# NORTHERN TERRITORY OF AUSTRALIA BUILDING ACT SECTION 40 – CERTIFICATE OF COMPLIANCE – STRUCTURAL DESIGN

### (All sections must be completed – mark N/A to any question that does not apply

PROPERTY / PROJECT DETAILS											
Owner (if known): XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX											
Lot/Portion Number: XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX											
Location: All Areas of the Northern Territory Town / Hundred : XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX											
Description of works :											
Level Master Post Hea	ads.										
DOCUMENTS ATTACHED											
Drawing Nos:	Drawing 20-1089	7-S03—S06 & S0	6a								
Other:											
DESIGN BASIS (pl	ease list relevant S 70.0:2002 Structur 70.1:2002 Structur 70.2:2021 Structur 20 Steel St	itandards used in t al Design Actions- al Design Actions- al Design Actions- ructures	he desigr General Permane Wind act	n) principle: ent, impo ions.	s sed and other actions	3					
Class of Building (BCA	A):	1a or 10a		Type o (eg. Ty	f Construction (BCA)	volume 1 §C1 nstruction)	.1): Domestic				
Building Importance L	evel (BCA Table B	1.2a): 2		Annual	Probability of Excee	dance for Win	d (BCA Table 1.2b): <b>1 in 500</b>				
Region: Various	Regional ultimate	wind speed $V_R(m$	/s): Vario	us	Terrain Category:	Various	Reference height (m): N/A				
M <sub>z,cat</sub> : Various	M <sub>s</sub> : Various	M <sub>t</sub> : Various			$V_{des\theta}$ Design Wind S	Speed at refer	ence height (m/s): Various				
Internal Pressure Coe	fficients (C <sub>p,i</sub> ):			Various							
External Pressure Coe	efficients ( $C_{p,e}$ )	Walls		Various							
		Roof		Various							
Net Pressure Coefficie	ents: (C <sub>nn</sub> )	Roof / Walls		Various							

Net Pressure Coefficients: (C <sub>p,n</sub> )	Roof / Walls	ls Various							
Imposed Loads, kPa	Floor / Roof	or / Roof Floor Live Load 2.5kPa							
Earthquake Design Category, EDC (Table 2 Annual Probability of Exceedance for Earthq	.1 of AS 1170.4) Juake Actions (B	: Domestic Refer Ap CA Table 1.2b): <b>N</b>	ppendi> / <b>A</b>	KA AS1170.4					
Importance Level (BCA): N/A Hazard Factor, Z (Section 3): N/A Class of Sub-Soil (Section 4): N/A									
Safe Foundation Bearing Capacity, kPa:	100kPa		Site classification (AS2870): A Assumed						

COMMENTS / EXCLUSIONS (Exclusions to this Certificate must be clearly identified).

The following items are excluded and shall be certified separately:

Comments:

# CERTIFICATION BY STRUCTURAL ENGINEER

Company Name if certification issued on behalf of a corporation	Company NT Registration Number
Summermore Pty Ltd	127239ES

I certify that reasonable care has been taken to ensure that the structural engineering aspects of the works as described above have been designed in accordance with the requirements of the Building Code of Australia and the Northern Territory Building Regulations.

Name (see *below)	Nominee/Individual		Date
Ronald A Bell	NT Registration Number 60596ES		Tuesday, 23 August 2022
		Signature	

\* Name and registration number of nominee signing on behalf of the company or if no company, name of individual issuing certification.

### SCHEDULE OF STRUCTURAL INSPECTIONS REQUIRED

Inspection of construction is required at the stages indicated below.

- [] 1. Completion of site preparation/site filling/excavations for footings prior to placement of any reinforcement or concrete.
- [] 2. Completion of preparations for placing of concrete strip footings including placement of reinforcement.
- [] 3. Completion of preparations for placing concrete slabs including compaction of fill and sand blinding, placement of formwork, reinforcement, starter bars and cast in items.
- [] 4. Completion of preparations for placing of concrete pier footings including reinforcement (if any).
- [] 5. Starter bars and cast in items after placing of concrete and prior to any covering up work.
- [] 6 Reinforcement to walls completed prior to core filling (inspection holes and cleanout cores to be completed).
- [x] 7. Structural steelwork and cold formed steelwork completed and prior to any covering up work. Floor framing system completed before floors are laid or underside is lined.
- [] 8. Suspended concrete floor slabs with formwork, reinforcement and cast in items completed, prior to placing of concrete.
- [] 9. Wall framing or blockwork wall core filling completed (with windows fixed in place) and roof framing with connections completed and prior to sheeting or lining.
  - Note: [] Prior lodgement of truss manufacturer's drawings, details and certification required. [] Prior lodgement of windows manufacturer's drawings including fixings and certification required.
- [] **10.** Structural wall linings completed and prior to any covering up work.
- [x] 11. Final inspection upon completion of all structural work including fixings of external roof and wall claddings, flashings, barges & vents.
- [X] 12. Other Inspections as required by the building permit

#### Important Information:

- The above inspections are required to be carried out by either the certifying engineer or the building certifier who issued the Building Permit for the work. (If no inspections are indicated refer to the certifying engineer for advice).
- 2) Where works are prescribed building works under the *NT Building Act*, the building certifier must be provided with a copy of the inspection record and no further works must be carried out by the builder until the building certifier issues a release to proceed with further works.
- Additional non structural inspections may be required during the course of construction before the issue of an Occupancy Permit (refer to building certifier for requirements).
- 4) Failure to obtain inspections may prevent the issue of an Occupancy Permit upon completion of the building works.



TITLE

ORIGINAL DRAWING SIZE at A3

Fax:

REV

DESCRIPTION

BY DATE

DRAWING NAME

NETT WIND PRESSURE AT STUMP (kN/m <sup>2</sup> )									
ND CLASS	N2	N3	N4	C1	C2	C3			
WARDS	-	1.01	1.82	1.20	2.10	3.80			
WNWARDS	0.41	0.64	1.15	0.76	1.32	2.39			

LEVEL MASTER STUMP SUPPORTING 9m<sup>2</sup> OF ROOF LOAD AND 9m<sup>2</sup> OF FLOOR LOAD 3m OF WALL FRAME 2.4m HIGH IN AN N3 WIND AREA.

 $\overline{\text{DOWNWARDS}=9\text{m}^2 \times 0.78\text{kN/m}^2}$  (roof) +  $9m^2 \times 2.85 kN/m^2$  (floor) + 3m wall x 2.4 high x 0.42kN/m<sup>2</sup> (wall) = 35.7 kN total.

9m<sup>2</sup> x 1.01kN/m<sup>2</sup> = 9.09 kN total.

\* SO USE LEVEL MASTER CENTRE LOADED ADJUSTABLE TOP/POST HEAD BECAUSE: 35.7 kN < 150 kNAND 9.09 kN < 13 kN.

TYPICAL LOADS (kN/m <sup>2</sup> )						
DOMESTIC FLOOR	2.85					
SHEET ROOF	0.78					
CLAD WALLS	0.42					

CAP TO COLUMN CONNECTION TO HAVE 4/12g SCREWS (2 each opp face). UNLESS FIXING TO EXISTING COLUMNS AS PER EXISTING COLUMN TABLE.

\* ALL SCREWS TO BE CLASS 4 12g (24TPI) FROM ICCONS PTY LTD.

\* IF NOT CENTRALLY LOADED ALL UPLIFT LOADS ARE 13.0 kN

IF NOT CENTRALLY LOADED ALL DOWNWARDS LOADS ARE 13.0 kN

\* ALL STEEL TO BE G250 (U.N.O).

	ADJUSTABLE POST HEADS				
aster	Screw On Connectors SHS Capacities				
ARLE HOUSE STUMPS	DRAWING NUMBER				
	16-10897-S03	L			



TITLE

DESCRIPTION

DRAWING NAME

NETT WIND PRESSURE AT STUMP (kN/m <sup>2</sup> )									
ND CLASS	N2	N3	N4	C1	C2	C3			
WARDS	-	1.01	1.82	1.20	2.10	3.80			
WNWARDS	0.41	0.64	1.15	0.76	1.32	2.39			

EXAMPLE:-

LEVEL MASTER STUMP SUPPORTING 9m<sup>2</sup> OF ROOF LOAD AND 9m<sup>2</sup> OF FLOOR LOAD 3m OF WALL FRAME 2.4m HIGH IN AN N3 WIND AREA.

EXAMPLE WORKINGS:-

 $\overline{\text{DOWNWARDS}=9\text{m}^2 \times 0.78\text{kN/m}^2}$  (roof) +  $9m^2 \times 2.85 kN/m^2$  (floor) + 3m wall x 2.4 high x 0.42kN/m<sup>2</sup> (wall) = 35.7 kN total.

N3 WIND UPLIFT = 9m<sup>2</sup> x 1.01kN/m<sup>2</sup> = 9.09 kN total.

\* SO USE LEVEL MASTER CENTRE LOADED ADJUSTABLE TOP/POST HEAD BECAUSE: 35.7 kN < 150 kN AND 9.09 kN < 13 kN.

TYPICAL LOADS (kN/m²)							
DOMESTIC FLOOR	2.85						
SHEET ROOF	0.78						
CLAD WALLS	0.42						

CAP TO COLUMN CONNECTION TO HAVE 8/12g SCREWS (equally spaced).

> \* ALL SCREWS TO BE CLASS 4 12g (24TPI) FROM ICCONS PTY LTD.

\* IF NOT CENTRALLY LOADED ALL UPLIFT LOADS ARE 13.0 kN

\* IF NOT CENTRALLY LOADED ALL DOWNWARDS LOADS ARE 13.0 kN

\* ALL STEEL TO BE G250 (U.N.O).



	ADJUSTABLE POST HEADS	
aster	Screw On Connectors CHS Capacities	
ABLE HOUSE STUMPS	DRAWING NUMBER	REV
	16-10897-S04	J





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F	REVISED AS PER CLIENTS REQUEST	GAB	APR2019			SUMMERMORE PTY LTD	DRAWN	GAB	AUG 2022	PO Box 1671				DRAWING	NUMBER	REV
-	PRELIMINARY FOR CLIENTS APPROVAL	GAB	MAY2016			DO NOT SCALE FROM	SCALE	AS SHOW	'N	Phone 07 3800 0973			Stronger • Easier • Faster ADJUSTABLE HOUSE STUMPS	/	10 10907 005	
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NETT WIND PRESSURE AT STØMP (kN/m)											
WIND CLASS N2 N3 N4 C1 C2 C3											
UPWARDS	-	1.01	1.82	1.20	2.10	3.80					
DOWNWARDS	0.41	0.64	1.15	0.76	1.32	2.39					

TYPICAL LOADS (kN/m <sup>2</sup> )								
DOMESTIC FLOOR	2.85							
SHEET ROOF	0.78							
CLAD WALLS	0.42							

CAP TO COLUMN CONNECTION TO BE WELDED ON ALL 4 EDGES.

\* IF NOT CENTRALLY LOADED ALL <u>UPLIFT</u> LOADS ARE 13.0 kN

\* IF NOT CENTRALLY LOADED ALL <u>DOWNWARDS</u> LOADS ARE 13.0 kN

\* ALL STEEL TO BE G250 (U.N.O).



#### IF NOT CENTRALLY LOADED ALL DOWNWARDS LOADS ARE 13.0 kN

TYPICAL LOADS (kN/m²)								
DOMESTIC FLOOR	2.85							
SHEET ROOF	0.78							
CLAD WALLS	0.42							

WIN UP DOV



SUIT 75mm & 89mm POST CAST IN BASEPLATE TO CONCRETE

MAX UPLIFT = 36.0 kN



SUIT 75mm, 89mm & 100mm POST - 4 holes **BOLT DOWN BASEPLATE** (4 HOLES)

MAX UPLIFT = 36.0 kN

BOLT DOWN OPTIONS (4 HOLES) - 20MPa concrete (min) - 90mm edge distance (min)

RAMSET CHEMSET '101'	4 x M12-100 CHEMSETS (1 x each corner)

WERCS ANKASCREW

REVISED REVISED REVISED REVISED REVISED **TPRELIMIN** 

REV

4 x M12-60 WERCS ANKASCREWS (1 x each corner)



SUIT 75mm, 89mm & 100mm POST **BOLT DOWN BASEPLATE** (2 HOLES)

MAX UPLIFT = 36.0 kN

BOLT DOWN OPTIONS (2 HOLES) - 20MPa concrete (min) - 90mm edge distance (											
RAMSET CHEMSET '101'	2 x M12-200 CHEMSETS (1 x each side)										
WERCS ANKASCREW	2 x M12-90 WERCS ANKASCREWS (1 x each side)										

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AS PER CLIENTS REQUEST	GAB	FEB2021			OR IN PART OR TO BE USED ON ANY PROJECT	REVIEWED			ron@summermore.com.au		🖌 e server e 🔪 🦳 🖉			
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NETT WIND PRESSURE AT STUMP (kN/m <sup>2</sup> )												
D CLASS	N2	N3	N4	C1	C2	C3						
WARDS	-	1.01	1.82	1.20	2.10	3.80						
WNWARDS	0.41	0.64	1.15	0.76	1.32	2.39						

\* 89SHS3.5 or 100SHS4.0 COLUMN MAXIMUM COMPRESSION LOAD EXCEEDS 150kN UP TO 4500mm HEIGHT.

\* 75SHS3.0 COLUMN MAXIMUM COMPRESSION LOAD EXCEEDS 150kN UP TO 2500mm HEIGHT.

\* 75SHS4.0 COLUMN MAXIMUM COMPRESSION LOAD EXCEEDS 150kN UP TO 3000mm HEIGHT.

\*ALL OTHER COLUMNS/HEIGHTS TO BE SITE SPECIFIC DESIGNED.

COLUMN TO BASEPLATE CONNECTION TO HAVE 4/12g SCREWS (2 each opp face).

# EXAMPLE:-

\* LEVEL MASTER STUMP SUPPORTING 9m<sup>2</sup> OF ROOF LOAD AND 9m<sup>2</sup> OF FLOOR LOAD 3m OF WALL FRAME 2.4m HIGH IN AN N3 WIND AREA.

#### EXAMPLE WORKINGS:-

 $DOWNWARDS = 9m^2 \times 0.78kN/m^2 (roof) +$  $9m^2 \times 2.85kN/m^2$  (floor) + 3m wall x 2.4 high x 0.42kN/m<sup>2</sup> (wall) = 35.7 kN total.

N3 WIND UPLIFT = 9m<sup>2</sup> x 1.01kN/m<sup>2</sup> = 9.09 kN total.

SO USE LEVEL MASTER CENTRE LOADED ADJUSTABLE TOP/POST HEAD BECAUSE: 35.7 kN < 150 kNAND 9.09 kN < 13 kN.

		* LEVELMAST EXISTING C	ER POST HE OLUMNS AN	ADS MAY BE USED TO RETROF D ARE AVAILABLE WITH ONE S	TT IDE REMOVED.	
			E	XISTING COLUMNS & FIXINGS		
		STEEL (SH 3.0mm THICK	S) (min)	TIMBER	CONCRETE	-
Vir.		9/14g TEK SC	REWS	15/TYPE 17 #14 SCREWS, 35mm long.	3/M10-50 CONCI SCREWS (offset)	RETE
I'EN B						
AIN			LEV	ELMASTER RETROFIT BRACKE	T CAPACITIES (kN)	
VIEW			6 / M12	2-100 ANCHOR SCREWS TO CC	INCRETE	43.8
			8 / 14g	SCREWS (22mm) TO 3mm STI	EEL COLUMN (min)	39.6
89SHS3.0			12 / 14	g SCREWS (22mm) TO 3mm S <sup>-</sup>	TEEL COLUMN (min)	43.8
			12/#1	4 TYPE 17 SCREWS (40mm) T	O HWD COLUMN	36.4
10PL 4CFW			16/#1	4 TYPE 17 SCREWS (40mm) T	O HWD COLUMN	43.8
°° ° −4mm PL	°°14Ø		* ENSURE A 4mm SID	ALL SCREWS ARE DIVIDED EG E CLEATS.	UALLY TO BOTH	
	6Ø ○ 0 6Ø		(EG - 12/3	SCREWS REQUIRED, PROVIDE	E 6/SCREWS EACH C	LEAT)

VIEW A

VIEW B

									<u>c</u>					
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						THESE DESIGNS, PLANS			100550000	Consulting Engineers			RETROFIT JOINER	
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-	PRELIMINARY FOR CLIENTS APPROVAL	GAB	MAY2016			DO NOT SCALE FROM	SCALE	AS SHOWN	١	Phone: 07 3800 0973		Stronger • Easier • Faster ADJUSTABLE HOUSE STUMPS	10 10007 0004	
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