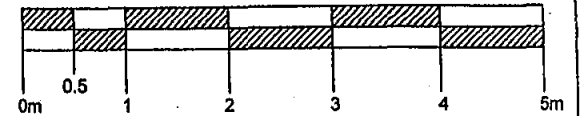


Proposed Rear Elevation
Scale 1: 50



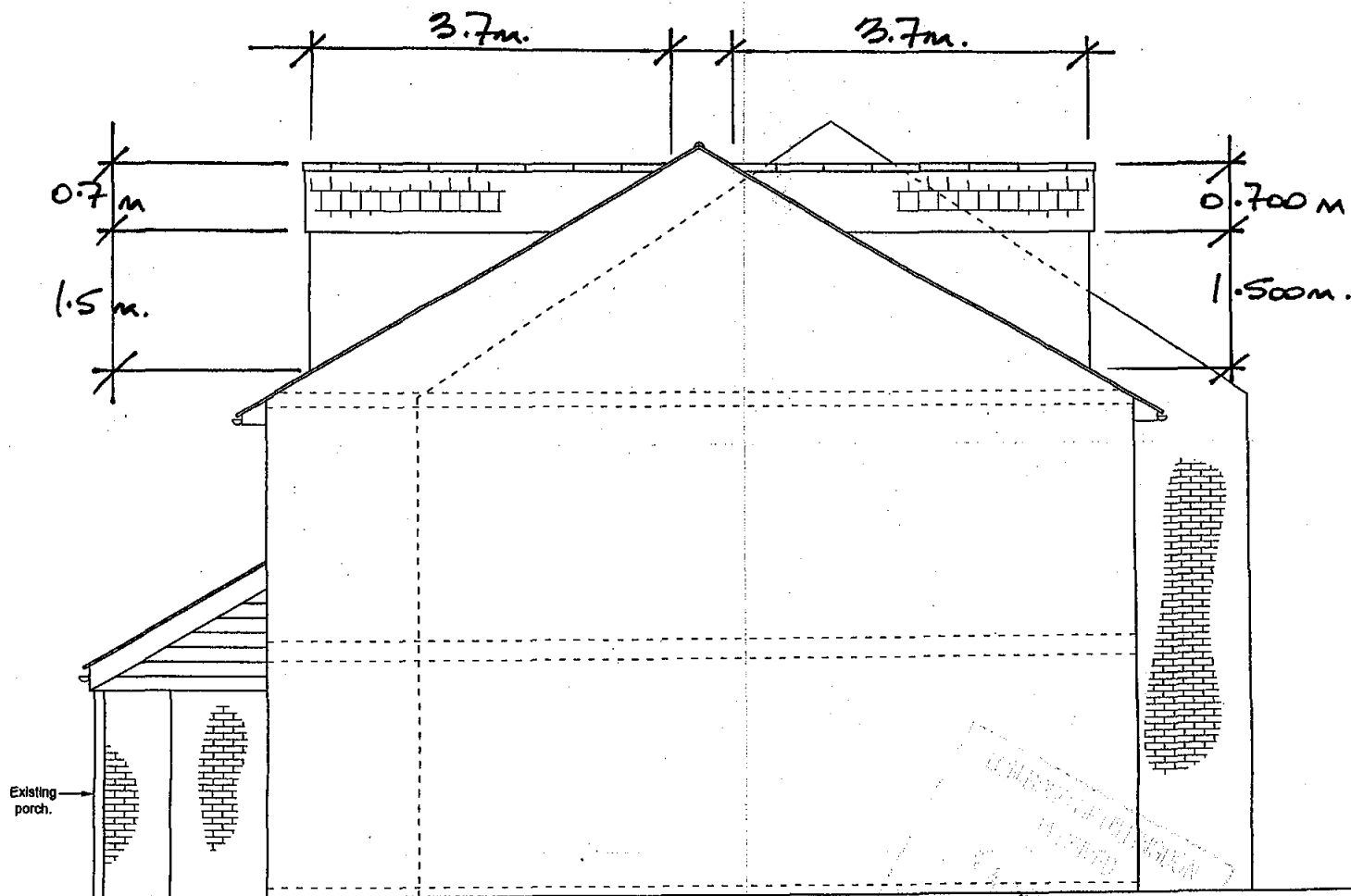
SOARBOND Ltd. Chartered Engineer 17 Chesham Road, London W8 1AA Tel: 020 897 0053 Mobile: 07579 857 800 Email: info@soarbond.co.uk	
Job No:	Redevelopment at 40 Helmsdale Close, Hays, Middlesex UB4 9QS
Drawing No:	Proposed Front Elevation & Proposed Rear Elevation
Client:	Mr. Piotr Smietala
Drawn by:	S. Zablocki
Check by:	W.K.J. Zablocki
Date:	July 2014
Job number:	1156
Scale:	1: 50
Drawing number:	1156 - 23

Scale 1: 50



Notes:

1. For general notes see drawing 1156 - 21.



Proposed Side Elevation

Scale 1: 50

 SOARBOND Ltd. Chartered Surveyors 17 Chesham Road, Uxbridge, Middlesex UB4 9QS Tel: 01895 8917 8917 Mobile: 07779 962 962 Email: info@soarbond.co.uk	
Job No: Redevelopment at 40 Helmedale Close, Hayes, Middlesex UB4 9QS	
Drawing No: Proposed Side Elevation	
Client: Mr. Piotr Smietala	Date: July 2014
Drawn by: S. Zablocki	Date: July 2014
Check by: W.K.J. Zablocki	Date: July 2014
Job number: 1156	Scale: 1: 50
Drawing number: 1156 - 24	

Project 40, Helmsdale Close, Hayes, UB 4.		Job ref 1156	
Part of structure Volume Calculations		Calc sheet no V 10 rev	
Drawing ref	Calc by	Date	Check by
			Date

Ref	Calculations	Output
	House Volumes. Original. Ground Floor $35.7 \text{ m}^2 \times 2.60 \text{ m} = 92.8 \text{ m}^3$ First Floor $35.1 \text{ m}^2 \times 2.60 \text{ m} = 91.3 \text{ m}^3$ Roof $9.06 \times 4.0 \times 2.6 / 2 = 47.0 \text{ m}^3$ TOTAL = 231.1 m³ Added Loft Conversion Volume. Two Dormers as $2 \times (2.65 \times 1.05 \times 3.06) / 2$ $+ 2 (3.06 \times 0.7 / 2) \times 2.65 + 2 (1.05 \times 0.7 \times 3.06 / 2) 3$ = 15.0 m³ House Volume Proposed. $231.1 \text{ m}^3 + 15.0 \text{ m}^3 = 246.1 \text{ m}^3$	

Project 40, Helmsdale Close, Hayes, UB 4.			Job ref 1156	
Part of structure Volume Calculations			Calc sheet no V 11 rev	
Drawing ref	Calc by	Date	Check by	Date

Ref	Calculations	Output
	Loft Conversion Nett Increase in Volume. Allowed = 40.00m3 Actual = 15.00m3 Say OK. New Plot Ratio. 35.7 m2 / 122.7 m2 = 0.29 Allowed plot ratio to approach 2.0 in Hillingdon. Say OK. New Bulk Ratio. (231.1 + 15.00) m3 / 122.7 m2 = 2.01 Allowed Bulk Ratio can approach 8.0 Actual ratio to allowed ratio 2.01 / 8.0 = 0.25 i.e. 25.0 % utilised. Say OK.	