

SPECIFICATIONS

Unless otherwise specified, all cast-in-place concrete is to be at least 20 MPa @ 28 days, 6% air entrained.

All reinforcing steel to be at least 40,000 psi deformed bars; provide 50 mm concrete cover over reinforcing steel.

All exposed steel to be galvanized or painted to resist corrosion from moisture and manure gases.

All untreated framing lumber is No. 2 (or better), S-P-F species group, unless otherwise specified.

All wood indicated 'pressure-treated' is CCA pressure-treated to a net retention of 6.4 kg/m³ (ground contact specification, CSA-080 Wood Preservation).

All nails exposed to treated wood, humid atmosphere or weather to be hot-dip galvanized.

This plan is designed to meet the requirements of the Canadian Farm Building Code.

Notes thus marked indicate where this plan gives structural choices to be selected to meet local climatic loads (wind, snow), soil bearing capacity and other local conditions. The plan user must ensure that these requirements are met. Consult an engineer if you are not familiar with the details required.

ONE SET OF DRAWINGS AND LEAFLETS SHOULD INCLUDE:

CPS no.	sheet no.	Title
M-8163	-1-	Open front clear span pole barn
M-8163	-2-	Plan view and section
M-8163	-3-	Structural details
M-8163	-4-	Continuous plate beams

AND LEAFLETS

M-8163	Open front clear span pole barn
M-9102	Truss erection and bracing
M-9301	Roof purlins

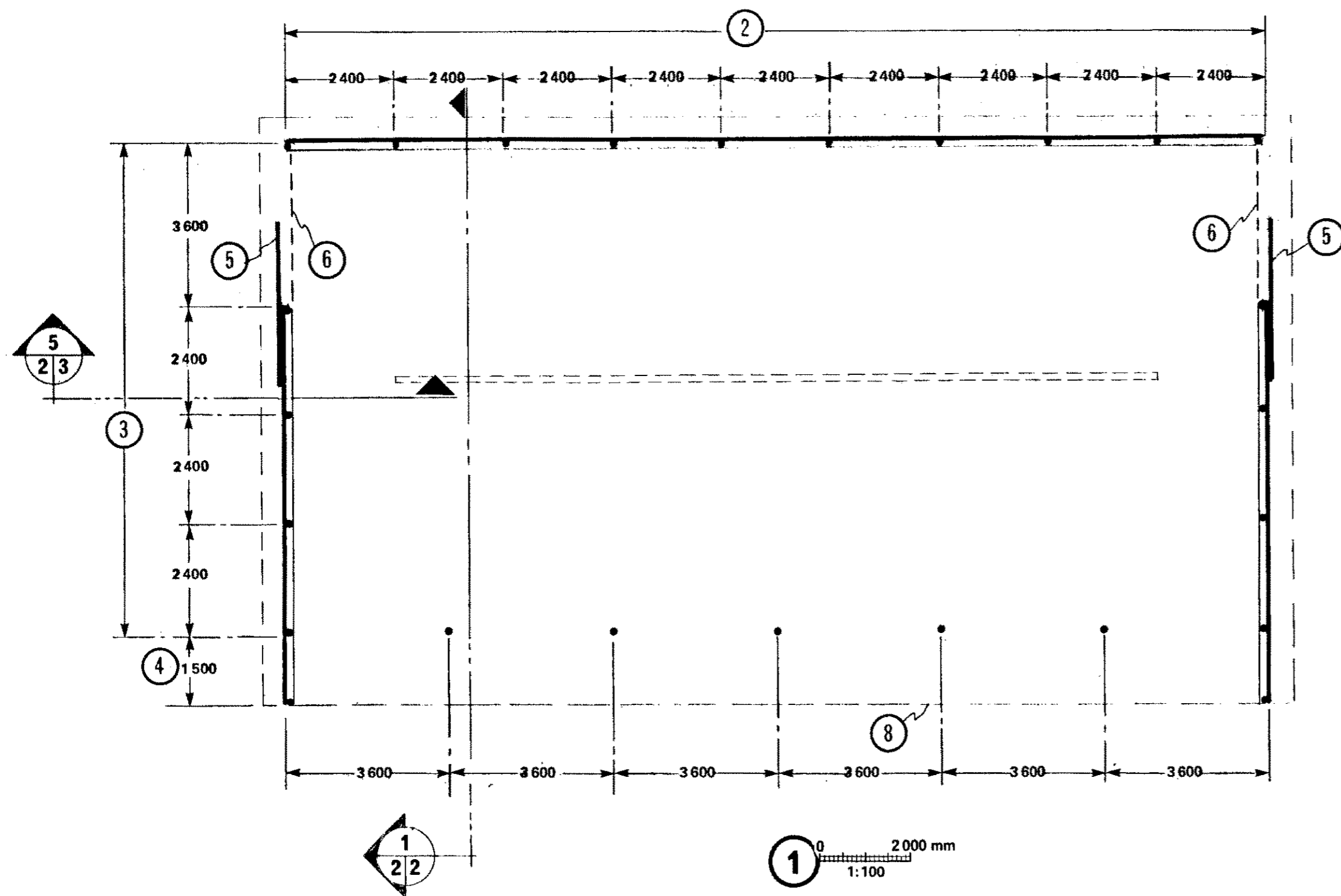
REVISED & RE-ISSUED HAJ 87-09 JET

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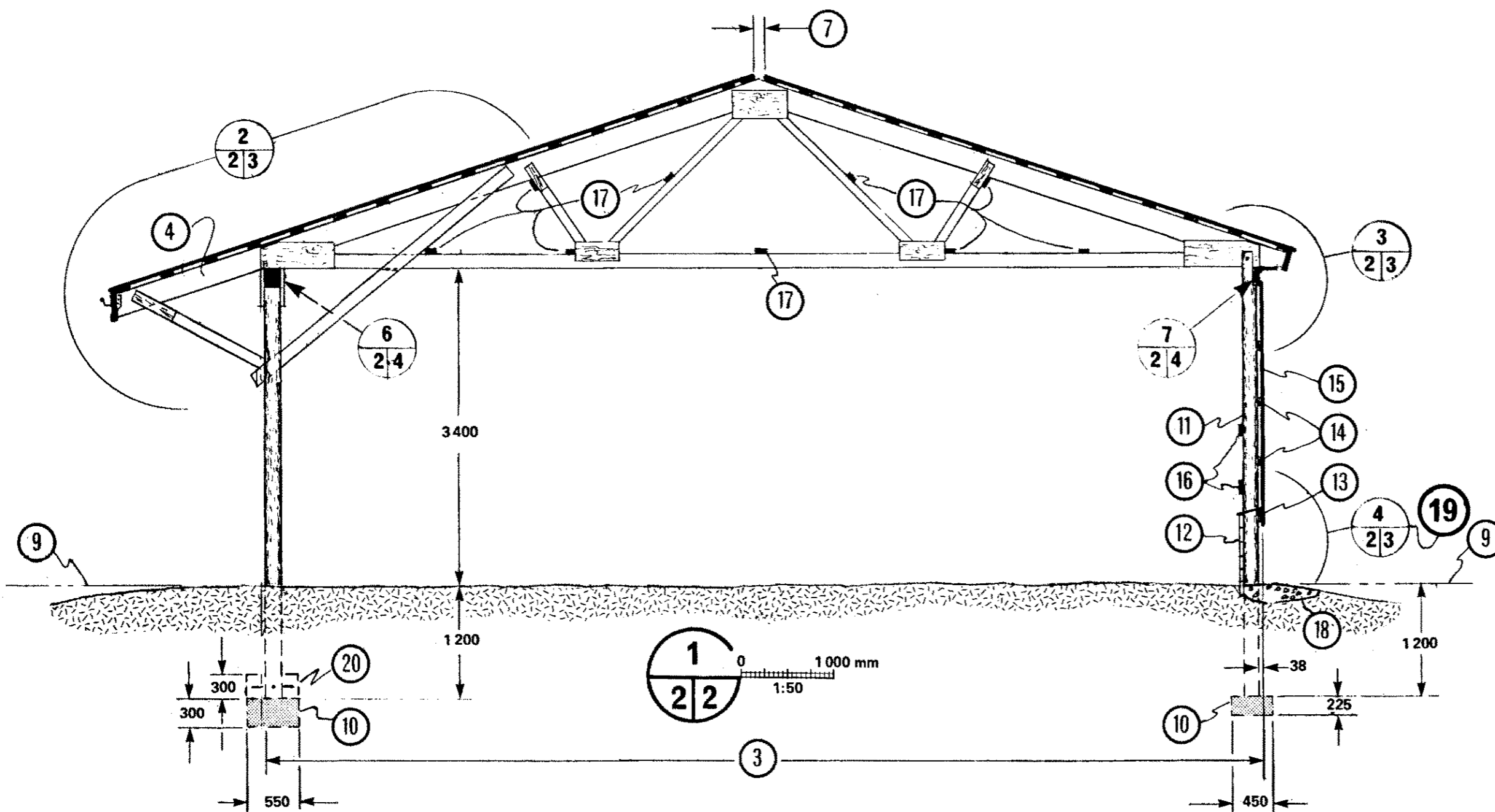
OPEN FRONT
CLEAR SPAN
POLE BARN

DESIGNED JET	DATE 79-07	PLAN
DRAWN Leo Blais	REVISED 87-09	
TRACED	DETAIL NUMBER A	M-8163
CHECKED H.A.J.	ORIGINATES ON SHEET B	
	DRAWN ON SHEET C	SHEET 1 OF 4



- 1 plan view, dimensions variable see ② & ③
- 2 multiples of 7 200 mm; eg. 14 400, 21 600, 28 800 mm etc.
- 3 variable, 8 400, 9 600, 10 800 or 12 000 mm
- 4 substitute upper chord 1 200 mm longer than shown in truss plan
- 5 3 600 x 3 200 mm sliding door
- 6 3 600 x 1 200 mm lift-off gate, adjust vertically for manure pack
- 7 ridge vent slot, stops at truss 2 400 mm from each end of building; slot to be 25 mm wide for each 3 000 mm of building width, trusses soaked with wood preservative where exposed at ridge
- 8 roof line above
- 9 datum line, floor level
- 10 footing, top to be levelled at 1 200 mm below datum line ⑨); capacity of round footing on 200 kN/m² soil:

truss span ③ (mm)	8 400	9 600	10 800	12 000
total roof load (kN/m ²)	3.0	2.6	2.3	2.1
- 11 4 800 mm round or sawn pole, see ⑨ sheet 4 for size; measure from butt and notch pole tops for plates before erecting
- 12 6 courses of 38 x 140 x 4 800 mm tongue and groove pressure-treated planking; stagger end joints 2 400 mm at poles, nail each plank to pole with 2-5.4 x 127 mm spiral nails, top plank bevelled for cap strip
- 13 38 x 140 mm nailing girt, top bevelled for cap strip
- 14 38 x 89 mm nailing girts @ 600 mm oc
- 15 exterior siding, (galvanized steel, 9.5 mm exterior plywood, Aspenite, 25 mm vertical rough-sawn boards, etc.)
- 16 38 x 140 mm @ 600 mm oc, midway between nailing girts ⑭
- 17 38 x 89 mm truss bracing continuous, not over 2 400 mm oc, see truss plan and leaflet M-9102 for details
- 18 900 x 100 mm coarse gravel splashpad
- 19 for alternate reinforced concrete infill panel see ④/②/③
- 20 2 - 10M x 500 mm rebars through pole, at least 150 mm from ends, concrete anchor prevents wind uplift

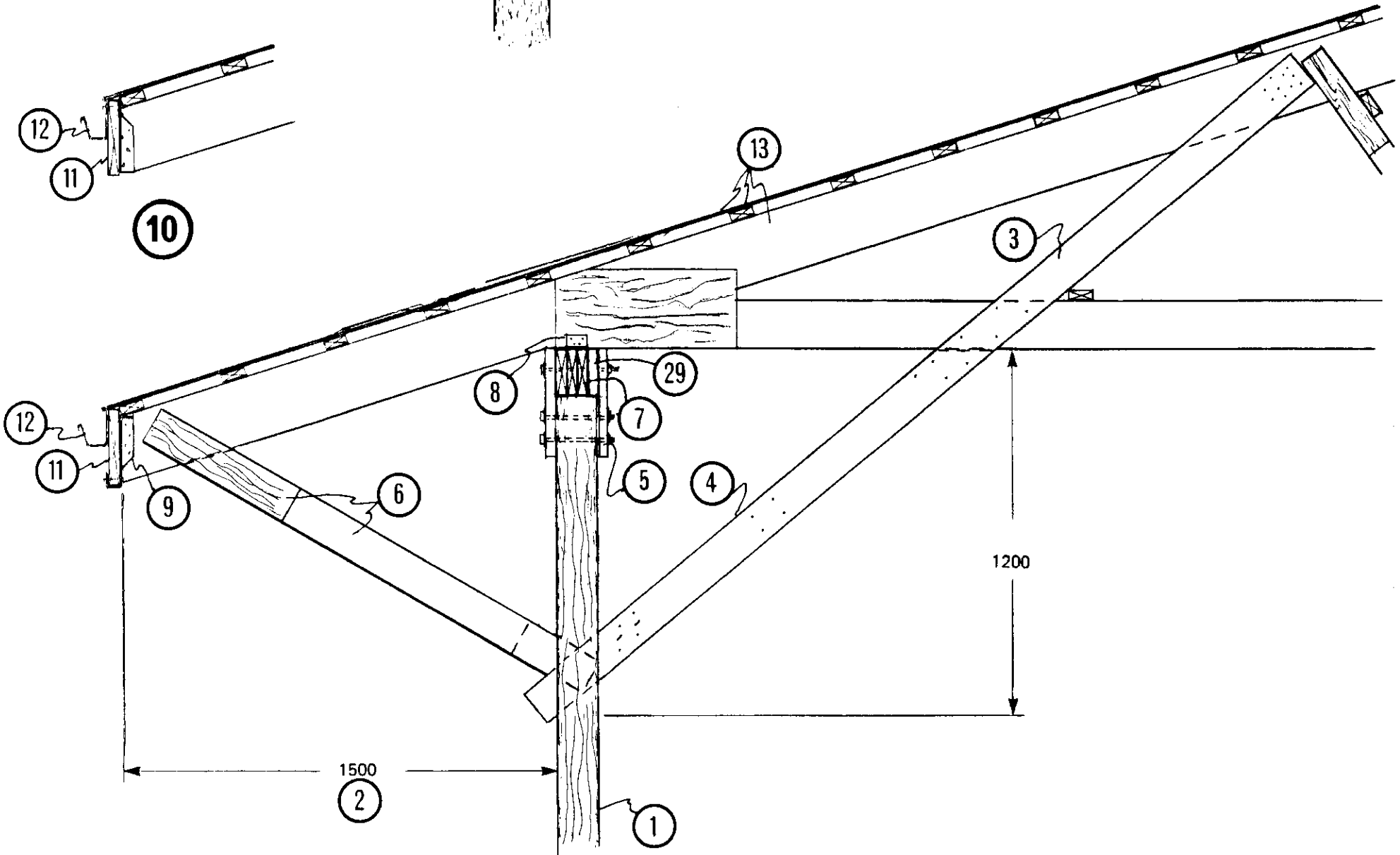
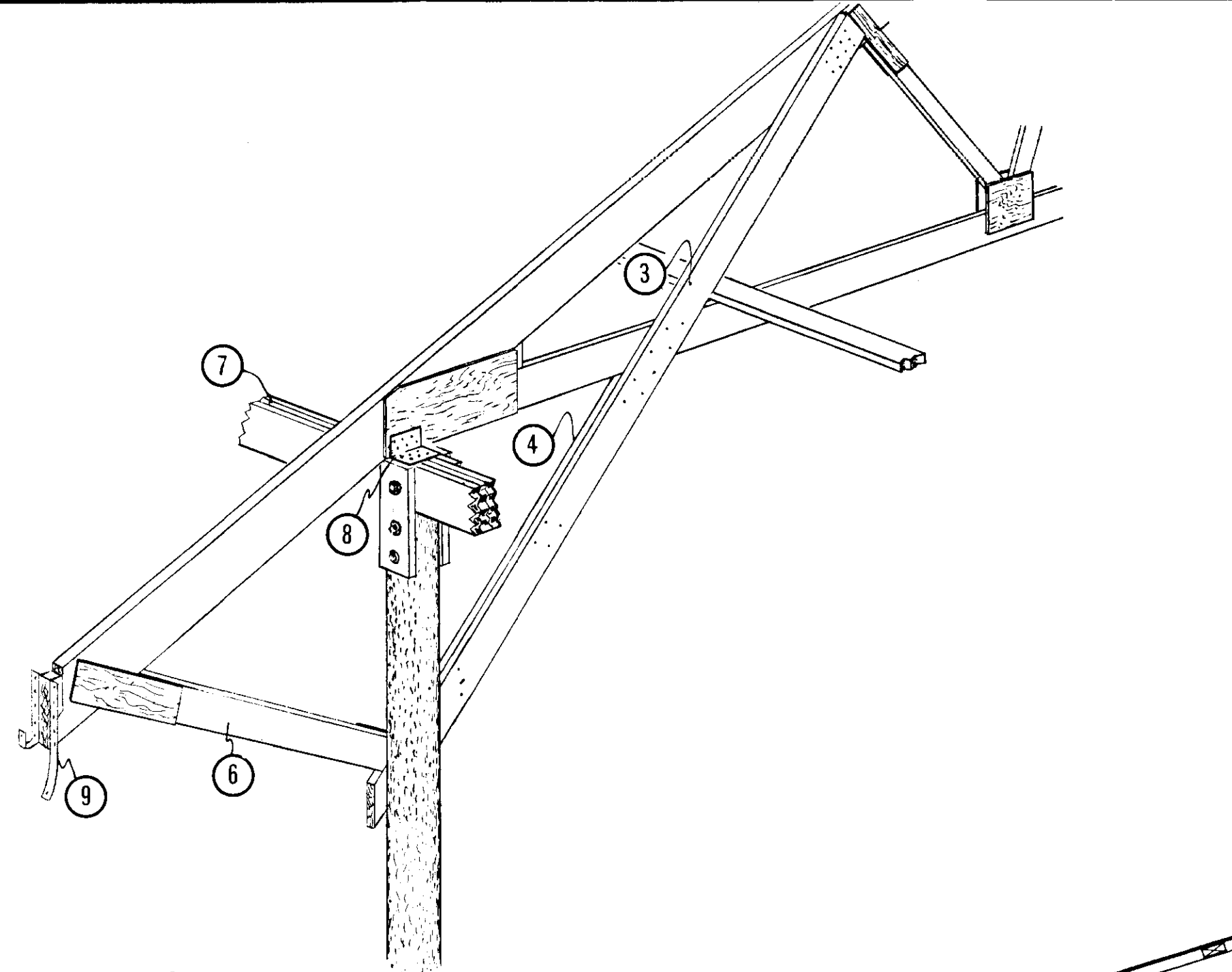


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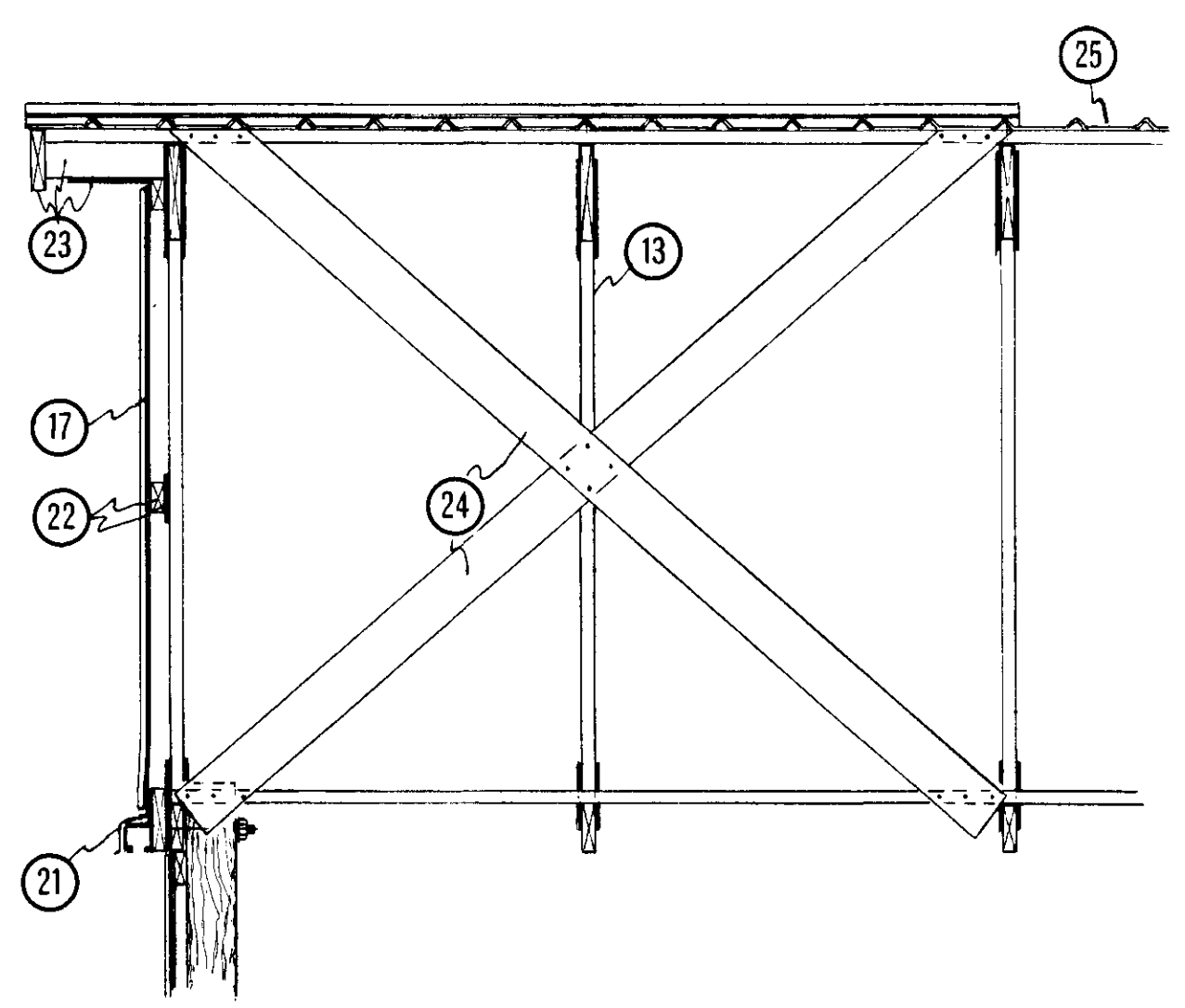
PLAN VIEW AND SECTION

DESIGNED <i>J.E.T.</i>	DATE 79-07	PLAN
DRAWN <i>LEO BLAIS</i>	REVISED	M-8163
TRACED	DETAIL NUMBER A	SHEET 2 OF 4
CHECKED <i>H.A.J.</i>	ORIGINATES ON SHEET B	
	DRAWN ON SHEET C	

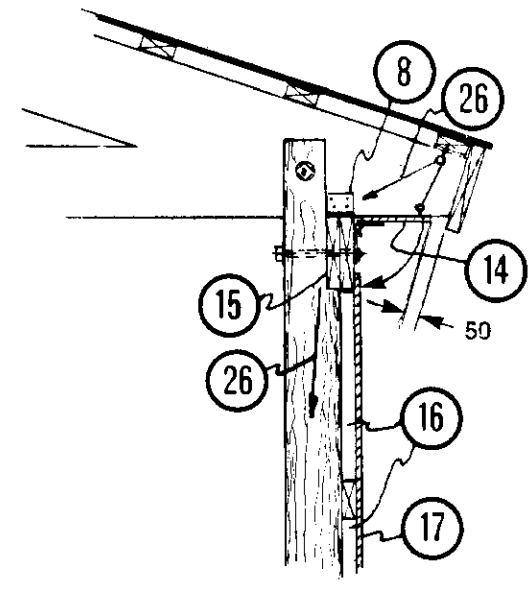
ALL DIMENSIONS ARE IN MILLIMETRES (mm) UNLESS OTHERWISE SPECIFIED



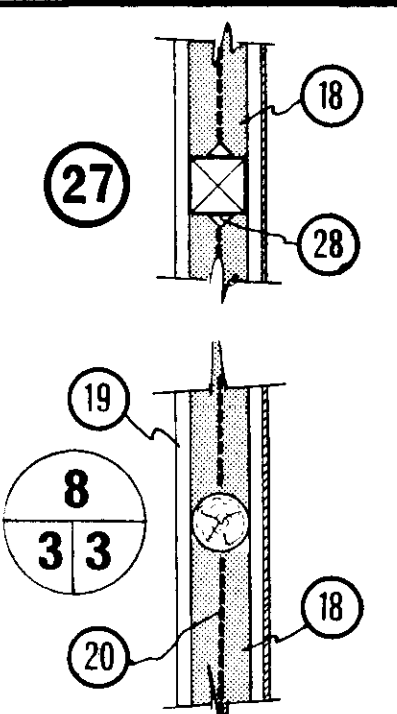
2
2 3



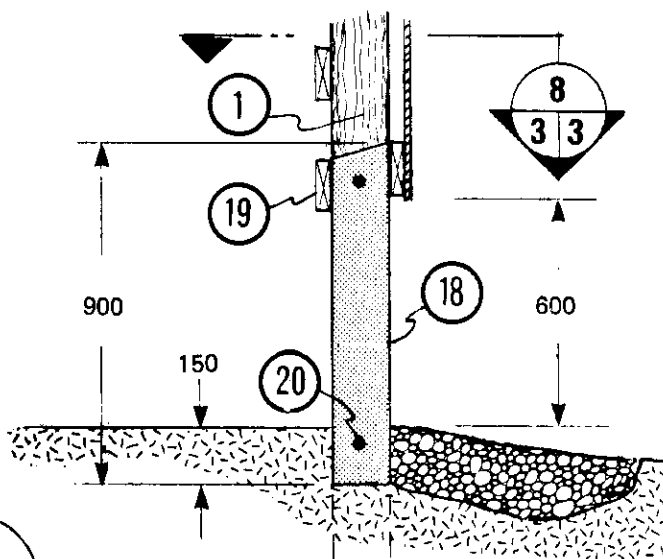
5
2 3



3
2 3



8
3 3



4
2 3

- 1 round or sawn poles, see pole selection chart (9) sheet 4
- 2 optional roof overhang by substituting truss upper chord 1 200 mm longer than shown in truss plan (do not relocate upper chord joint)
- 3 38 x 140 mm knee brace, butts pole and laps lower and upper chord of truss, 10-5.4 x 127 mm nails to truss upper chord
- 4 38 x 140 mm knee brace, laps pole and butts lower chord of truss, 10-5.4 x 127 mm nails to pole and (3)
- 5 38 x 140 x 400 mm cleat both sides, 1/2" diam. bolt and washer through pole and through plate beam
- 6 38 x 140 x 1 800 mm brace and 12.5 mm plywood gusset @ 3 600 mm oc
- 7 3 member plate beam at front poles, see (6) (2 4)
- 8 0.60 x 2" x 2" x 75 mm galvanized framing anchor each side of truss, 4-2.3 x 38 mm large-head galvanized roofing nails into truss and beam (7)
- 9 joist hanger, upside down @ 3 600 mm oc at poles, notch rafter end at top
- 10 joist hanger, right side up @ 1 200 mm oc between poles, notch rafter end at bottom
- 11 38 x 235 x 3 600 mm face board, continuous
- 12 eavestrough drains outside of feed lot
- 13 truss 1 200 mm oc (see leaflet M-9100), 38 x 89 mm purlins (see leaflet M-9301), galvanized steel roofing (see manufacturer for gage and profile to suit snow load) or 9.5 mm exterior plywood and asphalt shingles
- 14 200 mm hinged soffit board, see (26)
- 15 continuous plate beam, see (7) (2 4)
- 16 scabs, for nailing and size see (4) and (7) sheet 4
- 17 exterior siding
- 18 reinforced concrete infill panel, alternate to (12) sheet 2, min. 20 MPa concrete
- 19 38 x 140 mm nailed to (1) allows (18) to slide up for frost
- 20 10M x 2 200 mm rebars between poles
- 21 sliding door hardware on 38 x 184 mm track board
- 22 38 x 89 mm nailing girts with 12.5 mm plywood spacers where girts cross truss members
- 23 38 x 140 mm blocking to roof purlins, 8 mm Aspenite or plywood soffit, 50 mm continuous vent, 38 x 184 mm face board
- 24 38 x 140 mm cross bracing; install as soon as first 3 trusses are bolted in place
- 25 ridge vent, see (7) sheet 2
- 26 nylon chord thru screw eyes to cleat on pole for closing and securing soffit
- 27 alternate detail with sawn pole
- 28 triangular cleat nailed to pole, provides lateral support to panel (18)
- 29 spacer as required

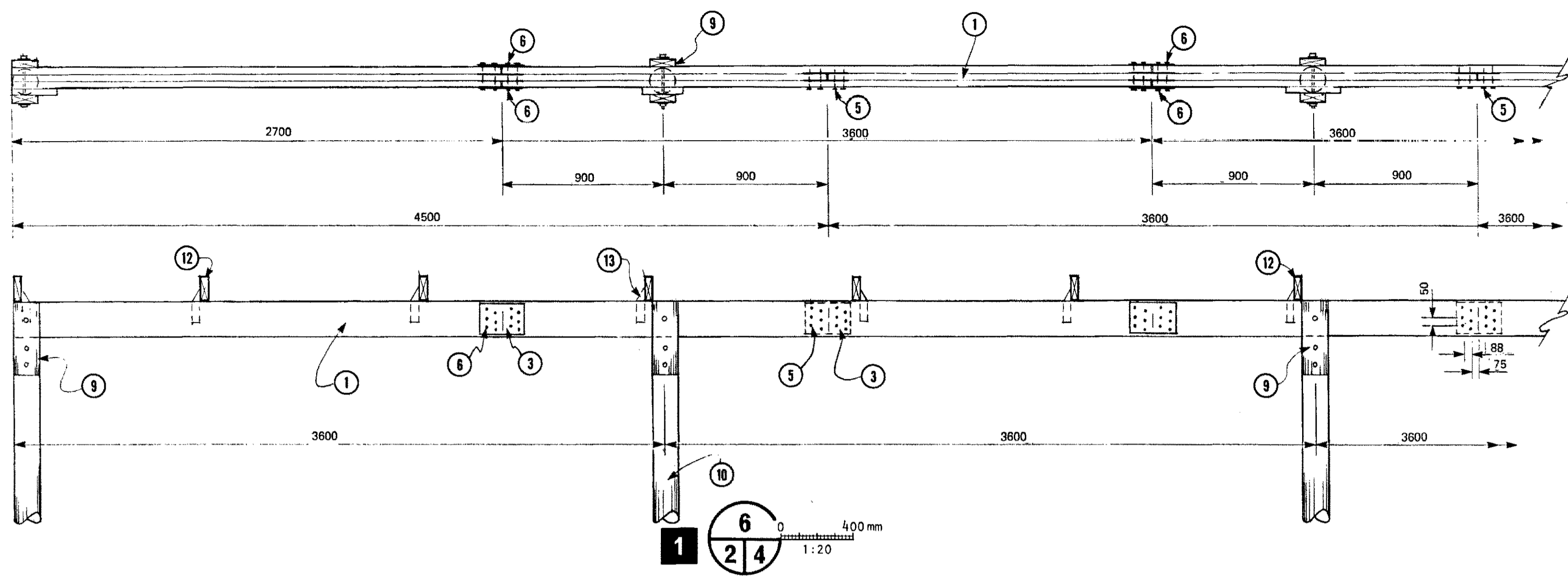
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SYM	REVISIONS	CHECKED	DATE	APPROVED

CANADA PLAN SERVICE STRUCTURAL DETAILS

DESIGNED JET	DATE 79-07	PLAN
DRAWN LEO BLAIS	REVISED 87-09	M-8163
TRACED	DETAIL NUMBER A	ORIGINATES ON SHEET B
CHECKED H.A.J.	DETAIL NUMBER B	DRAWN ON SHEET C
		SHEET 3 OF 4

ALL DIMENSIONS ARE IN MILLIMETRES (mm) UNLESS OTHERWISE SPECIFIED



- 1 continuous 3-member plate beam at front poles, see table ①, no extra member in end spans
- 2 continuous 2-member plate beam at rear wall, see table ②, extra member in end spans
- 3 0.61 mm galv. steel gussets in 3-member plate ①, see table ③ for size and for number of nails in each half
- 4 scab for outer member of ②, see table ④ for size and length
- 5 102 mm spiral nails, see table ③ for number
- 6 63 mm concrete nails, see table ③ for number
- 7 number of 127 mm spiral nails in scab ④
- 8 extra plate member, end spans only
- 9 M12 bolts and 38 x 140 x 400 mm cleat both sides of pole
- 10 4800 mm round or sawn pole, see pole selection chart ⑩
- 11 2 - M12 x 250 mm bolts and washers at each pole (notch end truss into face of endwall poles)
- 12 double sloped truss @ 1200 mm oc
- 13 2-Trip-L-grip framing anchors, each truss to plate except at poles

EXAMPLE:
for Saskatoon, Saskatchewan, trusses 1200 mm oc

ground snow load (GSL) = 1.5 kPa
1/10 hourly wind pressure = 0.36 kPa
assuming roof exposed to wind
roof snow load (0.6 x GSL) = 1.0 kPa min.
roof dead load = 0.2 kPa
roof total load = 1.2 kPa

Using plate tables ① and ② with total roof load value for 8400 mm span, 38 x 184 mm no.2 Spruce or no.2 Douglas fir plates are required.
Using pole selection chart ⑩ with above wind pressure and total roof load values, all pole sizes shown in chart are adequate

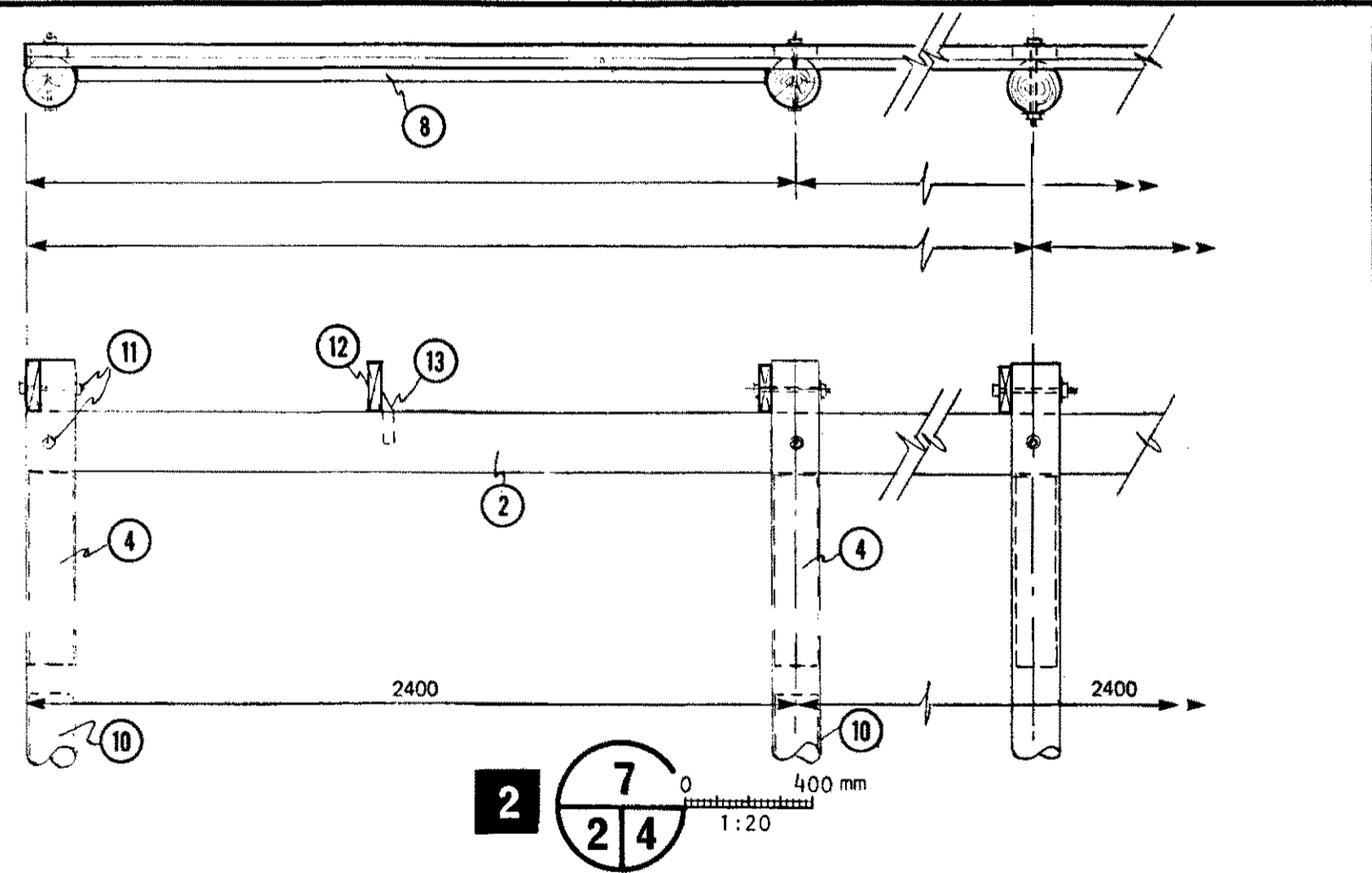


Table ① Front plate beam safe uniform total roof loads, kPa

Bldg width (m)	3 - 38 x 184 mm				3 - 38 x 235 mm				3 - 38 x 286 mm			
	No.2 S-P-F		No.2 D. Fir		No.2 S-P-F		No.2 D. Fir		No.2 S-P-F		No.2 D. Fir	
	Truss spacing, mm oc		Truss spacing, mm oc		Truss spacing, mm oc		Truss spacing, mm oc		Truss spacing, mm oc		Truss spacing, mm oc	
	1200	600	1200	600	1200	600	1200	600	1200	600	1200	600
7.2	1.82	1.66	1.54	1.41	2.72	2.49	2.30	2.11	3.66	3.10	3.10	2.84
8.4	1.56	1.43	1.32	1.21	2.33	2.13	1.97	1.81	3.14	2.65	2.66	2.43
9.6	1.36	1.25	1.15	1.06	2.04	1.87	1.73	1.58	2.75	2.32	2.32	2.13
10.8	1.21	1.11	1.03	--	1.81	1.66	1.53	1.40	2.44	2.06	2.07	1.89
12.0	1.09	1.00	--	--	1.63	1.49	1.38	1.26	2.20	1.86	1.86	1.70

Table ② Rear plate beam safe uniform total roof loads, kPa

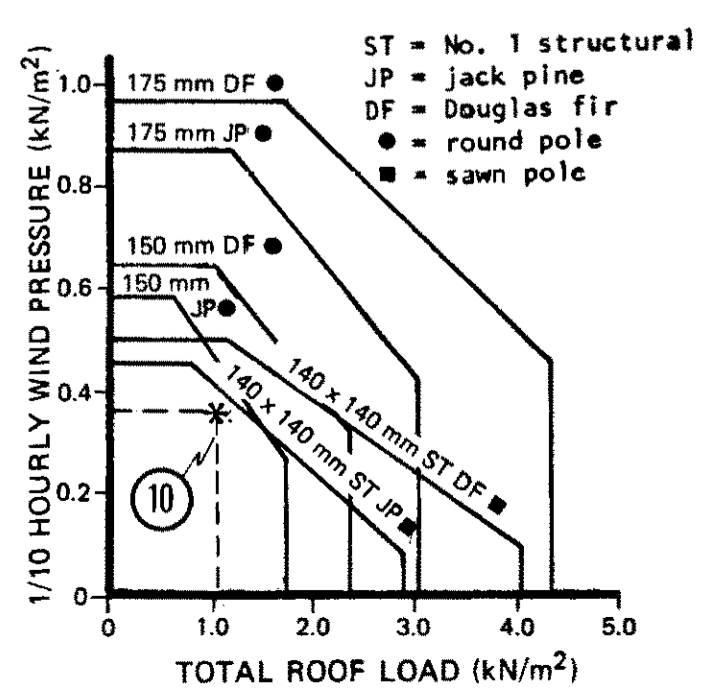
Bldg width (m)	2 - 38 x 184 mm				2 - 38 x 235 mm				2 - 38 x 286 mm			
	No.2 S-P-F		No.2 D. Fir		No.2 S-P-F		No.2 D. Fir		No.2 S-P-F		No.2 D. Fir	
	Truss spacing, mm oc		Truss spacing, mm oc		Truss spacing, mm oc		Truss spacing, mm oc		Truss spacing, mm oc		Truss spacing, mm oc	
	1200	600	1200	600	1200	600	1200	600	1200	600	1200	600
7.2	2.41	1.93	2.04	1.64	3.60	2.63	3.05	2.45	4.59	3.20	4.10	3.30
8.4	2.06	1.66	1.75	1.40	3.08	2.26	2.61	2.10	3.93	2.74	3.52	2.82
9.6	1.80	1.45	1.53	1.23	2.70	1.97	2.28	1.84	3.44	2.40	3.08	2.47
10.8	1.60	1.29	1.36	1.09	2.40	1.75	2.03	1.63	3.06	2.13	2.73	2.20
12.0	1.44	1.16	1.22	--	2.16	1.58	1.83	1.47	2.75	1.92	2.46	1.98

Table ③ 0.61 mm gage galv. steel gussets, 63 mm concrete nails ⑥ or 102 mm spiral nails ⑤

Beam size	No. of nails		Gusset size
	S-P-F	D. Fir-L	
38 x 184 mm	6	6	200 x 184 mm
38 x 235 mm	8	8	200 x 235 mm
38 x 286 mm	10	10	200 x 286 mm

Table ④ Scab size.

Beam size	127 mm spiral nails ⑦ in beam & scab	Scab size	
		square poles	round poles
38 x 184 mm	15	38 x 184 x 300 mm	38 x 184 x 450 mm
38 x 235 mm	23	38 x 235 x 400 mm	38 x 235 x 700 mm
38 x 286 mm	29	38 x 286 x 525 mm	38 x 286 x 925 mm



REVISIONS

SYMBOL	REVISIONS	CHECKED	DATE	APPROVED
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DESIGNED JET DATE 79-09 PLAN M-8163
DRAWN LEO BLAIS REVISED 87-09
TRACED
CHECKED H.A.J. DETAIL NUMBER A, B, C ORIGINATES ON SHEET A, B, C DRAWN ON SHEET C SHEET 4 OF 4

CANADA PLAN SERVICE CONTINUOUS PLATE BEAMS