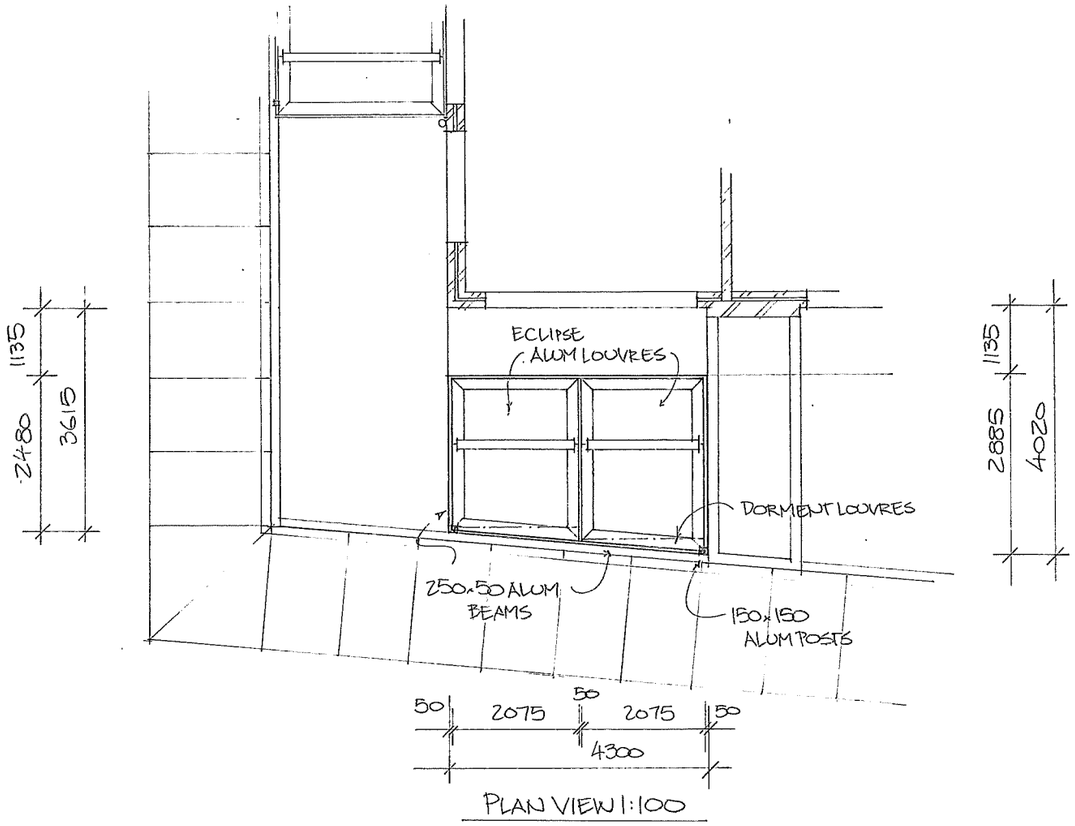
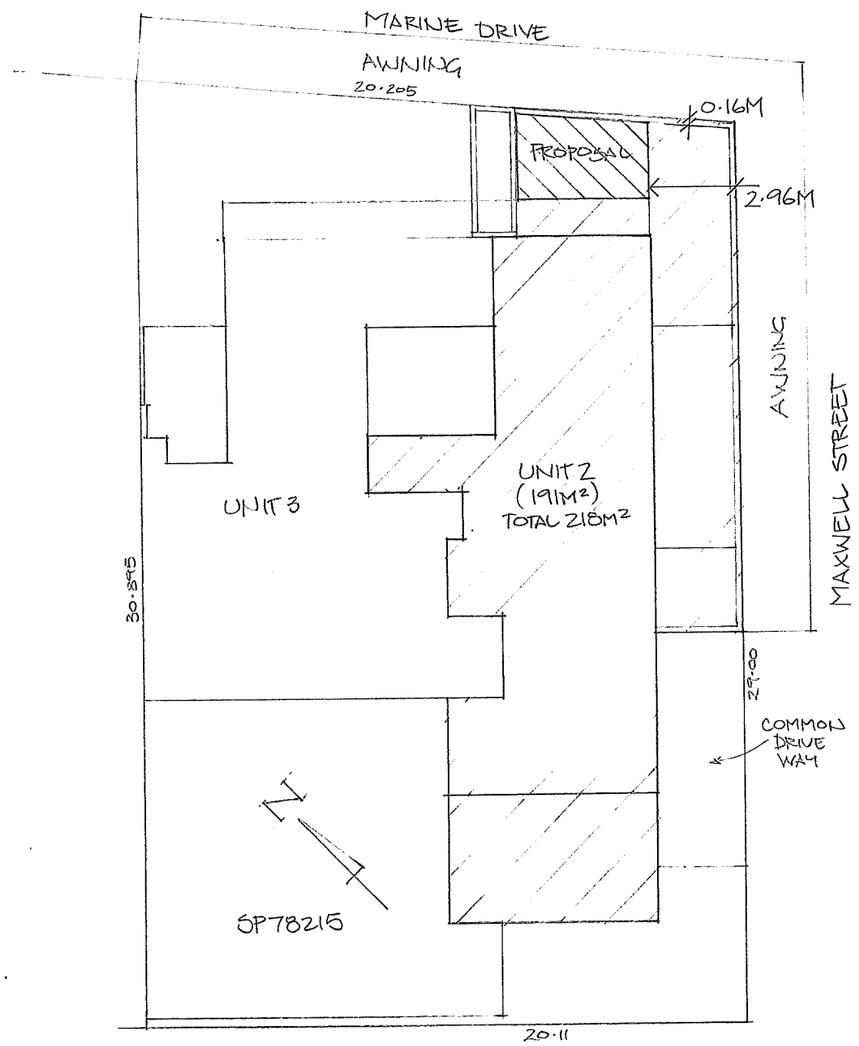
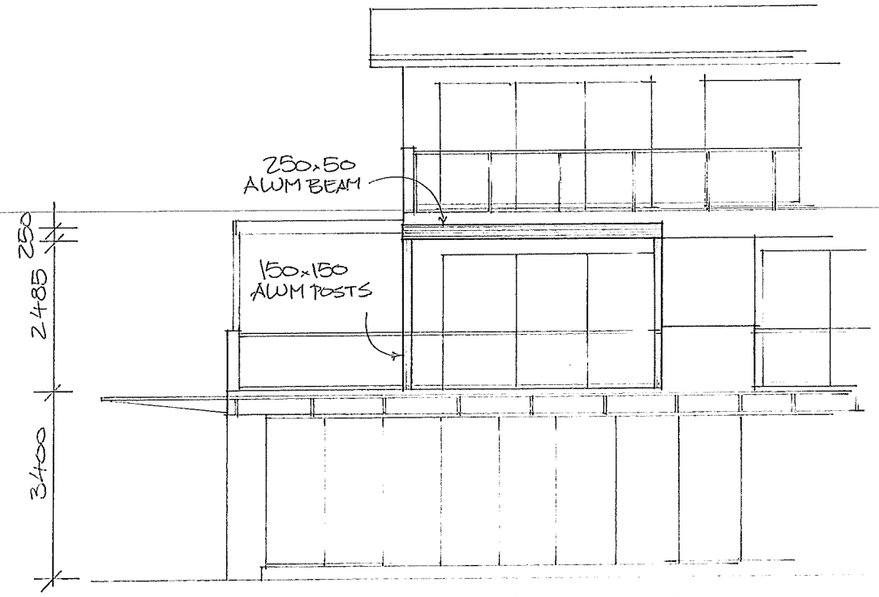


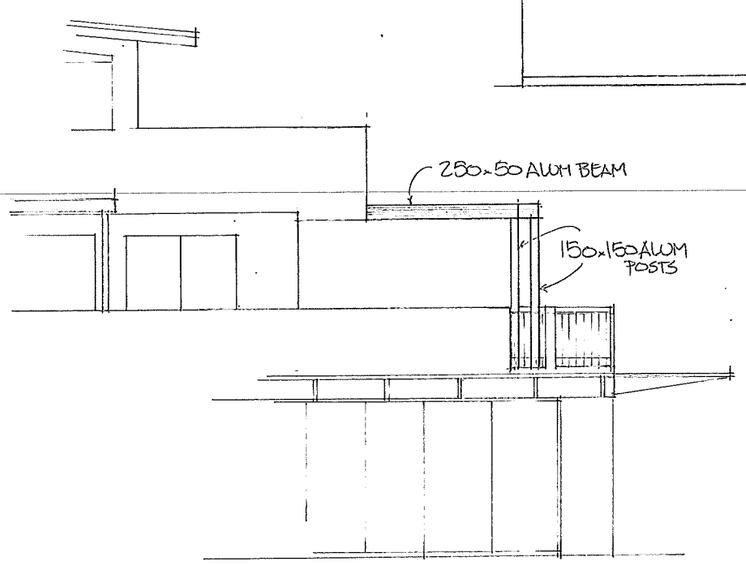
PLAN VIEW 1:100



SITE PLAN 1:200



NORTH EAST VIEW



SOUTH EAST VIEW

PROPOSED IMPROVEMENTS FOR:
KICK & TRISH WRAIGHT
2/83 MARINE DRIVE.
TEA GARDENS

BUILDER:
HV ALUMINIUM
10 MYRA STREET,
NEW LAMBTON

PROPOSAL:
CONSTRUCT AN OPENING ROOF TO THE FRONT OF THE UNIT.
ECLIPSE ALUM LOUVRES SUPPORTED BY 250x50 ALUM BEAMS
ON 150x150 ALUM POSTS.
DOWNPIPE TO THE EXISTING STORMWATER SYSTEM

DA22694

Eclipse Opening Roof Design Worksheet

This worksheet is a summary of design calculations from the Eclipse Opening Roof Design Manual
October 2013

Owners: MR. & MRS. WRAIGHT Address: 2/83 MARINE DRIVE, TEAGARDENS

1. Wind Design Factors

Wind Region = A

Terrain Category = 2

Shielded or Non-shielded = NONSHIELDED

2. Design Wind Pressure, q_z

Using the Design Wind Factors select q_z from the Tables in Section 2 of Design Manual. **q_z** = 1.02 **kPa**

3. Pressure Coefficient, Cp_u & Cp_d

Determine both UPWARD and DOWNWARD pressure coefficients.

Height of Structure h_c = 2.6 m h_c/w_c = 0.89 **Cp_u** = 0.9

Height of Building h = 2.6 m

Projection of Structure w_c = 2.9 m h_c/h = 1.0 **Cp_d** = 0.6

Number of Enclosed Sides = 1

4. Wind Pressure (kPa)

Calculate wind pressure for both UPWARD and DOWNWARD directions.

Upward Pressure P_u = q_z x Cp_u = 1.02 x 0.9 **P_u** = 0.918 **kPa**

Downward Pressure P_d = q_z x Cp_d = 1.02 x 0.6 **P_d** = 0.612 **kPa**

5. Select Louvre Span (m)

Using P_u and P_d select the maximum louvre span from the Tables in Section 5 of the Design Manual.

Maximum Louvre Span, based on UPWARD pressure = 3.37 m

Maximum Louvre Span, based on DOWNWARD pressure = 4.2 m

The Allowable Maximum Span is the LESSER of these two values.

Maximum Louvre Span, Ls = 3.37 m

6. Louvre Support Beams

Calculate the Uniformly Distributed Beam Load (UDL) then select beam with appropriate span from Table 6.1.

For Design Pressure, P use the HIGHER value of P_u and P_d **P = 0.918 kPa**

EDGE BEAM Louvre Span Length (dist. between tracks): L = 2.07 m.

UDL = P x L/2 = .918 x 1.035 **UDL = 0.95 kN/m**

MID BEAM Louvre Span Lengths (dist. between tracks): L1 = 2.07 m L2 = 2.07 m

UDL = P x (L1 + L2)/2 = .918 x 2.07 **UDL = 1.9 kN/m**

Beam Selection Summary:

	UDL	Size	Max. Span
Beam 1	.95	250x50x3	6.53
Beam 2	1.9	250x50x3	5.49
Beam 3			