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Lifely Farm,

West Ashton,

Trowbridge.

STRUCTURAL REPORT

Prepared by: Andrew Duignan

Date: 18th September 2025

Reference: 25/6205 (Barn)

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Lifely Farm,
West Ashton,
Trowbridge.
BA14 6AU

RE: Lifely Farm, West Ashton, Trowbridge.



Figure 1.1 (Barn at Lifely Farm, West Ashton, Trowbridge)

Thank you for your request for us to carry out a structural survey at the above site. The purpose of the inspection was to assess the structural integrity of the existing masonry / steel framed building and consider the potential of converting this structure to a residential property. This report is produced at the request of Mark Doodes Planning, Unit 1, The Old Barn, Wicklesham Lodge Park, Faringdon, Oxfordshire.

We, Andrew Duignan Consulting Engineers, visited the site on Wednesday 17th September 2025 and carried out a visual inspection of the building. This was a non-invasive inspection so comment can only be made on visual assessment internally and externally.

Our observations are made on what is visible internally and externally along with information received from the Client.

1.0 Description of Structure

The building is a five bay portal framed structure with masonry external wall elevations to eaves level. The roof slopes are overlaid with corrugated concrete sheeting supported on timber purlins. The timber purlins are supported on the steel portal frames. All elements are bolted together. The gable elevations are solid masonry walls with corrugated sheeting above the masonry walls to roof level. Access to the building is gained through a large door opening on each gable.

Internally the floor area is overlaid with a concrete slab sloping slightly to the door openings. There are internal masonry wall dividing the building and constructed on the concrete slab. External walls are constructed on a concrete strip foundation and steel stanchions are cast within the concrete strip foundation below ground level. Stability for the structure is provided by diagonal steel CHS beams in one bay of the building and the external wall elevations built into the web of the portal stanchions. The steel sliding doors on each gable are supported with a steel frame bolted to the walls and portal frame.

The building is used for storing agricultural paraphernalia.

The overall dimensions of the structure are;

Length – 23.0m, each bay 4.6m.

Width — 12.0m

Height – 3.3m from slab level to eaves level, 6.3m from slab level to ridge level.

Element sizes:

Stanchions – 203 x 133 x 30UB

Principal steel rafter – 203 x 133 x 30UB

Timber purlins – 175 x 75mm

Bracing – Steel CHS, diameter - 100mm

Masonry blockwork – Solid Masonry 140mm

Photographs are presented in Appendix A.

2.0 Inspection

The inspection was carried out Wednesday 17th September 2025 in good weather conditions. The structure is in very good condition and structurally stable at the time of the visit. Some minor defects were observed during the inspection.

- There was evidence of rust in places on the steel portal frames.
- The existing sliding doors were not functioning properly.
- There was algae on the roof slopes.
- Although gutters and downpipes were in place there was no evidence of gullies or ground pipework discharging rainwater away from the building.
- Vegetation is established along the perimeter of the building.
- There is a minor crack running across the concrete floor slab midway in the building.
- There is a small gap between the masonry wall and roof structure at eaves level.

3.0 Analysis Results

The following results obtained from calculations carried out on the structure are presented in the following table:

	Actual Moment (kNm)	Allowable Moment (kNm)
Column 203 x 133 x 30UB	53.30	86.35
Principal Rafter 203 x 133 x 30UB	50.86	86.35
	<u>Actual Shear (kN)</u>	<u>Allowable Shear (kN)</u>
Column 203 x 133 x 30UB	31.57	230.6
Principal Rafter 203 x 133 x 30UB	29.20	230.6
	Actual Axial (kN)	Allowable Axial (kN)
Column 203 x 133 x 30UB	48.43 (Comp)	262.6
Principal Rafter 203 x 133 x 30UB	49.89 (Comp)	262.6
	Actual Deflection (mm)	Allowable Deflection (mm)
Column 203 x 133 x 30UB	7.14	14.0
Principal Rafter (Ridge) 203 x 133 x 30UB	17.85	28.0
Reaction (kN)		
Va	47.69	
Vb	48.43	
Ha	17.90	

Hb	31.57	
	Actual Moment (kNm)	Allowable Moment (kNm)
Timber Purlin 175 x 75mm	2.85	2.95
	<u>Actual Shear (kN)</u>	<u>Allowable Shear (kN)</u>
Timber Purlin 175 x 75mm	2.6	9.187

Table 1.1

4.0 Conversion

The building can be converted to a residential property with minimum alterations to the existing structure. A first floor area can be provided to the central part of the building. The following is a list of the proposed works the Client should consider to convert this building to a habitable area.

- All roof sheeting should be removed and replaced with a light weight standing-seam tin roof. This form of roof is light weight and should be supported on the existing timber purlins. Insulation can be placed to the underside of the tin roof between the purlins. Small roof windows can be placed on the roof slopes if required. Structural ply should be screwed to the underside of the timber purlins to provide additional stability to the roof structure.
- The existing corrugated concrete sheeting should be checked for asbestos prior to removing it. In the event of the presence of asbestos this should be removed and disposed of by trained and specialised company.
- The existing masonry wall elevations should be rendered internally and externally and insulation fixed with battens internally. The building can be clad with timber boarding externally to match the surrounding area. Doors and window openings can be readily incorporated into the masonry wall elevations. All new openings will require new lintels. The existing large door openings should be reduced in size or infilled with masonry blockwork depending on the proposed layout of building.
- All existing internal walls should be removed.
- The crack in the concrete ground bearing slab should be repaired. A damp proof membrane / radon barrier should be placed over the floor area and insulation and screed placed over to comply with current regulations.
- The internal floor area can be divided into individual areas using structural timber wall panels chemical fixed to the concrete floor and wall elevations. The first floor area can be supported on timber stanchions and walls.
- All existing portal frame and bracing elements should be cleaned, primer applied and painted with a weather resistant paint. All elements should be fire protected for a minimum of 1.5 hours with two layers of fire board.
- Gutters and downpipes should be cleaned or replaced, and surface water discharged to a soakaway.

- The gap between the masonry wall and roof structure should be filled with masonry blockwork along both sides of the building.
- All external and internal timber wall panels should be fire protected for a minimum of 1.5 hours.
- A hardstanding area should be provided along the perimeter of the building for a minimum of 1.0m.

5.0 Conclusion

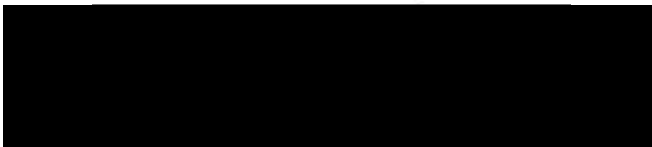
From the visual inspection above it is clear the structure is in very good condition and structurally stable with no major structural issues. The current building can be converted to a residential property without any changes to the existing height or plan area to comply with Current Building Regulations. All works listed above are commonplace with a barn conversion.

Structural calculations are presented in Appendix B.

As a practice, Andrew Duignan Consulting Engineers have dealt with scores of barn conversions under Class Q and do not see this building as being anything other than eminently convertible within the intention of the regulations.

We trust the above is satisfactory for your immediate requirements. However, should you require any further information, please do not hesitate to contact the above office.

Yours sincerely



Andrew Duignan
MSc, CEng MIEI
Andrew Duignan, Consulting Engineers.
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Appendix A



Figure 1.2 – Rear Gable Elevation



Figure 1.3 – Side Elevation next field



Figure 1.4 – Side Elevation viewing public roadway



Figure 1.5 – Rear Elevation next field



Figure 1.6 Internal roof structure



Figure 1.7– Portal Frame bracing



Figure 1.8 – Portal Frame diagonal bracing



Figure 1.9 – Steel frame bolted to wall and portal frame



Figure 1.10 – Underside of roof ridge

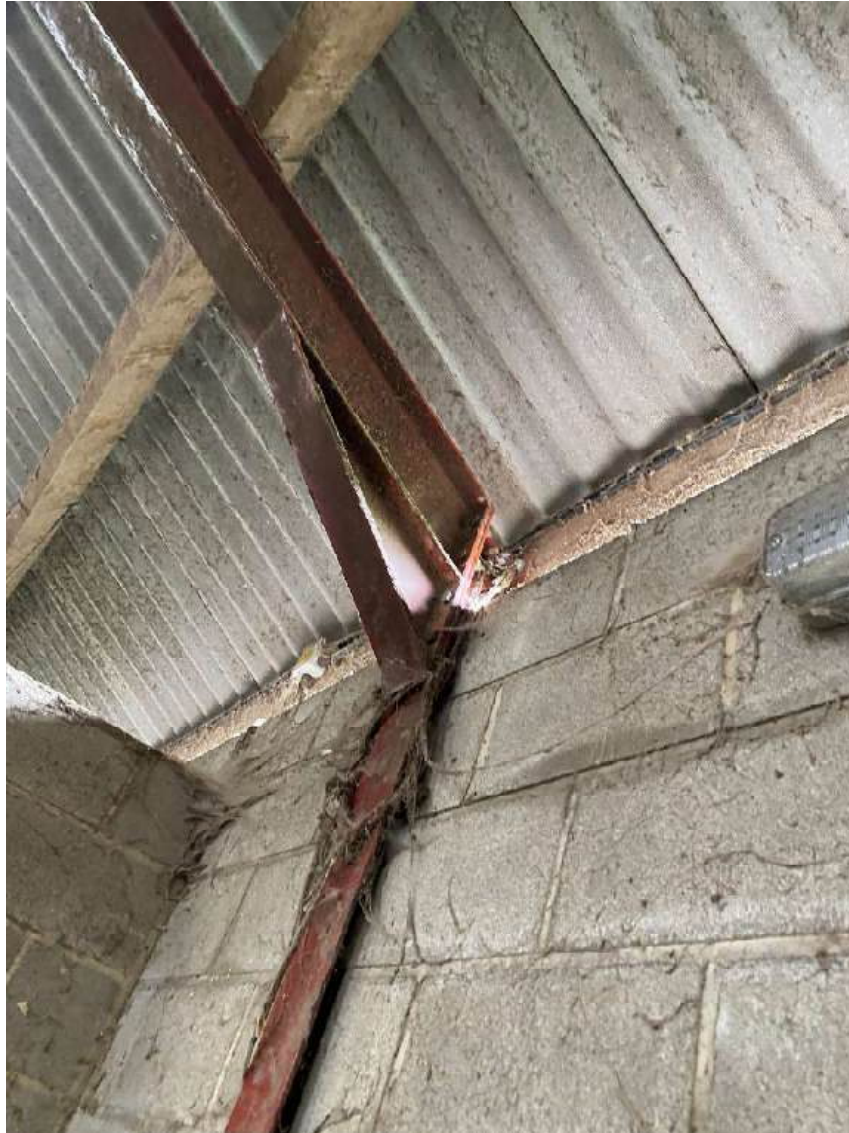


Figure 1.11 – Portal frame haunched connection



Figure 1.12– Principal rafter and purlin connection



Figure 1.13 – Steel frame bolted to wall supporting sliding doors

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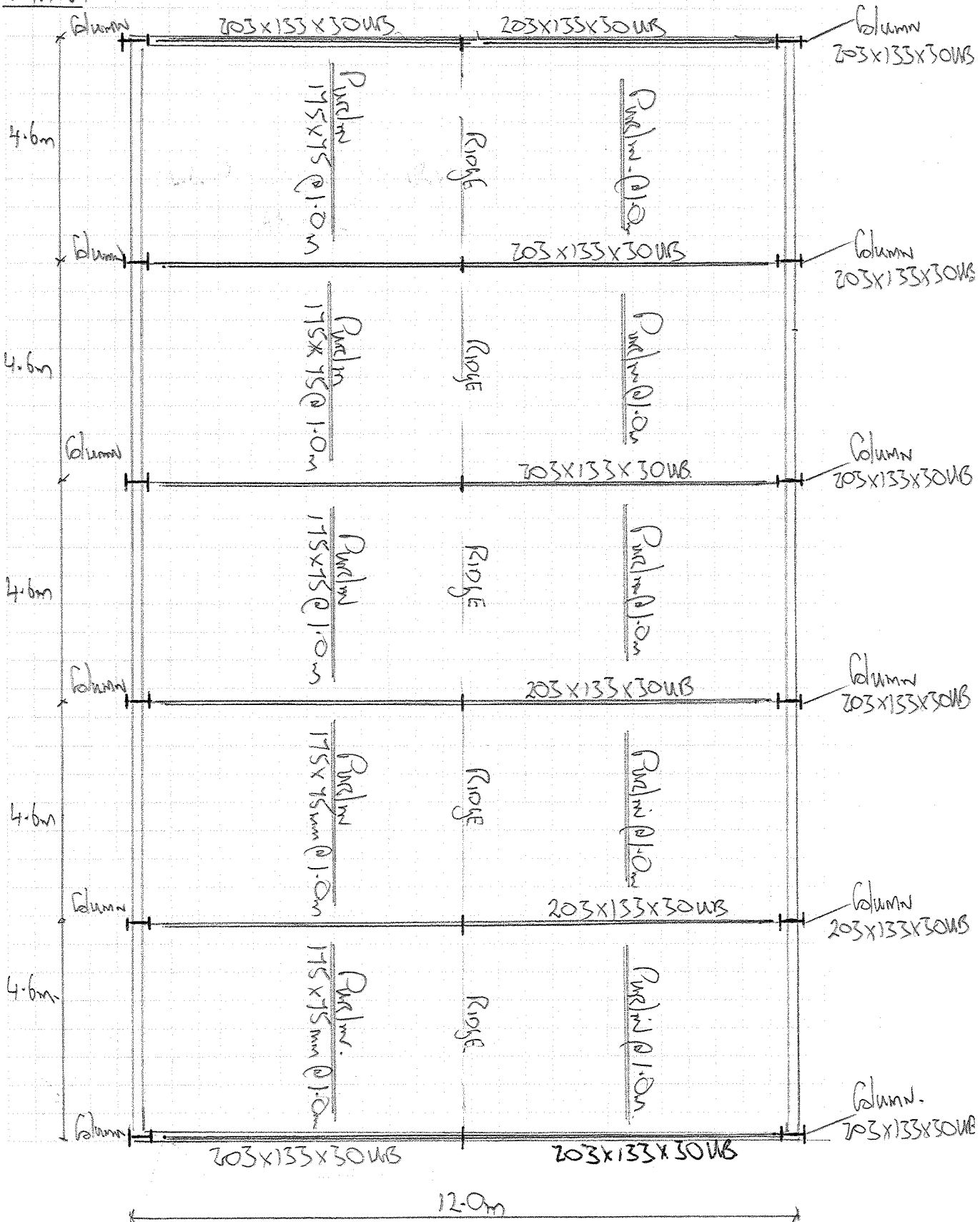
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Appendix B

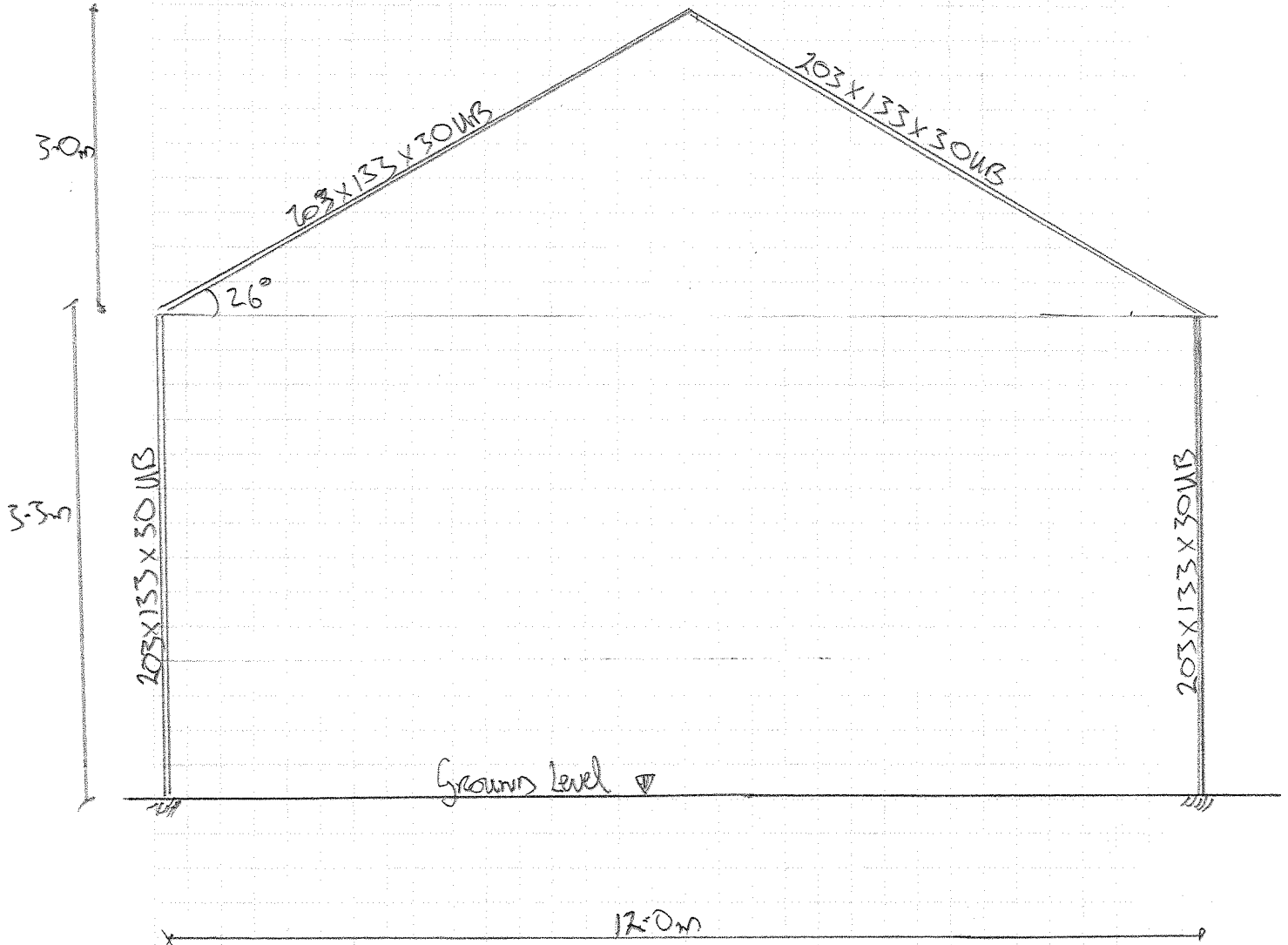
STRUCTURAL CALCULATIONS

Andrew Duignan Consulting Engineers , Regus, Conway House, 31 Worcester Street, Gloucester. Tel: 07423493249	Project No: 25/6205	Sheet No: 1
	Engineer: AD	Revision:
	Date: 18/9/2025	Checked:
Project Lifford Farm, Trowbridge		

Plan



Andrew Duignan Consulting Engineers , Regus, Conway House, 31 Worcester Street, Gloucester. Tel: 07423493249	Project No: 25/6705	Sheet No: 2
	Engineer: AD	Revision:
	Date: 18/9/2015	Checked:
Project L. Kelly Farm, Trobridge Portal Elevation.		



Andrew Duignan Consulting Engineers , Regus, Conway House, 31 Worcester Street, Gloucester. Tel: 07423493249	Project No: 25/6205	Sheet No: 3
	Engineer: AD	Revision:
	Date: 18/9/2015	Checked:
Project <u>Lilley Farm, Trowbridge</u>		

Portal Frame Loading

Spacing of Frames - 4.6m.

Lightweight SHEETING
STANDING SEAM.

Slope Loading - 0.35 kN/m^2

Insulation / Ceiling

Portal Frame
Self WT - 0.30 kN/m

Wind Loading -

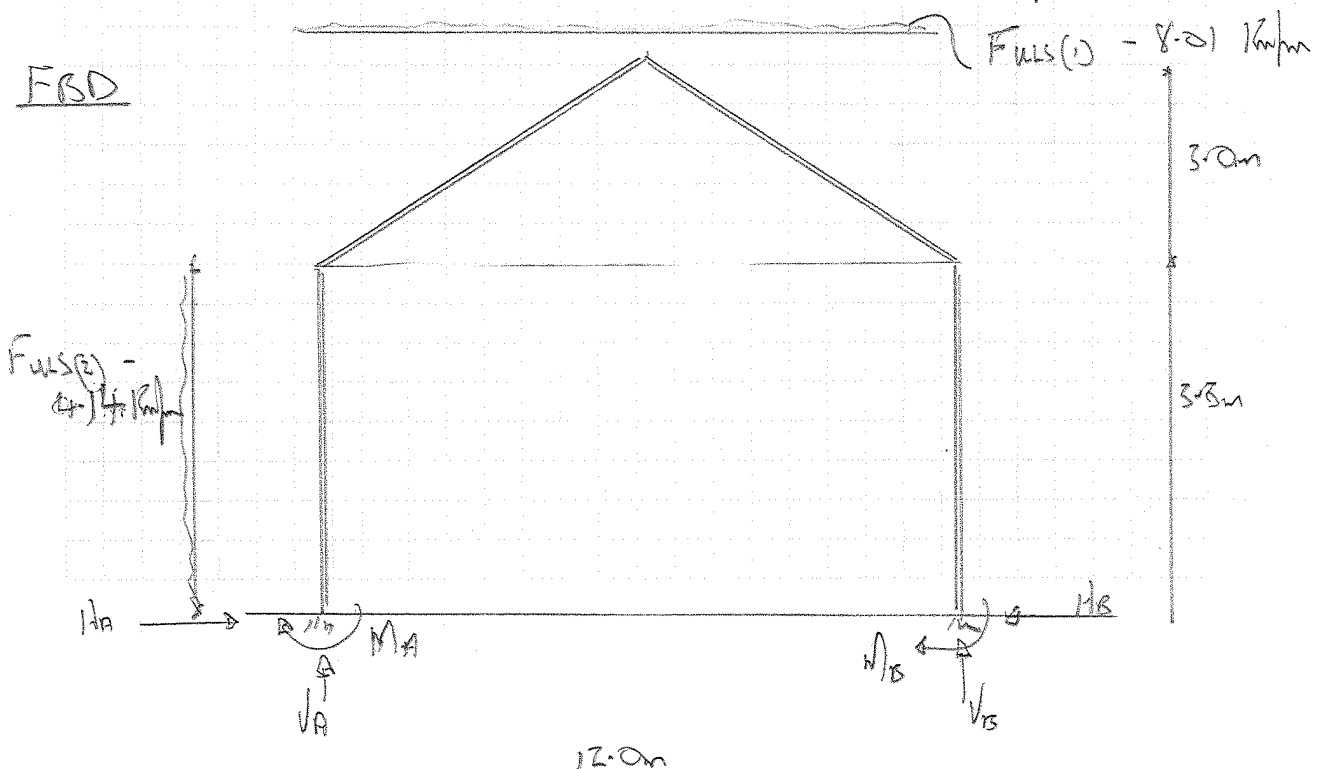
g_k	Q_k	Area m	g_k	Q_k
0.39	0.450	4.6	1.80	3.45
0.15	0	4.6		
-	-		0.30	
			2.10	3.45
0.5	0.15	4.6	3.45	-
			3.45	-

Design Loading @ ULS -

$$F_{ULS}(1) - 1.35(2.10) + 1.5(3.45) = 8.01 \text{ kN/m}$$

$$F_{ULS}(2) - 1.2(3.45) = 4.14 \text{ kN/m}$$

— FBD



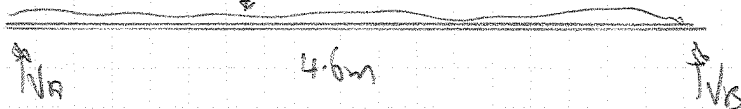
Andrew Duignan Consulting Engineers , Regus, Conway House, 31 Worcester Street, Gloucester. Tel: 07423493249	Project No: 25/6205	Sheet No: 4
	Engineer: AD	Revision:
	Date: 18/9/2025	Checked:
Project Lyley Farm, Tronbridge <u>Timber Purlin Design</u>		

Light weight STANDING SEAM.
 SHEETING
 Slope Loading - 0.35 kN/m^2
 Spacing of Purlins - 1.0 m
 on Plan.
 1.1 m on Slope.

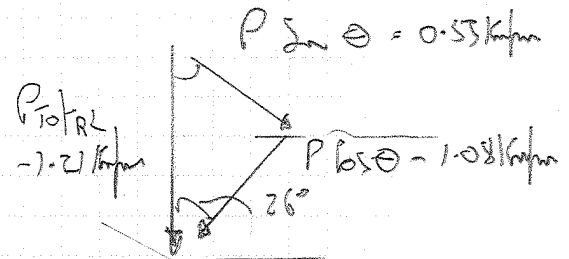
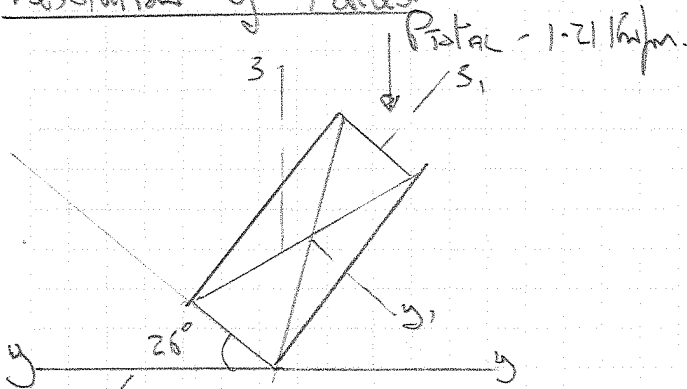
Timber Purlin - Self wt - 0.

kN/m^2		Area m	kN/m	
G_k	Q_k		G_k	Q_k
0.39	0.750	1.0	0.39	0.750
			0.04	0
			0.46	0.750

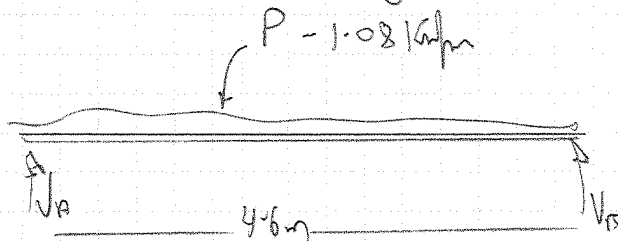
$$\left. \begin{array}{l} G_k = 0.46 \text{ kN/m} \\ Q_k = 0.750 \text{ kN/m} \end{array} \right\} P_{\text{TOTAL}} = 1.21 \text{ kN/m}$$



Resolution of Forces



Resulting Major Axis - y_1 - y_1

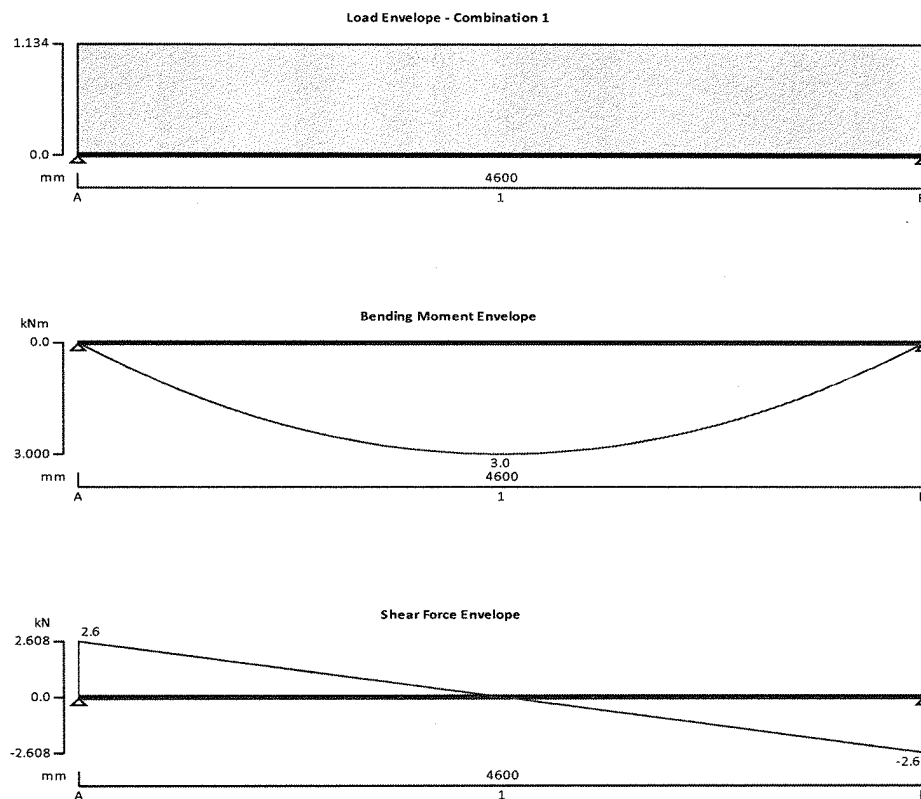


Choose 175 x 75 mm Timber
C24

Project LIFELY FARM, WEST ASHTON, TROWBRIDGE				Job no. 25/6205	
Calcs for TIMBER PURLIN				Start page no./Revision 5	
Calcs by AD	Calcs date 18/09/2025	Checked by	Checked date	Approved by	Approved date

TIMBER BEAM ANALYSIS & DESIGN TO BS5268-2:2002

TEDDS calculation version 1.7.02



Applied loading

Beam loads

Dead full UDL 1.080 kN/m
Dead self weight of beam $\times 1$

Load combinations

Load combination 1

Support A	Dead $\times 1.00$ Imposed $\times 1.00$
Span 1	Dead $\times 1.00$ Imposed $\times 1.00$
Support B	Dead $\times 1.00$ Imposed $\times 1.00$

Analysis results

Maximum moment

$M_{\max} = 3.000$ kNm $M_{\min} = 0.000$ kNm

Design moment

$M = \max(\text{abs}(M_{\max}), \text{abs}(M_{\min})) = 3.000$ kNm

Maximum shear

$F_{\max} = 2.608$ kN $F_{\min} = -2.608$ kN

Design shear

$F = \max(\text{abs}(F_{\max}), \text{abs}(F_{\min})) = 2.608$ kN

Total load on beam

$W_{\text{tot}} = 5.217$ kN

Reactions at support A

$R_{A_{\max}} = 2.608$ kN

$R_{A_{\min}} = 2.608$ kN

**Tekla Tedds**

Andrew Duignan Consulting
Engineers
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Corinium Avenue,

Project LIFELY FARM, WEST ASHTON, TROWBRIDGE			Job no. 25/6205		
Calcs for TIMBER PURLIN			Start page no./Revision 6		
Calcs by AD	Calcs date 18/09/2025	Checked by	Checked date	Approved by	Approved date

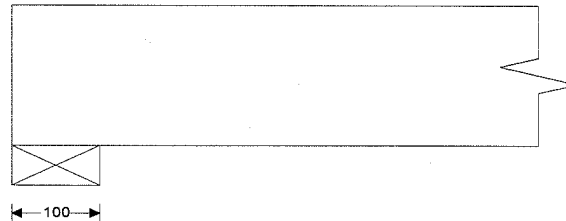
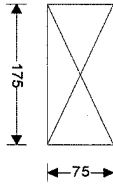
Unfactored dead load reaction at support A

 $R_{A_Dead} = 2.608 \text{ kN}$

Reactions at support B

 $R_{B_max} = 2.608 \text{ kN}$ $R_{B_min} = 2.608 \text{ kN}$

Unfactored dead load reaction at support B

 $R_{B_Dead} = 2.608 \text{ kN}$ **Timber section details**

Breadth of sections

 $b = 75 \text{ mm}$

Depth of sections

 $h = 175 \text{ mm}$

Number of sections in member

 $N = 1$

Overall breadth of member

 $b_b = N \times b = 75 \text{ mm}$ **User defined timber properties**

Wood type

Softwood

Bending parallel to grain

 $\sigma_m = 7.500 \text{ N/mm}^2$

Tension parallel to grain

 $\sigma_t = 4.500 \text{ N/mm}^2$

Compression parallel to grain

 $\sigma_c = 7.900 \text{ N/mm}^2$

Compression perpendicular to grain (no wane)

 $\sigma_{cp1} = 2.400 \text{ N/mm}^2$

Compression perpendicular to grain (with wane)

 $\sigma_{cp2} = 1.900 \text{ N/mm}^2$

Shear parallel to grain

 $\tau = 0.710 \text{ N/mm}^2$

Mean modulus of elasticity

 $E_{mean} = 15200 \text{ N/mm}^2$

Minimum modulus of elasticity

 $E_{min} = 10800 \text{ N/mm}^2$

Characteristic density

 $\rho_{char} = 350 \text{ kg/m}^3$

Average density

 $\rho = 420 \text{ kg/m}^3$ **Member details**

Service class of timber

1

Load duration

Long term

Length of span

 $L_{s1} = 4600 \text{ mm}$

Length of bearing

 $L_b = 100 \text{ mm}$ **Section properties**

Cross sectional area of member

 $A = N \times b \times h = 13125 \text{ mm}^2$

Section modulus

 $Z_x = N \times b \times h^2 / 6 = 382813 \text{ mm}^3$ $Z_y = h \times (N \times b)^2 / 6 = 164063 \text{ mm}^3$

Second moment of area

 $I_x = N \times b \times h^3 / 12 = 33496094 \text{ mm}^4$ $I_y = h \times (N \times b)^3 / 12 = 6152344 \text{ mm}^4$

Radius of gyration

 $i_x = \sqrt{I_x / A} = 50.5 \text{ mm}$ $i_y = \sqrt{I_y / A} = 21.7 \text{ mm}$ **Modification factors**

Duration of loading - Table 17

 $K_3 = 1.00$

Bearing stress - Table 18

 $K_4 = 1.00$

Total depth of member - cl.2.10.6

 $K_7 = (300 \text{ mm} / h)^{0.11} = 1.06$

**Tekla Tedds**

Andrew Duignan Consulting
Engineers
Corinium House,
Corinium Avenue,

Project LIFELY FARM, WEST ASHTON, TROWBRIDGE				Job no. 25/6205	
Calcs for TIMBER PURLIN				Start page no./Revision 7	
Calcs by AD	Calcs date 18/09/2025	Checked by	Checked date	Approved by	Approved date

Load sharing - cl.2.9

 $K_8 = 1.00$ **Lateral support - cl.2.10.8**

Ends held in position and members held in line, as by direct connection of sheathing, deck or joists, together with adequate bridging or blocking spaced at intervals not exceeding 6 x depth

Permissible depth-to-breadth ratio - Table 19

6.00

Actual depth-to-breadth ratio

 $h / (N \times b) = 2.33$ **PASS - Lateral support is adequate****Compression perpendicular to grain**

Permissible bearing stress (no wane)

 $\sigma_{c_adm} = \sigma_{cp1} \times K_3 \times K_4 \times K_8 = 2.400 \text{ N/mm}^2$

Applied bearing stress

 $\sigma_{c_a} = R_{B_max} / (N \times b \times L_b) = 0.348 \text{ N/mm}^2$ $\sigma_{c_a} / \sigma_{c_adm} = 0.145$ **PASS - Applied compressive stress is less than permissible compressive stress at bearing****Bending parallel to grain**

Permissible bending stress

 $\sigma_{m_adm} = \sigma_m \times K_3 \times K_7 \times K_8 = 7.958 \text{ N/mm}^2$

Applied bending stress

 $\sigma_{m_a} = M / Z_x = 7.836 \text{ N/mm}^2$ $\sigma_{m_a} / \sigma_{m_adm} = 0.985$ **PASS - Applied bending stress is less than permissible bending stress****Shear parallel to grain**

Permissible shear stress

 $\tau_{adm} = \tau \times K_3 \times K_8 = 0.710 \text{ N/mm}^2$

Applied shear stress

 $\tau_a = 3 \times F / (2 \times A) = 0.298 \text{ N/mm}^2$ $\tau_a / \tau_{adm} = 0.420$ **PASS - Applied shear stress is less than permissible shear stress****Deflection**

Modulus of elasticity for deflection

 $E = E_{min} = 10800 \text{ N/mm}^2$

Permissible deflection

 $\delta_{adm} = \min(0.748 \text{ in}, 0.006 \times L_{s1}) = 18.999 \text{ mm}$

Bending deflection

 $\delta_{b_s1} = 18.276 \text{ mm}$

Shear deflection

 $\delta_{v_s1} = 0.406 \text{ mm}$

Total deflection

 $\delta_a = \delta_{b_s1} + \delta_{v_s1} = 18.683 \text{ mm}$ $\delta_a / \delta_{adm} = 0.983$ **PASS - Total deflection is less than permissible deflection**

LIFELY FARM, WEST ASHTON, TROWBRIDGE
PORTAL FRAME ANALYSIS

LinPro 2.7

File: D:\Jobs 2025\25_6205 Lively Farm, Trowbridge\Calculations\Frame Analysis.aln

Units: kN-m

Input Data

Coordinates of joints/supports

Joint	X	Y	Rx	Ry	Rt
0:	0.00	0.00	1	1	1
1:	12.00	0.00	1	1	1
2:	6.00	6.30	0	0	0
3:	0.00	3.30	0	0	0
4:	12.00	3.30	0	0	0

Members

Member	Joint I	Joint J	Type	Releases
0:	0	3	203 X 133 X 30UB	111111
1:	3	2	203 X 133 X 30UB	111111
2:	2	4	203 X 133 X 30UB	111111
3:	4	1	203 X 133 X 30UB	111111

Cross Sections

0: TYPE1
A= 1.000E-02
I= 1.000E-04
E= 200000000.00
alpha= 1.2E-05

1: 203 X 133 X 30UB
A= 3.820E-03
I= 2.896E-05
E= 220000000.00
alpha= 1.2E-05

Load

0: Distributed Load
Load Case: CASE1
Load Name: Distributed
Coordinate System: Global Y Projection
a= 0.00
b= 1.00 On Member
p1= -8.01
p2= -8.01

1: Distributed Load
Load Case: CASE1
Load Name: Distributed
Coordinate System: Global X
a= 0.00
b= 1.00 On Member
p1= 4.14
p2= 4.14

Load Applied on Joints

Joint	Applied Loads
-------	---------------

Load Applied on Members

Member	Applied Loads
0:	1
1:	0
2:	0

Load Cases

0: CASE1

Load Combinations

Masses

Masses Applied on Joints

Joint	Applied Masses
-------	----------------

Static Analysis Results

Load Case: CASE1

Displacements of joints

Joint	X	Y	fi
0	0.000000	0.000000	0.000000
1	0.000000	0.000000	0.000000
2	0.002905	-0.026840	0.000393
3	-0.010075	-0.000187	-0.000940
4	0.015880	-0.000190	-0.000632

Reactions

Joint	Rx	Ry	M
0	17.904055	47.686809	-35.240303
1	-31.566055	48.433191	53.304307

Displacements and forces on members ends

Memb:0				
	Joint	X	Y	fi
	0	0.000000	0.000000	0.000000
	3	-0.010075	-0.000187	-0.000940
		Axial	Shear	Moment
	0	-47.686809	17.904055	35.240303
	3	-47.686809	31.566055	-46.385377
Memb:1				
	Joint	X	Y	fi
	3	-0.010075	-0.000187	-0.000940
	2	0.002905	-0.026840	0.000393
		Axial	Shear	Moment
	3	-49.559727	-28.535609	-46.385377
	2	-28.066641	14.450561	0.857310
Memb:2				
	Joint	X	Y	fi
	2	0.002905	-0.026840	0.000393
	4	0.015880	-0.000190	-0.000632
		Axial	Shear	Moment
	2	-28.400434	-13.782976	0.857310
	4	-49.893519	29.203194	-50.863674
Memb:3				
	Joint	X	Y	fi
	4	0.015880	-0.000190	-0.000632
	1	0.000000	0.000000	0.000000
		Axial	Shear	Moment
	4	-48.433191	-31.566055	-50.863674
	1	-48.433191	-31.566055	53.304307

Displacements and forces along members

Memb:0				
	d(x)	X	Y	fi
	0.000	0.000000	0.000000	0.000000
	0.330	-0.000019	0.000284	0.001668
	0.660	-0.000037	0.001065	0.003007
	0.990	-0.000056	0.002230	0.003994
	1.320	-0.000075	0.003659	0.004604
	1.650	-0.000094	0.005225	0.004815
	1.980	-0.000112	0.006791	0.004603
	2.310	-0.000131	0.008213	0.003944
	2.640	-0.000150	0.009342	0.002817
	2.970	-0.000169	0.010018	0.001196
	3.300	-0.000187	0.010075	-0.000940
	d(x)	Axial	Shear	Moment
	0.000	-47.686809	17.904055	35.240303
	0.330	-47.686809	19.270255	29.106542
	0.660	-47.686809	20.636455	22.521935
	0.990	-47.686809	22.002655	15.486482
	1.320	-47.686809	23.368855	8.000183
	1.650	-47.686809	24.735055	0.063038
	1.980	-47.686809	26.101255	-8.324953
	2.310	-47.686809	27.467455	-17.163790
	2.640	-47.686809	28.833655	-26.453473
	2.970	-47.686809	30.199855	-36.194002
	3.300	-47.686809	31.566055	-46.385377
Memb:1				
	d(x)	X	Y	fi

LIFELY FARM, WEST ASHTON, TROWBRIDGE
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0.000	-0.009095	0.004338	-0.000940
0.671	-0.009134	0.002286	-0.004867
1.342	-0.009171	-0.001809	-0.007082
2.012	-0.009206	-0.006900	-0.007889
2.683	-0.009240	-0.012146	-0.007591
3.354	-0.009271	-0.016905	-0.006492
4.025	-0.009302	-0.020744	-0.004895
4.696	-0.009330	-0.023429	-0.003105
5.367	-0.009357	-0.024934	-0.001424
6.037	-0.009382	-0.025433	-0.000157
6.708	-0.009405	-0.025305	0.000393
d(x)	Axial	Shear	Moment
0.000	-49.559727	-28.535609	-46.385377
0.671	-47.410418	-24.236992	-28.684908
1.342	-45.261110	-19.938375	-13.868040
2.012	-43.111801	-15.639758	-1.934771
2.683	-40.962493	-11.341141	7.114898
3.354	-38.813184	-7.042524	13.280967
4.025	-36.663876	-2.743907	16.563435
4.696	-34.514567	1.554710	16.962304
5.367	-32.365259	5.853327	14.477573
6.037	-30.215950	10.151944	9.109242
6.708	-28.066641	14.450561	0.857310

Memb : 2

d(x)	X	Y	fi
0.000	0.014601	-0.022707	0.000393
0.671	0.014578	-0.022313	0.000919
1.342	0.014553	-0.021324	0.002115
2.012	0.014526	-0.019393	0.003678
2.683	0.014497	-0.016376	0.005303
3.354	0.014467	-0.012332	0.006687
4.025	0.014434	-0.007526	0.007527
4.696	0.014401	-0.002423	0.007519
5.367	0.014365	0.002304	0.006358
6.037	0.014328	0.005782	0.003743
6.708	0.014289	0.006932	-0.000632
d(x)	Axial	Shear	Moment
0.000	-28.400434	-13.782976	0.857310
0.671	-30.549742	-9.484359	8.661412
1.342	-32.699051	-5.185742	13.581914
2.012	-34.848360	-0.887125	15.618815
2.683	-36.997668	3.411492	14.772117
3.354	-39.146977	7.710109	11.041818
4.025	-41.296285	12.008726	4.427920
4.696	-43.445594	16.307343	-5.069578
5.367	-45.594902	20.605960	-17.450677
6.037	-47.744211	24.904577	-32.715375
6.708	-49.893519	29.203194	-50.863674

Memb : 3

d(x)	X	Y	fi
0.000	0.000190	0.015880	-0.000632
0.330	0.000171	0.015267	-0.002997
0.660	0.000152	0.013962	-0.004822
0.990	0.000133	0.012144	-0.006108
1.320	0.000114	0.009990	-0.006854
1.650	0.000095	0.007679	-0.007060
1.980	0.000076	0.005390	-0.006727
2.310	0.000057	0.003299	-0.005855
2.640	0.000038	0.001585	-0.004443
2.970	0.000019	0.000426	-0.002491
3.300	0.000000	0.000000	0.000000
d(x)	Axial	Shear	Moment
0.000	-48.433191	-31.566055	-50.863673
0.330	-48.433191	-31.566055	-40.446875
0.660	-48.433191	-31.566055	-30.030077
0.990	-48.433191	-31.566055	-19.613279
1.320	-48.433191	-31.566055	-9.196481
1.650	-48.433191	-31.566055	1.220317
1.980	-48.433191	-31.566055	11.637115
2.310	-48.433191	-31.566055	22.053913
2.640	-48.433191	-31.566055	32.470711
2.970	-48.433191	-31.566055	42.887509
3.300	-48.433191	-31.566055	53.304307

