

Deepthi Structural Consulting Ltd

276 Daventry Road

CV3 5HL, West Midlands, Coventry

United Kingdom Tel 02476415364



Structural calculations

Crimble Bungalow

Structural Report

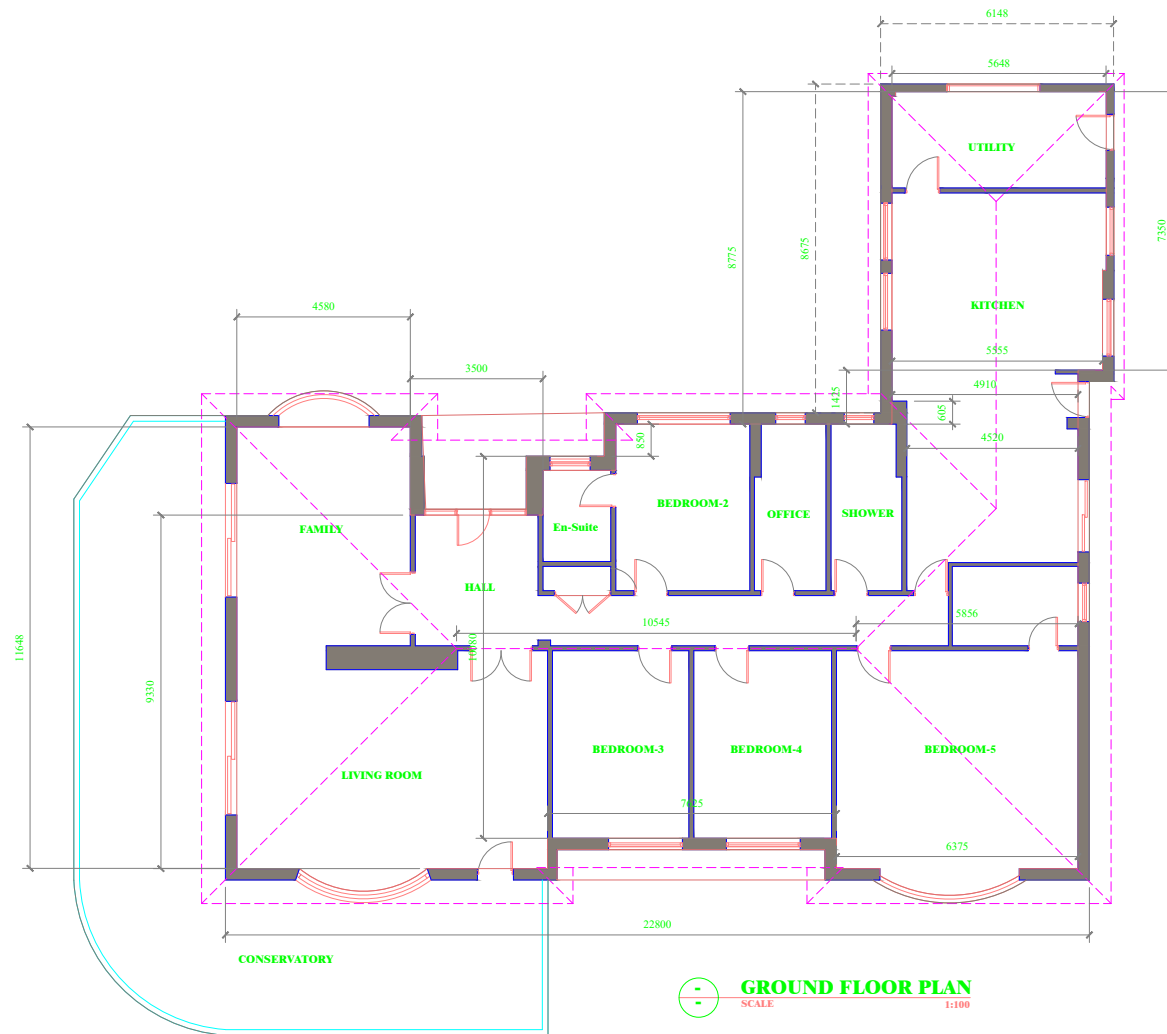
March 2024

PROJECT REF CS1519032024

Complete all boxes or mark N/A as appropriate (first sheet only)

Client:	30 Crimble Bungalow	Calculation by:	kml
Project:	Side Extension	Checked by:	
Contract No:		Page No:	1
Date:		Revision:	
Relevant BS/Legislation:			

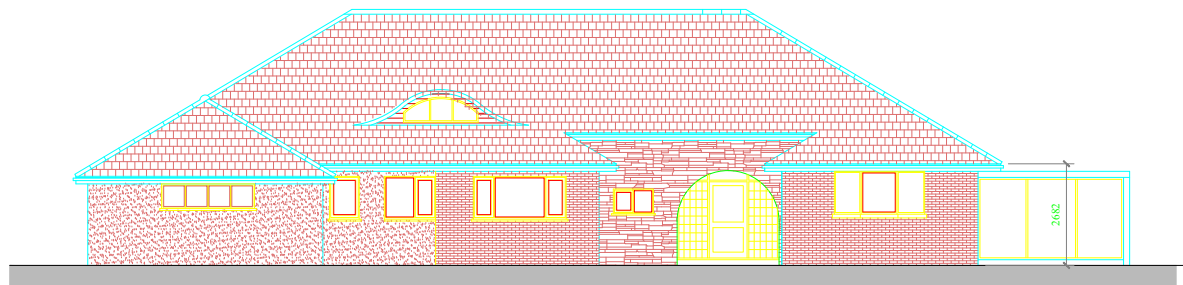
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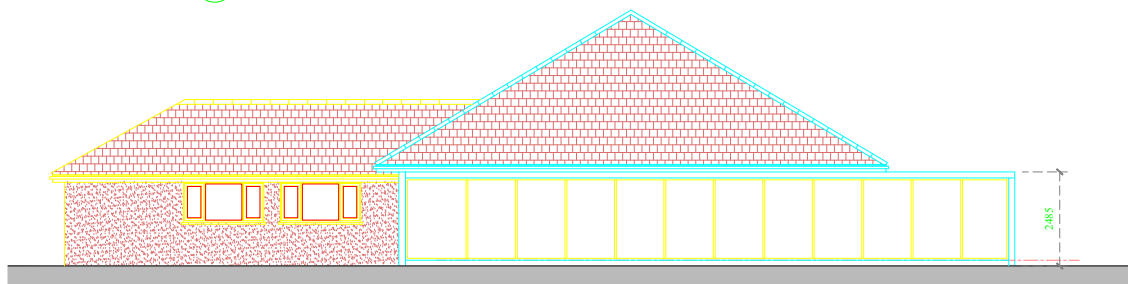
FLOOR AREA: 295.50 Sq.M



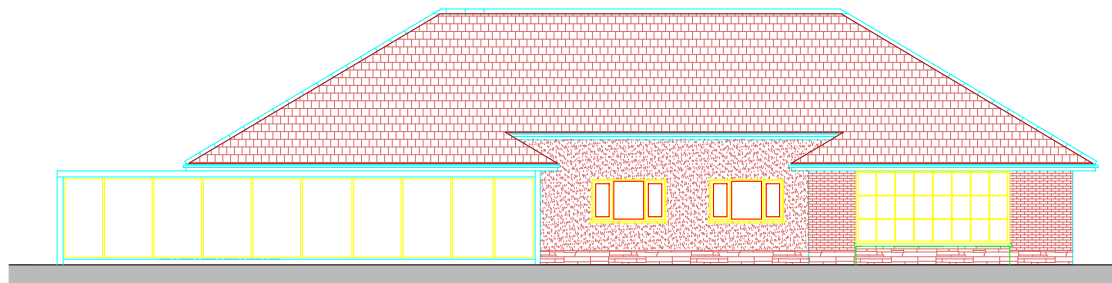
 103 Sharnington Road Cheltenham, GL53 0JG www.MekKara.co.uk, mek@meKara.com Ph: 0124228815, 01843020249		
Client		
MR BIJU MATHEW		
Job Title		
PROPOSED EXTENSION CRIMBLE BUNGALOW CRIMBLE LANE, OL11 4AB		
Drawing Title		
EXISTING GROUND FLOOR PLAN		
Scale		
1:100 on A2		
Date	Drawn By	
APRIL 2023	RMC	
Job No	Drawing NO	Rev.
0423-19	110	A
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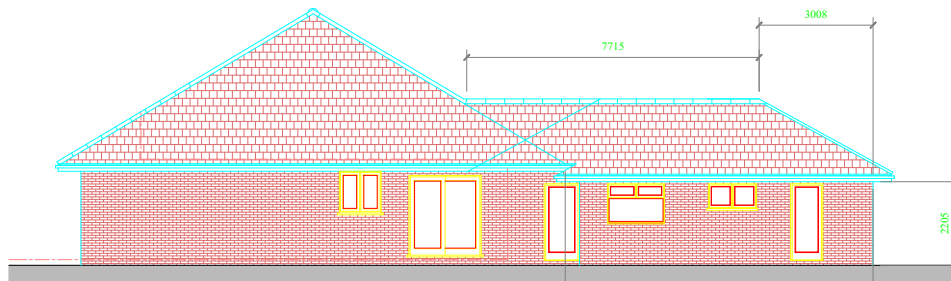
NORTH EAST (Front) ELEVATION
SCALE 1:100



NORTH WEST (Side) ELEVATION
SCALE 1:100



SOUTH WEST (Rear) ELEVATION
SCALE 1:100



SOUTH EAST (Side) ELEVATION
SCALE 1:100



 103 Sharncliffe Road Cheltenham, GL53 0JG www.MekKara.co.uk, mek@meckara.com Ph: 0124228815, 01843020249		
Client		
MR BIJU MATHEW		
Job Title		
PROPOSED EXTENSION CRIMBLE BUNGALOW CRIMBLE LANE, OL11 4AB		
Drawing Title		
EXISTING ELEVATIONS		
Scale 1:100 on A2		
Date	Drawn By	
APRIL 2023	RMC	
Job No	Drawing NO	Rev.
0423-19	111	-
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AREA OF THE LAND: 9314.20 Sq.M

EXISTING FLOOR AREA: 295.50 Sq.M

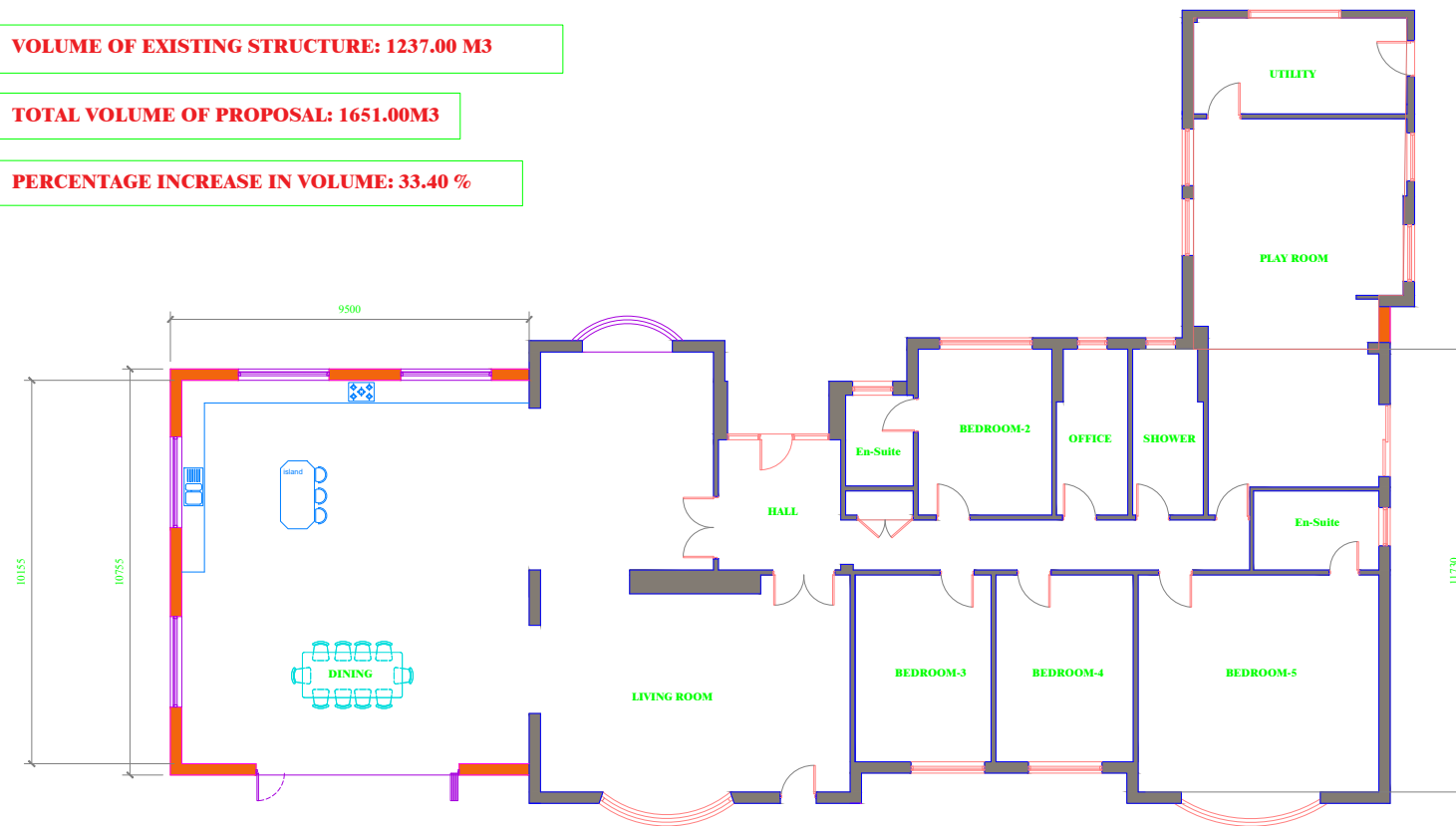
ADDITIONAL FLOOR AREA CREATED: 102.172 Sq.M

PERCENTAGE INCREASE IN FLOOR AREA: 34.65 %

VOLUME OF EXISTING STRUCTURE: 1237.00 M3

TOTAL VOLUME OF PROPOSAL: 1651.00M3

PERCENTAGE INCREASE IN VOLUME: 33.40 %



LEGEND

- EXISTING WALL (In Plan)
- NEW WALL (In Plan)

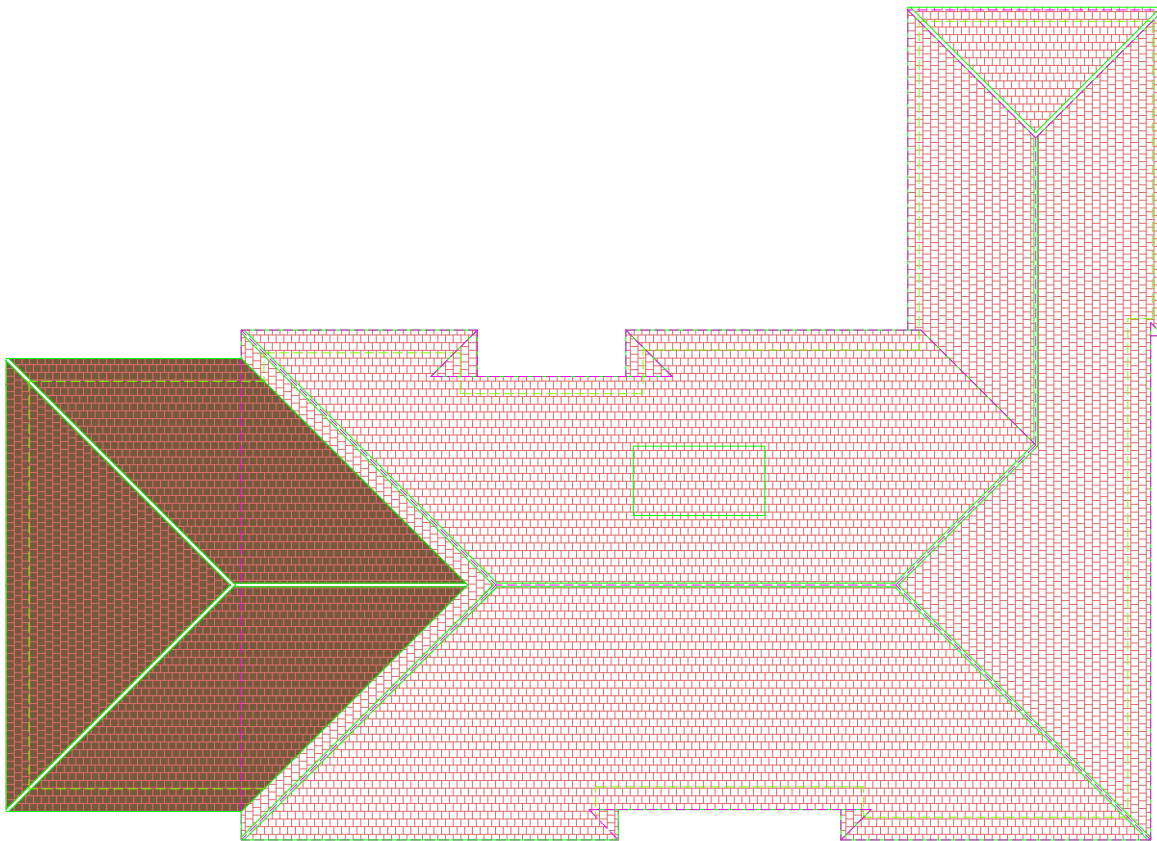
GROUND FLOOR PLAN
SCALE 1:100



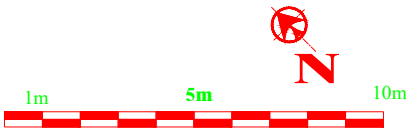
 103 Sharnbrook Road Chesham, GL53 0JG www.MekKara.co.uk, mecd@gmail.com Ph: 0149228815, 0149202049		
Client MR BIJU MATHEW		
Job Title PROPOSED EXTENSION CRIMBLE BUNGALOW CRIMBLE LANE, OL11 4AB		
Drawing Title PROPOSAL GROUND FLOOR PLAN		
Scale 1:100 on A2		
Date Jan 2024	Drawn By RMC	
Job No 0124-05	Drawing NO 120	Rev. -
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LEGEND

-  EXISTING ROOF TILES
-  NEW ROOF TILES



ROOF PLAN
SCALE 1:100





103 Sharnbrington Road
Cheltenham, GL53 0JG
www.MekKara.co.uk, mecd@gmail.com
Ph: 0124228815, 01843020249

Client

MR BIJU MATHEW

Job Title

**PROPOSED EXTENSION
CRIMBLE BUNGALOW
CRIMBLE LANE, OL11 4AB**

Drawing Title

**PROPOSAL
ROOF PLAN**

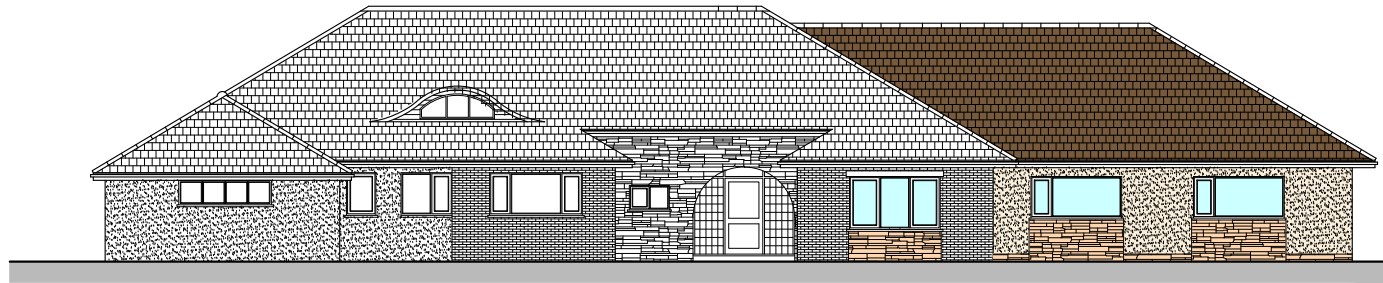
Scale

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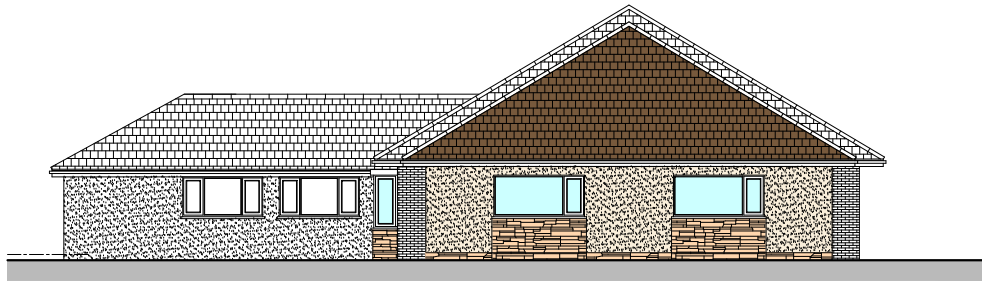
Date	Jan 2024	Drawn By	RMC
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Job No	Drawing NO	Rev.
0124-05	122	-

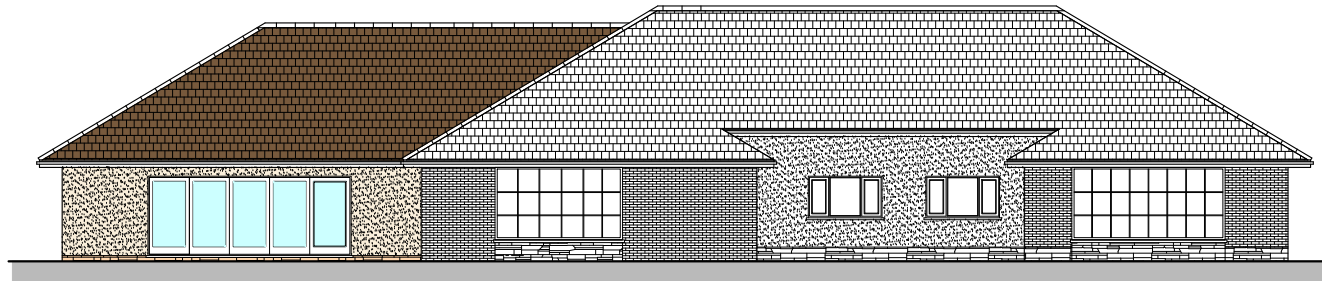
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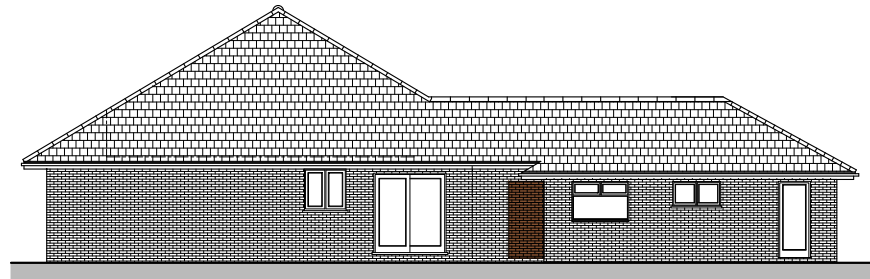
NORTH EAST (Front) ELEVATION
SCALE 1:100



NORTH WEST (Side) ELEVATION
SCALE 1:100



SOUTH WEST (Rear) ELEVATION
SCALE 1:100



SOUTH EAST (Side) ELEVATION
SCALE 1:100

LEGEND

	EXISTING ROOF TILES
	NEW ROOF TILES
	EXISTING BRICK
	NEW STONE FACING
	EXISTING STONE FACING
	NEW RENDERING
	EXISTING RENDERING
	NEW WINDOWS
	EXISTING WINDOWS

MATERIALS

ROOF: CONCRETE ROOF TILES
TO MATCH EXISTING

WALL: LIME RENDER WITH PAINT
TO MATCH EXISTING

WINDOWS: UPVC 'A' RATED DOUBLE GLAZED WINDOWS
TO MATCH EXISTING

DOORS: UPVC 'A' RATED DOUBLE GLAZED DOORS
TO MATCH EXISTING

RAIN WATER: UPVC GUTTER, RWP, FASCIA BOARD AND
GOODS: SOFFIT BOARD



Client

MR BIJU MATHEW

Job Title

**PROPOSED EXTENSION
CRIMBLE BUNGALOW
CRIMBLE LANE, OL11 4AB**

Drawing Title

**PROPOSAL
ELEVATIONS**

Scale

1:100 on A2

Date

Jan 2024

Drawn By

RMC

Job No

0124-05

Drawing NO

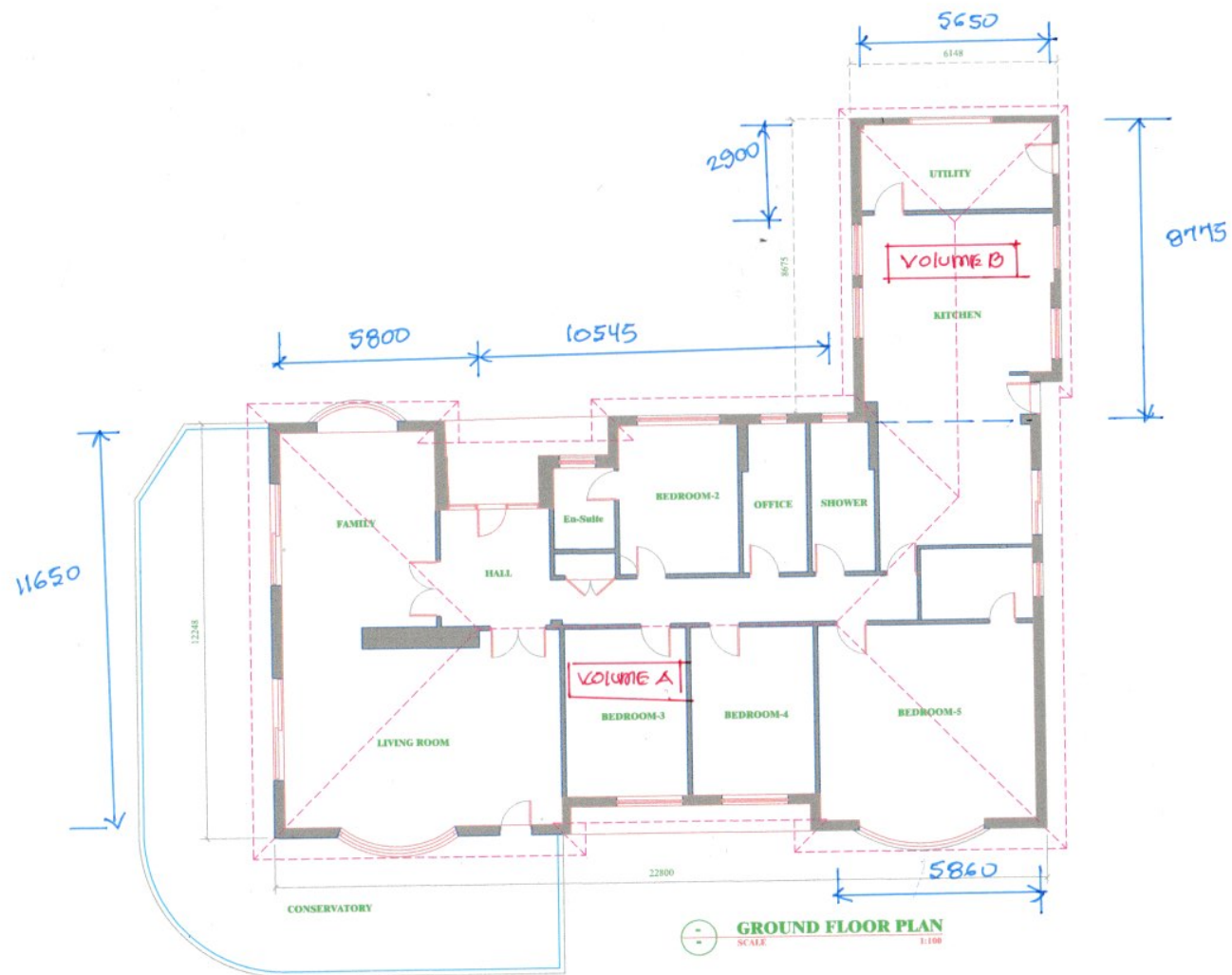
121

Rev.

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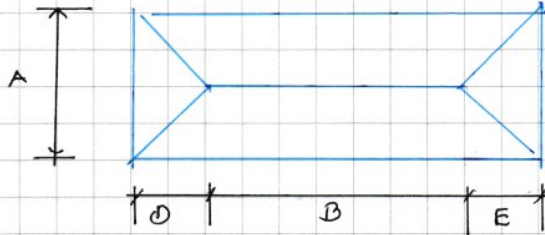
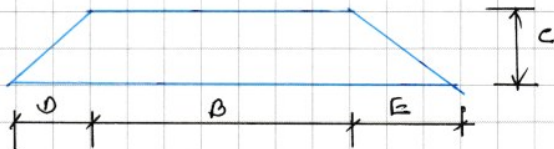


FLOOR AREA: 295.50 Sq.M



MEKKARA Architectural Consultants 110 Braemar Road Cheltenham, GL50 0JQ www.mekkararchitects.co.uk Ph: 0124228875, 07943025249		
Client MR BIJU MATHEW		
Job Title PROPOSED EXTENSION CRIMBLE BUNGALOW CRIMBLE LANE, OL11 4AB		
Drawing Title EXISTING GROUND FLOOR PLAN		
Scale 1:100 on A2		
Date APRIL 2023	Drawn By RMC	
Job No 0423-19	Drawing NO 110	Rev. A
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Client:		Calculation by:	
Project:	CRIMBLE BUNGALOW	Checked by:	
Contract No:		Page No:	8
Date:		Revision:	
Relevant BS/Legislation:			

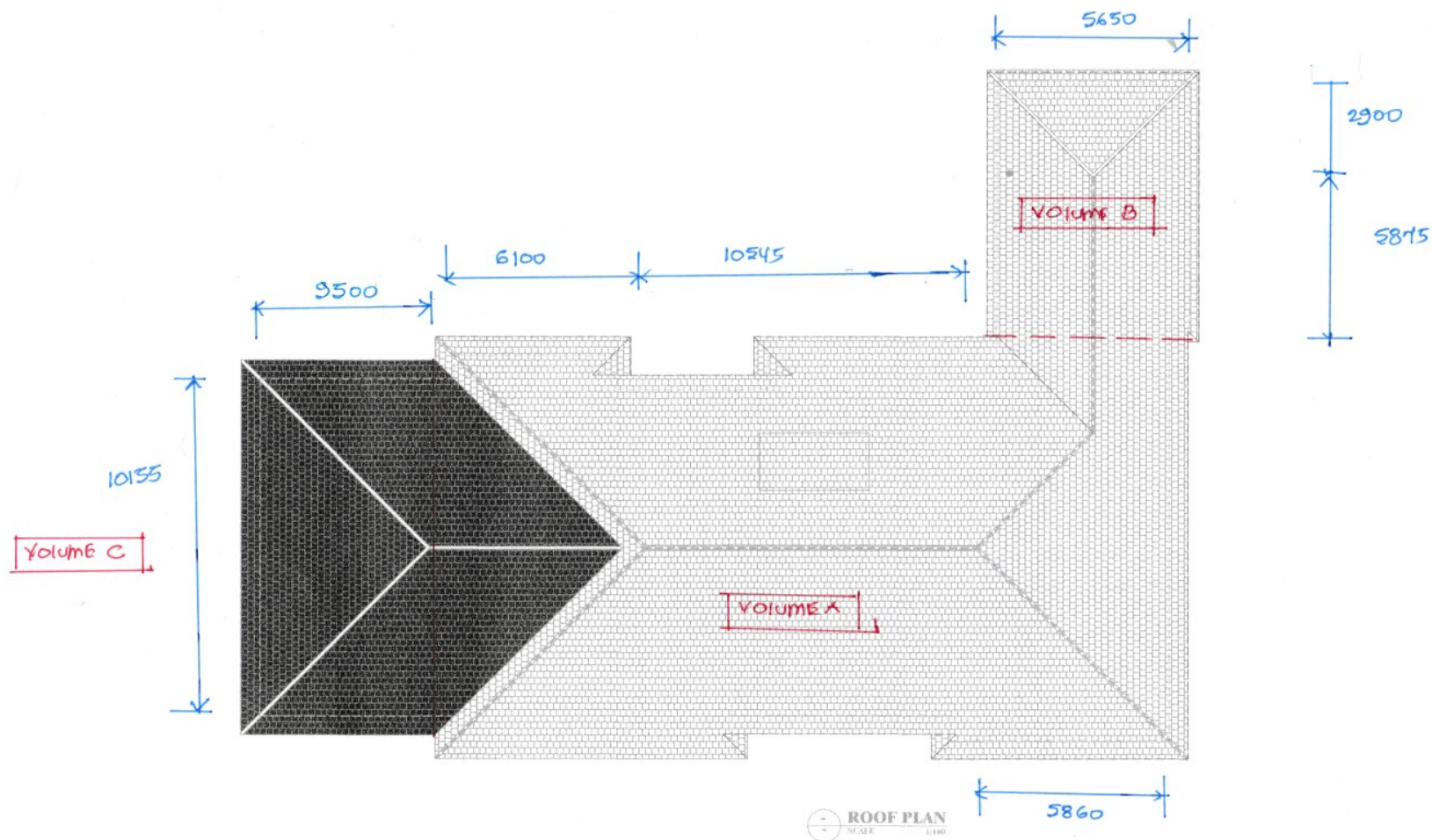
Ref	Calculations	Output
	<u>CALCULATION OF VOLUME</u> <u>ORIGINAL BUILDING</u> VOLUME CALCULATION   $\text{VOLUME} = \frac{A \times B \times C}{2}$ $A(D+E) \frac{C}{3} =$	

Client:		Calculation by:	
Project:	CRIMBLE BUNGALOW	Checked by:	
Contract No:		Page No:	9
Date:		Revision:	
Relevant BS/Legislation:			

Ref	Calculations	Output
	EXISTING STRUCTURE <u>VOLUME A</u> $ \begin{aligned} A &= 11650 \\ B &= 10545 \\ C &= 3500 \\ D &= 5800 \\ E &= 5860 \end{aligned} $ $= \frac{11650 \tan 21^\circ}{2}$ $\text{Volume 1} = \frac{1165 \times 10545 \times 350}{2} = 214.99$ $\text{Volume 2} = \frac{11650 (580 + 586) \times 350}{3} = 158.48$ <u>373.47</u> <u>VOLUME B</u> $ \begin{aligned} A &= 5650 \\ B &= 5875 \\ C &= 1700 \\ D &= 0 \\ E &= 2900 \end{aligned} $ $= \frac{5650 \tan 31^\circ}{2}$ $\text{Volume 1} = \frac{565 \times 5875 \times 170}{2} = 28.22$ $\text{Volume 2} = \frac{565 \times (0 + 290) \times 170}{3} = 9.28 37.50 TOTAL VOLUME = 373.47 + 37.50 = 410.97 m3 $	

LEGEND

	EXISTING ROOF TILES
	NEW ROOF TILES



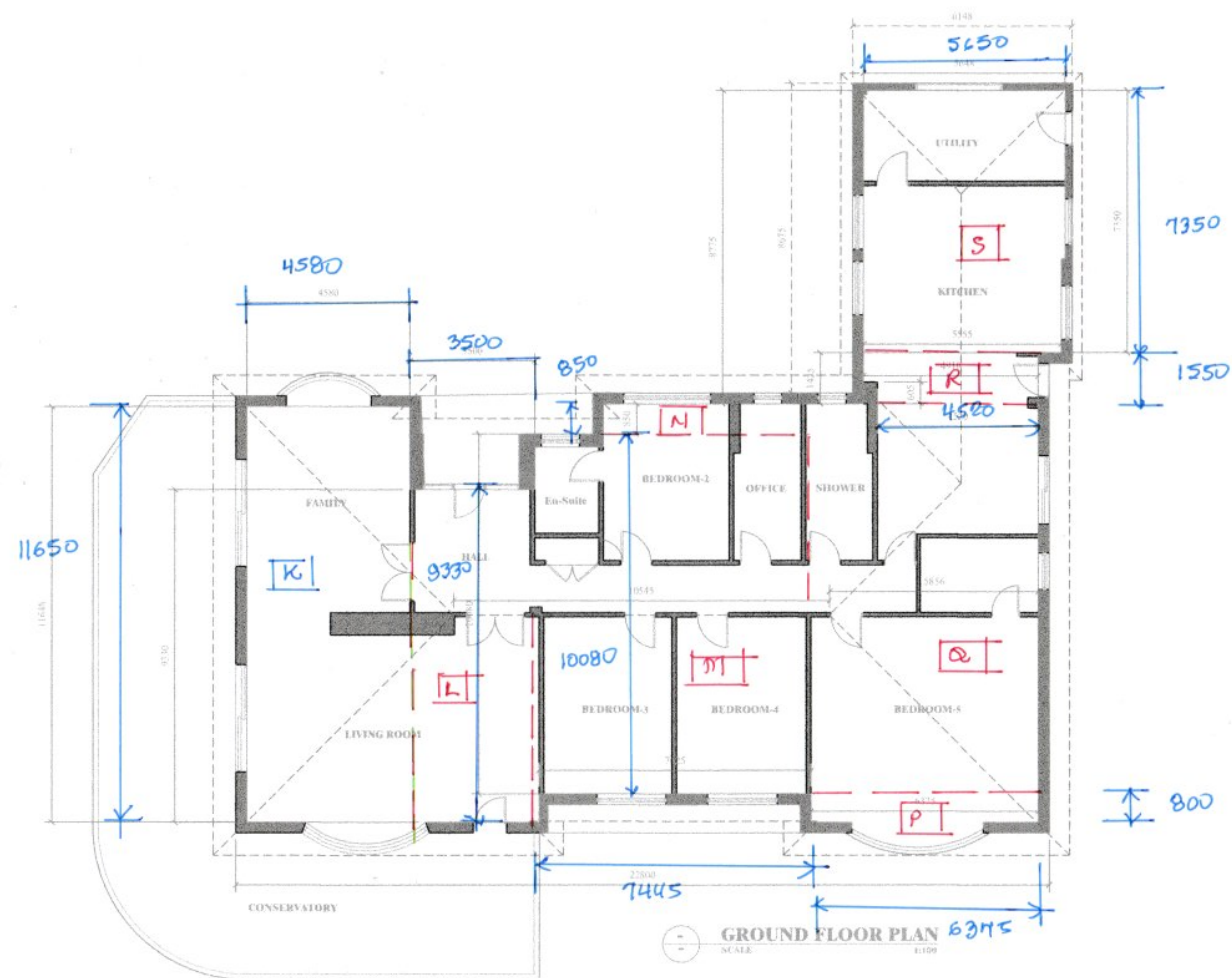
 MEKKARA Architectural Consultants 101 Galleys Road, Colombo 05, Sri Lanka Tel: 011 524 1111 Email: mekkara@mekkara.lk P: 011 524 1111		
Client		
MR BIJU MATHEW		
Job Title		
PROPOSED EXTENSION CRIMBLE BUNGALOW CRIMBLE LANE, OL11 4AB		
Drawing Title		
PROPOSAL ROOF PLAN		
Scale		
1:100 on A2		
Date	Drawn By	
Jan 2024	RMC	
Job No	Drawing NO	Rev.
0124-05	122	-
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Client:		Calculation by:	
Project:	CRUMBLE BUNGAION	Checked by:	
Contract No:		Page No:	11
Date:		Revision:	
Relevant BS/Legislation:			

Ref	Calculations	Output
	NEW STRUCTURE VOLUME A $A = 11650$ $B = 10545$ $C = 3500$ $D = 6100$ $E = 5860$ $\frac{11650 \tan 31^\circ}{2}$ $\text{VOLUME 1} = \frac{11.65 \times 10.545 \times 3.50}{2} = 214.99$ $\text{VOLUME 2} = \frac{11.65 (6.10 + 5.86) \times 3.50}{3} = 162.56$ <u>377.55</u> VOLUME B $A = 5650$ $B = 5875$ $C = 1700$ $D = 0$ $E = 2900$ $\frac{5650 \tan 31^\circ}{2}$ $\text{VOLUME 1} = \frac{5.65 \times 5.875 \times 1.70}{2} = 28.22$ $\text{VOLUME 2} = \frac{5.65 (0 + 2.90) \times 1.70}{3} = 9.28$ <u>37.50</u>	

Client:		Calculation by:	
Project:	CRIMBLO (BLINDWORK)	Checked by:	
Contract No:		Page No:	12
Date:		Revision:	
Relevant BS/Legislation:			

Ref	Calculations	Output
	NEW STRUCTURE VOLUME C $A = 10.155$ $B = 0$ $C = 3050$ $D = 9500$ $E = 0$ $\frac{10.155 \tan 31^\circ}{2}$ Volume ① = 0 Volume ② = $10.155 \times (9.50 + 0) \times \frac{3.05}{3} = 98.08 \text{ m}^3$ Total Volume = $277.55 + 27.50 + 98.08 = 513.13 \text{ m}^3$	



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108, 8th Floor, 10th Cross, 10th Main, 10th Stage, 10th Block, 10th Phase, 10th Sector, 10th Zone, 10th Area, 10th Region, 10th Country, 10th World, 10th Universe, 10th Multiverse, 10th Omniverse, 10th Everything.		
Client		
MR BIJU MATHEW		
Job Title		
PROPOSED EXTENSION CRIMBLE BUNGALOW CRIMBLE LANE, OL11 4AB		
Drawing Title		
EXISTING GROUND FLOOR PLAN		
Scale		
1:100 on A2		
Date	APRIL 2023	Drawn By
		RMC
Job No	0423-19	Drawing NO
		110
Rev.		A
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Client:		Calculation by:	
Project:	CRIMBLE	Checked by:	
Contract No:		Page No:	14
Date:		Revision:	
Relevant BS/Legislation:			

Ref	Calculations	Output																											
	<u>EXISTING STRUCTURE</u> <u>VOLUME BELOW PAVE LEVEL</u> <u>AREA</u> <table> <tr> <td>K</td><td>$11.85 \times 4.58 =$</td><td>53.36</td></tr> <tr> <td>L</td><td>$9.33 \times 3.50 =$</td><td>32.66</td></tr> <tr> <td>M</td><td>$10.080 \times 7.445 =$</td><td>75.05</td></tr> <tr> <td>N</td><td>$0.85 \times 7.445 =$</td><td>6.33</td></tr> <tr> <td>P</td><td>$0.80 \times 6.875 =$</td><td>5.10</td></tr> <tr> <td>Q</td><td>$10.93 \times 6.875 =$</td><td>75.14</td></tr> <tr> <td>R</td><td>$1.55 \times 4.52 =$</td><td>7.00</td></tr> <tr> <td>S</td><td>$7.85 \times 5.65 =$</td><td>41.53</td></tr> <tr> <td></td><td></td><td><u>286.17 m²</u></td></tr> </table> AVERAGE EDGE HEIGHT = 2600mm TOTAL Volume = $286.17 \times 2.60 = 770.05 \text{ m}^3$	K	$11.85 \times 4.58 =$	53.36	L	$9.33 \times 3.50 =$	32.66	M	$10.080 \times 7.445 =$	75.05	N	$0.85 \times 7.445 =$	6.33	P	$0.80 \times 6.875 =$	5.10	Q	$10.93 \times 6.875 =$	75.14	R	$1.55 \times 4.52 =$	7.00	S	$7.85 \times 5.65 =$	41.53			<u>286.17 m²</u>	
K	$11.85 \times 4.58 =$	53.36																											
L	$9.33 \times 3.50 =$	32.66																											
M	$10.080 \times 7.445 =$	75.05																											
N	$0.85 \times 7.445 =$	6.33																											
P	$0.80 \times 6.875 =$	5.10																											
Q	$10.93 \times 6.875 =$	75.14																											
R	$1.55 \times 4.52 =$	7.00																											
S	$7.85 \times 5.65 =$	41.53																											
		<u>286.17 m²</u>																											

AREA OF THE LAND: 9314.20 Sq.M

EXISTING FLOOR AREA: 295.50 Sq.M

ADDITIONAL FLOOR AREA CREATED: 102.172 Sq.M

PERCENTAGE INCREASE IN FLOOR AREA: 34.65 %

VOLUME OF EXISTING STRUCTURE: 1237.00 M3

TOTAL VOLUME OF PROPOSAL: 1651.00M3

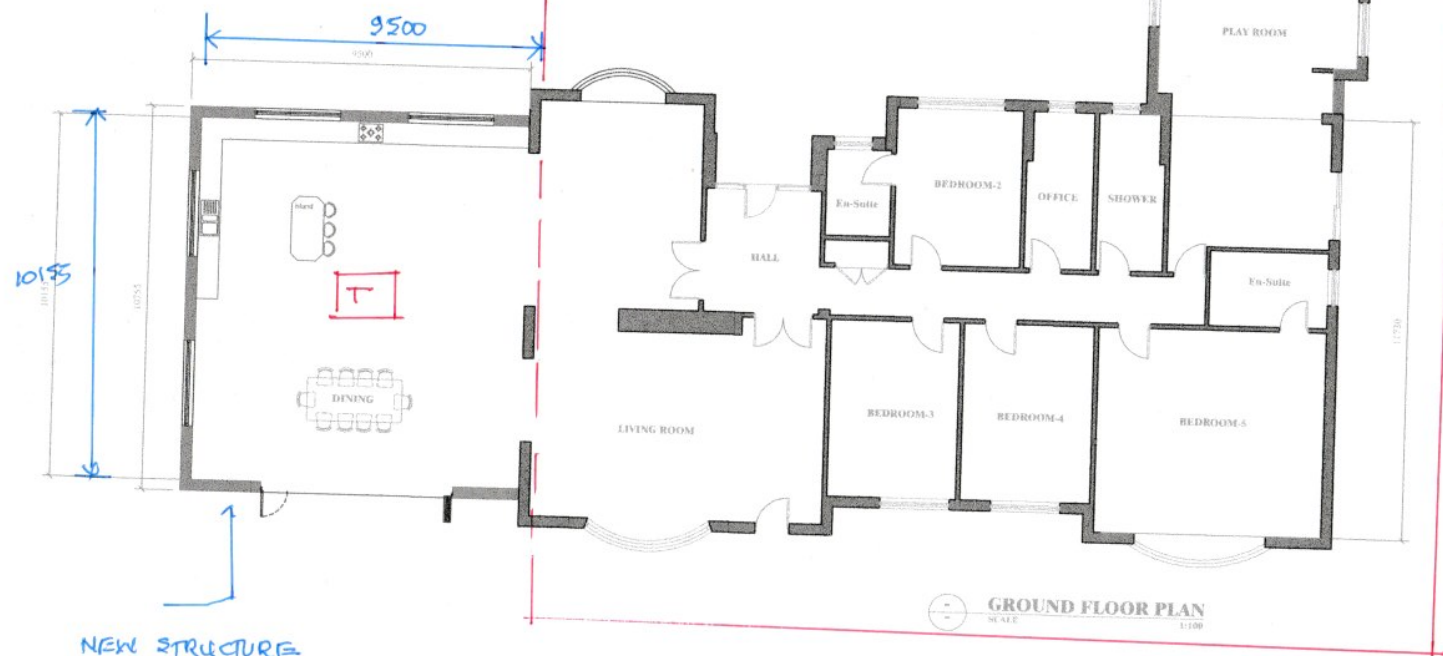
PERCENTAGE INCREASE IN VOLUME: 33.40 %

EXISTING STRUCTURE

LEGEND

EXISTING WALL (in Plan)

NEW WALL (in Plan)



Client

MR BIJU MATHEW

Job Title

PROPOSED EXTENSION
CRIMBLE BUNGALOW
CRIMBLE LANE, OL11 4AB

Drawing Title

PROPOSAL
GROUND FLOOR PLAN

Scale

1:100 on A2

Date

Jan 2024

Drawn By

RMC

Job No

0124-05

Drawing NO

120

Rev.

-

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Client:		Calculation by:	
Project:	CRUMBLES	Checked by:	
Contract No:		Page No:	16
Date:		Revision:	
Relevant BS/Legislation:			

Ref	Calculations	Output
	<u>NEW STRUCTURE</u> VOLUME T = $10455 \times 9.50 = 9647 \text{ m}^2$ <u>EXISTING STRUCTURE</u> VOLUME K TO S = 296.17 m^2 TOTAL AREA = $9647 + 296.17 = 9943.17 \text{ m}^2$ AVERAGE EAVE HEIGHT = 2600MM TOTAL VOLUME = $9943.17 \times 2.60 = 25852.24 \text{ m}^3$	

Client:		Calculation by:	
Project:		Checked by:	
Contract No:		Page No:	17
Date:		Revision:	
Relevant BS/Legislation:			

Ref	summary				
	DESCRIPTION	EXISTING STRUCTURE	NEW STRUCTURE	PERCENTAGE INCREASE	
Calculations	AREA (m ²)	296.17	392.64	32.57	OK
	VOLUME (m ³)				
	BELOW EAVE LVL	770.05	1021.00	32.59	OK
	ABOVE EAVE LVL	410.97	513.13	24.85	OK
	TOTAL VOLUME	1181.02	1534.13	29.90	OK
Output					