

'L' PIER HEAD

FIX 'L' PIER HEAD TO BEARER WITH
'A'* off 14-14x22 HH TEK SCREWS
(*see TABLE B & DETAIL 1)

'L' PIER HEAD

Fh
(see table)

H EZIPIER HEIGHT
(see table)

EZIPIER
SEE
NOTES

EZIBRACE
30x30x1.6 SHS
(G350)

EZIBRACE JOINER
WHERE REQUIRED.
12 off 12-24x32 HH
TEK SCREWS.
6 PER SIDE

FIX EZIBRACE PADDLE TO
EZIBRACE & PIER WITH
6 off 12-24x32 HH TEK
SCREWS

FIX SHS POST TO
EZIPIER PIER HEAD
4 off 12-24x32 HH
TEK SCREWS

FIX EZIBRACE PADDLE
TO POST WITH
6 off 12-24x32 HH
TEK SCREWS

FIX SHS POST TO
EZIPIER BASE PLATE
4 off 12-24x32 HH
TEK SCREWS AS
SHOWN.

2 HOLE BASE PLATE CONNECTED TO FOOTINGS WITH 2 OFF
M12x100 LG GALV. WEDGE ANCHORS HOLE 110mm DEEP.
65mm EFFECTIVE EMBEDMENT INTO N25 CONCRETE.

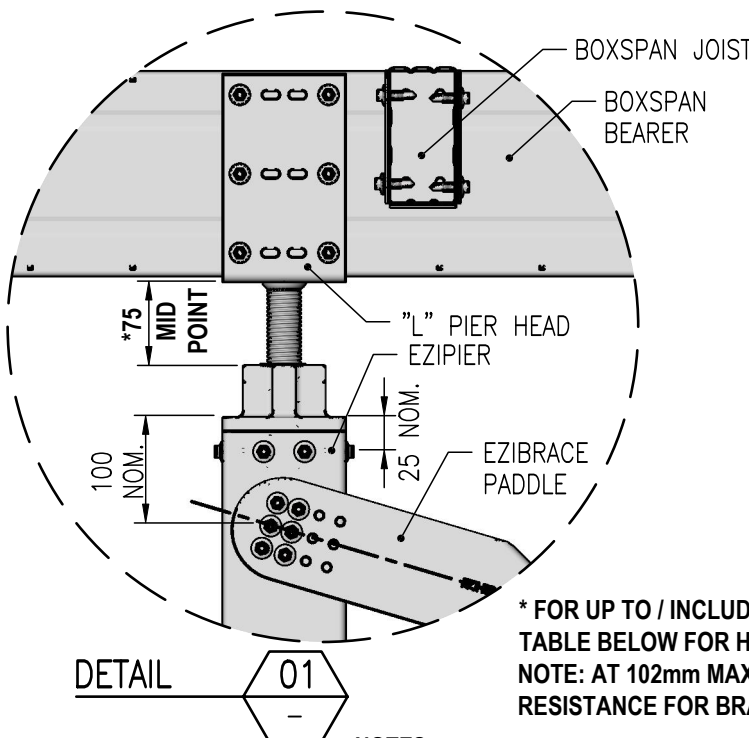
'L' SHAPED
PIER HEAD

NOTE: PADDLE ORIENTATION.
THE EZIBRACE PADDLES ARE
OPPOSING EACH OTHER.

BASE PLATE
BASE
PROTECTOR
FOOTING
DESIGN BY
OTHERS.

TABLE B BOXSPAN LEGEND		
BEAM	WEB BMT	TEK SCREWS 'A'
B100-16*	0.8	8
B150-16	0.8	6
B200-16	0.8	6
B150-20	1.0	6
B200-20	1.0	6
B250-20	1.0	6

*INSTALL 6 TEKS IN OUTSIDE HOLES.
2 EXTRA TEKS ON INSIDE SLOTS SO
THEY ARE IN CONTACT WITH OUTSIDE
OF ELONGATED HOLE.



* FOR UP TO / INCLUDING 75mm MID POINT ADJUSTMENT SEE
TABLE BELOW FOR HORIZONTAL RESISTANCE.
NOTE: AT 102mm MAX. ADJUSTMENT USE 12kN HORIZONTAL
RESISTANCE FOR BRACE ANGLES 1-50°.

NOTES:

- THE LOADS ARE THE ULTIMATE LIMIT CAPACITIES BASED ON THESE STANDARDS: AS1170.1, AS4055, AS4100, AS4600, AS5216. ALL LOADS ARE IN kN AND DIMENSIONS ARE mm
- THE TABLE GIVES THE MAXIMUM HORIZONTAL WIND FORCE THAT EZIBRACE CAN RESIST TOGETHER WITH THE ACCOMPANYING UPLIFT FOR THE EZIBRACE, A 'L' SHAPED PIER HEAD AND EZIPIER WITH A 2 HOLE BASE PLATE. THE SYSTEM IS SUITABLE FOR ANY NORMAL WIND. THE TABLE SHOWS THE CAPACITY BASED ON THE BOXSPAN WEBS 0.8 AND 1.0 BMT. THE EZIPIER SOLUTION SHOULD BE CHECKED FOR ANY ADDITIONAL LOADS, ESPECIALLY UPLIFT BY A COMPETENT PERSON. CYCLONIC AND EARTHQUAKE LOADS REQUIRE SPECIFIC DESIGNS.
- THE EZIBRACE IS SELECTED BASED ON THE ULTIMATE DESIGN LOADS CARRIED TO THE FOOTINGS. THE LOADS IN THE TABLE ARE BASED ON THE STRENGTH OF THE EZIBRACE. THE ULTIMATE TENSION FORCE FOR EZIBRACE IS 18.5kN. THE EZIBRACE IS A SQ STEEL TUBE 30x1.6SHS TO AS1163 - C350LO.
- BASE PLATES ARE CONNECTED TO THE FOOTING BY 2/M12x100 GALV. WEDGE ANCHORS, HOLE 110 DEEP MIN 65mm EFFECTIVE EMBEDMENT INTO N25 CONCRETE.
- ULTIMATE MOMENT FOR BASE PLATES:
THE BASE PLATE IS SUFFICIENTLY STRONG SO IT IS NOT THE GOVERNING LIMIT. THE BASE PLATE CONNECTION CAN CARRY THE MOMENTS TRANSFERRED BY THE BRACING INTO THE CONCRETE FOOTING. THE FOOTING SHOULD BE DESIGNED BY AN ENGINEER BASED ON THE LOADS AND SOIL TYPE.
- THE EZIPIER CAN BE 90x2SHS OR 89x3.5SHS TO AS1163 - C350LO. THE PIER SHOULD BE CHECKED FOR STRENGTH BY AN ENGINEER.
- FOR PROTECTIVE COATING SYSTEMS REFER TO: NCC VOLUME 2, NASH STANDARD RESIDENTIAL AND LOW-RISE STEEL FRAMING PART 2: DESIGN SOLUTIONS, AS/NZS 4680 HOT-DIP ZINC COATINGS ON FABRICATED FERROUS ARTICLES, AS/NZS 4792 HOLLOW SECTIONS PRODUCED BY WELDING PRE-GALVANIZED STEEL STRIP.
- THE 2 HOLE BASE PLATE CAN BE UPGRADED TO A 4 HOLE BASE PLATE AND A U SHAPE PIER HEAD CAN BE USED. THE BRACING SYSTEM WILL BE STRONGER.
- SEE DRAWING P04-03 FOR THE EZIPIER WITH 'L' SHAPED PIER HEAD. SEE DRAWING P14 FOR THE 2 AND 4 HOLE BASE PLATE STRENGTH.

SECTION A
NTS

EZIBRACE ULTIMATE HORIZONTAL RESISTANCE												
2 HOLE BASEPLATE and L PIERHEAD												
Fh - Horizontal Force (Wind Shear) - kN												
Ezipter Height H - m	S Ezipter Spacing - m											
	1.5	1.8	2.1	2.4	2.7	3.0	3.3	3.6	3.9	4.2		
BMT mm	0.8	1.0	0.8	1.0	0.8	1.0	0.8	1.0	0.8	1.0	0.8	1.0
0.6	12.2	15.6	12.2	15.9	12.2	16.1	12.2	16.3	12.2	16.4	12.2	16.6
0.9	12.2	14.4	12.2	15.0	12.2	15.4	12.2	15.7	12.2	15.9	12.2	16.1
1.2	12.2	13.1	12.2	14.0	12.2	14.6	12.2	15.0	12.2	15.3	12.2	15.6
1.5	11.9	11.9	12.2	12.9	12.2	13.6	12.2	14.2	12.2	14.7	12.2	15.0
1.8	10.7	10.7	11.9	11.9	12.2	12.7	12.2	13.4	12.2	14.0	12.2	14.4
2.1		10.9	10.9	11.9	11.9	12.2	12.6	12.2	13.2	12.2	13.7	12.2
2.4			11.0	11.0	11.9	11.9	12.2	12.5	12.2	13.1	12.2	13.6
2.7					11.1	11.1	11.9	11.9	12.2	12.5	12.2	13.0
3.0						11.2	11.2	11.9	11.9	12.2	12.4	12.2
3.3							11.3	11.3	11.9	11.9	12.2	12.4
3.6							10.7	10.7	11.3	11.3	11.9	11.9
3.9								10.8	10.8	11.4	11.4	11.9
4.2									10.9	10.9	11.4	11.4

See Double X Brace BR09-07 when
using a U Pier Head & BR09-04
when using a L Pier Head for heights
within this area

C	CERTIFICATION STAMP CHANGED	MR	18/11/22
B	PROTECTIVE COATING NOTE ADDED	MR	11/05/22
REV.	DESCRIPTION	DRN.	DATE

SPANTEC

17 Drapers Road, Braemar, NSW, 2575
PO Box 81, Mittagong, NSW, 2575, Australia
Phone: 02 4860 1000 Fax: 02 4872 1616

SPANTEC SYSTEMS Pty Ltd ABN 56 053 584 384

www.spantec.com.au

COPYRIGHT: THIS DRAWING REMAINS THE PROPERTY OF SPANTEC SYSTEMS PTY. LTD. AND MAY NOT BE
ALTERED IN ANY WAY WITHOUT SPANTEC SYSTEMS PTY. LTD. WRITTEN CONSENT.

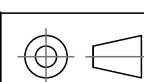
DESCRIPTION

EZIBRACE SUBFLOOR BRACING SYSTEM
CONNECTION TO L SHAPE EZIPIERS WITH
BOXSPAN FLOOR & 2 HOLE BASE PLATE
(1XL-2)

DRAWING NO.

BR09-03

SCALE @ A3
NTS

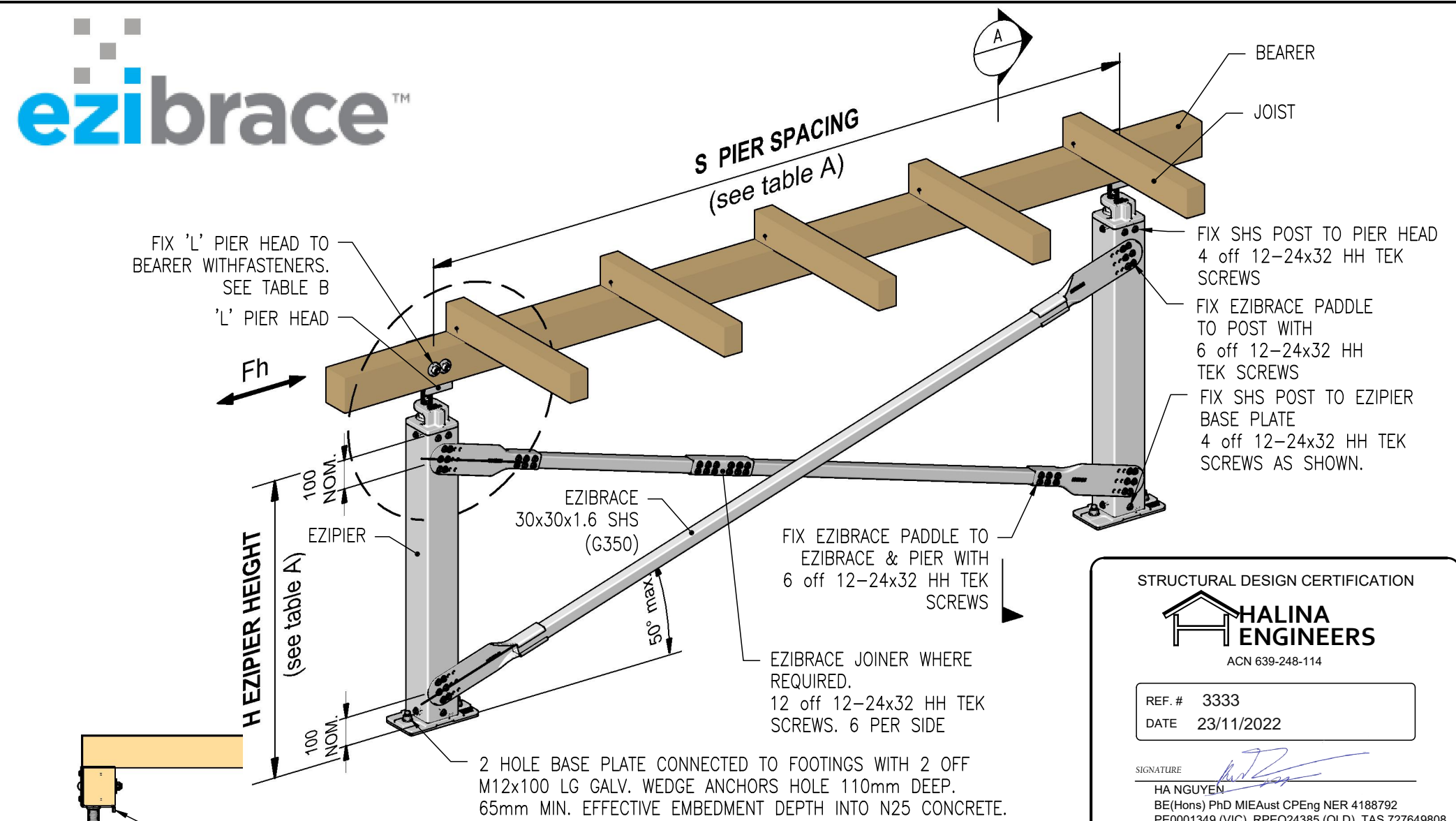


DRAWN
MR

REVISION

C

DATE DRAWN
13/09/21



STRUCTURAL DESIGN CERTIFICATION

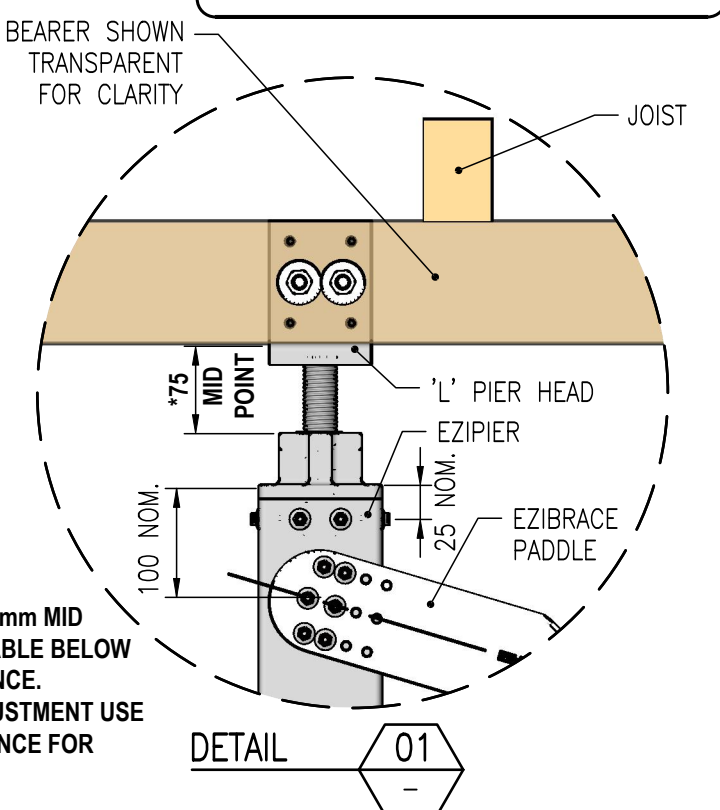
HALINA ENGINEERS
ACN 639-248-114

REF. # 3333
DATE 23/11/2022

SIGNATURE *[Signature]*
HA NGUYEN
BE(Hons) PhD MIEAust CPEng NER 4188792
PE0001349 (VIC), RPEQ24385 (QLD), TAS 727649808

Table B	BEARER to 'L' PIER HEAD - FASTENERS			
Bearer Type	Min. Beam Size	Bolts M12	Timber tek 14g -10x45	Metal tek 14g -14x22
LVL - JD4	90 x 45	2	6	0
Hardwood - JD3	90 x 70	2	4	0
RHS	150 x 50 x 2.0 RHS	1	0	2
		2	0	0
Cee section	C15019	1	0	2
		2	0	0

NOTE: All fasteners in a row for each bearer type should be used



* FOR UP TO / INCLUDING 75mm MID POINT ADJUSTMENT SEE TABLE BELOW FOR HORIZONTAL RESISTANCE.
NOTE: AT 102mm MAX. ADJUSTMENT USE 12kN HORIZONTAL RESISTANCE FOR BRACE ANGLES 1-50°.

SECTION A
NTS

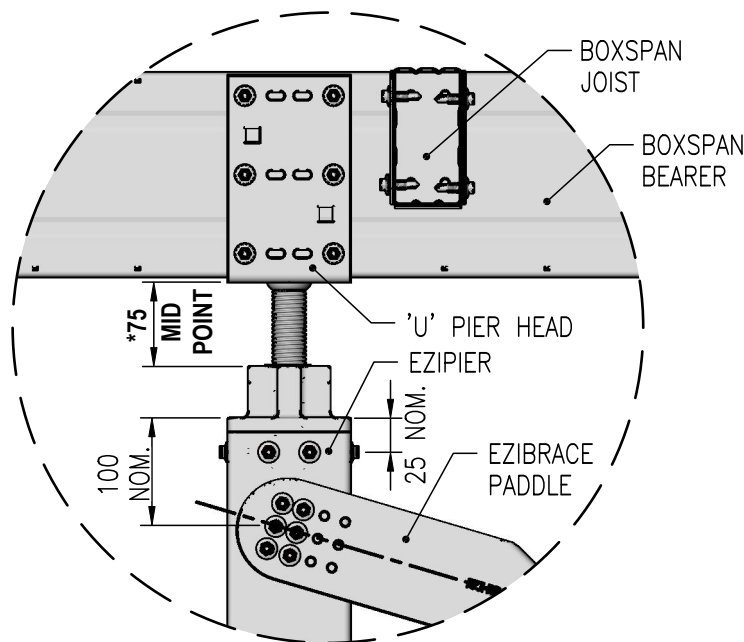
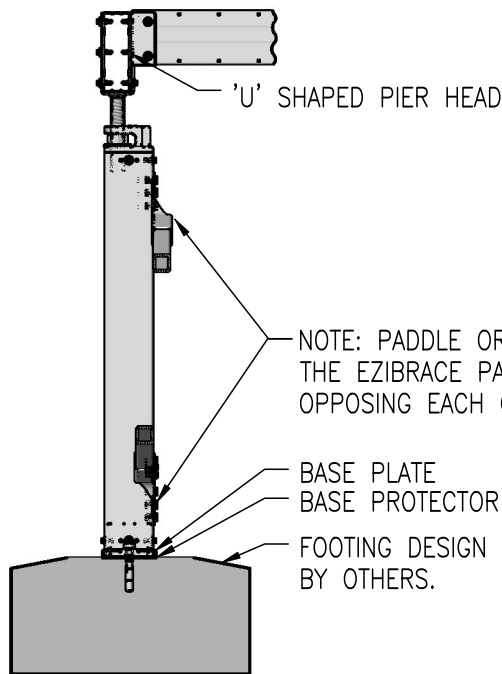
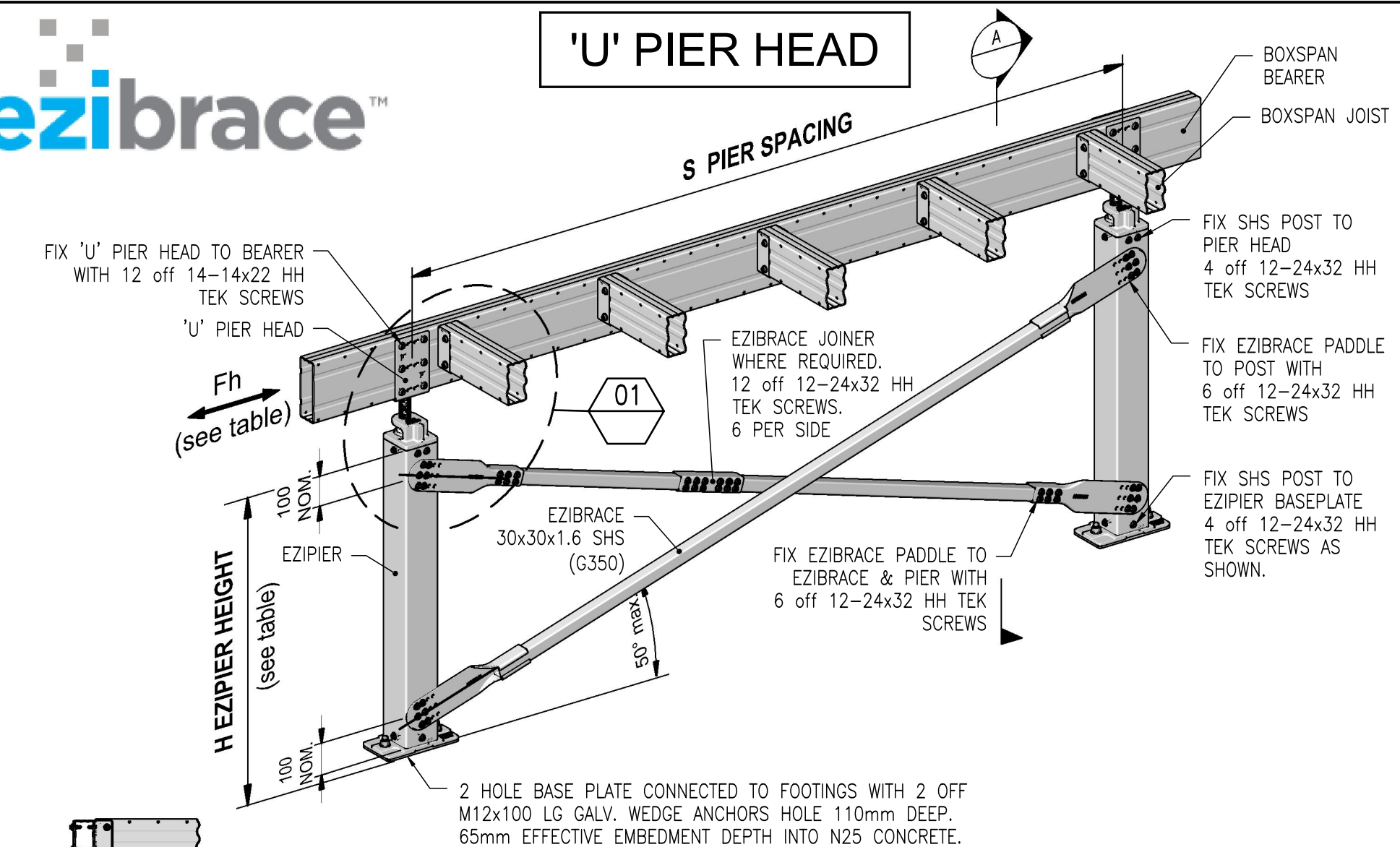
EZIBRACE ULTIMATE HORIZONTAL RESISTANCE										
TABLE A										
2 HOLE BASE PLATE										
F _h - Horizontal Force (Wind Shear) - kN										
Eziplier Height H - m	S Eziplier Spacing - m									
	1.5	1.8	2.1	2.4	2.7	3.0	3.3	3.6	3.9	4.2
0.6	15.6	15.9	16.1	16.3	16.4	16.4	16.5	16.5	16.6	16.6
0.9	14.4	15.0	15.4	15.7	15.9	16.1	16.2	16.3	16.3	16.4
1.2	13.1	14.0	14.6	15.0	15.3	15.6	15.8	15.9	16.0	16.1
1.5	11.9	12.9	13.6	14.2	14.7	15.0	15.3	15.5	15.7	15.8
1.8	10.7	11.9	12.7	13.4	14.0	14.4	14.7	15.0	15.2	15.4
2.1		10.9	11.9	12.6	13.2	13.7	14.2	14.5	14.8	15.0
2.4			11.0	11.9	12.5	13.1	13.6	14.0	14.3	14.6
2.7				11.1	11.9	12.5	13.0	13.4	13.8	14.1
3.0					11.2	11.9	12.4	12.9	13.3	13.6
3.3						11.3	11.9	12.4	12.8	13.2
3.6							10.7	11.3	11.9	12.3
3.9								10.8	11.4	11.9
4.2									10.9	11.4

- NOTES:**
- THE LOADS ARE THE ULTIMATE LIMIT CAPACITIES BASED ON THESE STANDARDS: AS1170.1, AS4055, AS4100, AS4600, AS5216. AS1720.1 ALL LOADS ARE IN kN AND DIMENSIONS ARE mm.
 - TABLE 'A' GIVES THE MAXIMUM HORIZONTAL WIND FORCE THAT EZIBRACE CAN RESIST TOGETHER WITH THE ACCOMPANYING UPLIFT FOR THE EZIBRACE, THE 'L' SHAPE PIER HEAD AND EZIPIER WITH A 2 HOLE BASE PLATE. THE SYSTEM IS SUITABLE FOR ANY NORMAL WIND. THE EZIPIER SOLUTION SHOULD BE CHECKED FOR ANY ADDITIONAL LOADS, ESPECIALLY UPLIFT BY A COMPETENT PERSON. CYCLONIC AND EARTHQUAKE LOADS REQUIRE SPECIFIC DESIGNS.
 - TABLE 'B' GIVES THE FASTENERS TO FIX THE VARIOUS BEARER TO THE PIER HEAD. WHERE THE BEARER IS AN LVL TIMBER BEAM THE 2 EXTRA TEKS CAN BE DRILLED INTO THE MIDDLE OR THE UNDERSIDE OF THE 'L'.
 - THE EZIBRACE IS SELECTED BASED ON THE ULTIMATE DESIGN LOADS CARRIED TO THE FOOTINGS. THE LOADS IN THE TABLE ARE BASED ON THE STRENGTH OF THE EZIBRACE AND THE BEARER. THE ULTIMATE TENSION FORCE FOR EZIBRACE IS 18.5kN. THE EZIBRACE IS A SQ STEEL TUBE 30x1.6 SHS TO AS1163 - C350LO.
 - BASE PLATES ARE CONNECTED TO THE FOOTING BY 4/M12x100 GALV. WEDGE ANCHORS INTO N25 CONCRETE.
 - ULTIMATE MOMENT FOR BASE PLATES:
THE BASE PLATE IS SUFFICIENTLY STRONG SO IT IS NOT THE GOVERNING LIMIT. THE BASE PLATE CONNECTION CAN CARRY THE MOMENTS TRANSFERRED BY THE BRACING INTO THE CONCRETE FOOTING. THE SUPPORTING FOOTING SHOULD BE DESIGNED BY A ENGINEER BASED ON THE LOADS AND SOIL TYPE.
 - THE EZIPIER CAN BE 90x2 SHS OR 89x3.5 SHS TO AS1163 - C350LO. THE PIER SHOULD BE CHECKED FOR STRENGTH BY AN ENGINEER.
 - FOR PROTECTIVE COATING SYSTEMS REFER TO: NCC VOLUME 2, NASH STANDARD RESIDENTIAL AND LOW-RISE STEEL FRAMING PART 2: DESIGN SOLUTIONS, AS/NZS 4680 HOT-DIP ZINC COATINGS ON FABRICATED FERROUS ARTICLES, AS/NZS 4792 HOLLOW SECTIONS PRODUCED BY WELDING PRE-GALVANIZED STEEL STRIP.
 - THE PIER HEAD SHALL BE 90 WIDE FOR ANY BEARER CARRYING THE HORIZONTAL WIND SHEAR.
 - THE BASE PLATES CAN BE UPGRADED TO 4 HOLE BASE PLATES.
 - SEE DRAWING P04-03 FOR THE EZIPIER WITH 'L' SHAPE PIER HEAD.
SEE DRAWING P14 FOR THE 2 AND 4 HOLE BASE PLATES.

B	CERTIFICATION STAMP CHANGED	MR	18/11/22
A	PROTECTIVE COATING NOTE ADDED	MR	11/05/22
REV.	DESCRIPTION	DRN.	DATE

DESCRIPTION EZIBRACE SUBFLOOR BRACING SYSTEM CONNECTION TO EZIPIER WITH TIMBER BEARER 'L' PIER HEAD & 2 HOLE BASE PLATE (1XL-2-T)	DRAWING NO. BR09-06	REVISION B
SCALE @ A3 NTS	DRAWN MR	DATE DRAWN 27/10/21

'U' PIER HEAD



STRUCTURAL DESIGN CERTIFICATION

HALINA ENGINEERS

ACN 639-248-114

REF. # 3333

DATE 23/11/2022

SIGNATURE

HA NGUYEN

BE(Hons) PhD MIEAust CPEng NER 4188792

PE0001349 (VIC), RPEQ24385 (QLD), TAS 727649808

SECTION A
NTS

DETAIL 01

* FOR UP TO / INCLUDING 75mm MID POINT ADJUSTMENT SEE TABLE BELOW FOR HORIZONTAL RESISTANCE.
NOTE: AT 102mm MAX. ADJUSTMENT USE 12kN HORIZONTAL RESISTANCE FOR BRACE ANGLES 1-50°.

EZIBRACE ULTIMATE HORIZONTAL RESISTANCE										
2 HOLE BASE PLATE										
Fh - Horizontal Force (Wind Shear) - kN										
Ezipier Height H - m	S Ezipier Spacing - m									
	1.5	1.8	2.1	2.4	2.7	3.0	3.3	3.6	3.9	4.2
0.6	15.6	15.9	16.1	16.3	16.4	16.4	16.5	16.5	16.6	16.6
0.9	14.4	15.0	15.4	15.7	15.9	16.1	16.2	16.3	16.3	16.4
1.2	13.1	14.0	14.6	15.0	15.3	15.6	15.8	15.9	16.0	16.1
1.5	11.9	12.9	13.6	14.2	14.7	15.0	15.3	15.5	15.7	15.8
1.8	10.7	11.9	12.7	13.4	14.0	14.4	14.7	15.0	15.2	15.4
2.1		10.9	11.9	12.6	13.2	13.7	14.2	14.5	14.8	15.0
2.4			11.0	11.9	12.5	13.1	13.6	14.0	14.3	14.6
2.7				11.1	11.9	12.5	13.0	13.4	13.8	14.1
3.0					11.2	11.9	12.4	12.9	13.3	13.6
3.3	See Double X Brace BR09-07 when using a U Pier Head & BR09-04 when using a L Pier Head for heights within this area					11.3	11.9	12.4	12.8	13.2
3.6						10.7	11.3	11.9	12.3	12.7
3.9							10.8	11.4	11.9	12.3
4.2								10.9	11.4	11.9

NOTES:

- THE LOADS ARE THE ULTIMATE LIMIT CAPACITIES BASED ON THESE STANDARDS: AS1170.1, AS4055, AS4100, AS4600, AS5216. ALL LOADS ARE IN kN AND DIMENSIONS ARE mm
- THE TABLE GIVES THE MAXIMUM HORIZONTAL WIND FORCE THAT EZIBRACE CAN RESIST TOGETHER WITH THE ACCOMPANYING UPLIFT FOR THE EZIBRACE, A 'U' SHAPED PIERHEAD AND EZIPIER WITH A 2 HOLE BASE PLATE. THE SYSTEM IS SUITABLE FOR ANY NORMAL WIND. THE EZIPIER SOLUTION SHOULD BE CHECKED FOR ANY ADDITIONAL LOADS, ESPECIALLY UPLIFT BY A COMPETENT PERSON. CYCLONIC AND EARTHQUAKE LOADS REQUIRE SPECIFIC DESIGNS.
- THE EZIBRACE IS SELECTED BASED ON THE ULTIMATE DESIGN LOADS CARRIED TO THE FOOTINGS. THE LOADS IN THE TABLE ARE BASED ON THE STRENGTH OF THE EZIBRACE. THE ULTIMATE TENSION FORCE FOR EZIBRACE IS 18.5kN. THE EZIBRACE IS A SQ STEEL TUBE 30x1.6SHS TO AS1163 - C350LO.
- BASE PLATES ARE CONNECTED TO THE FOOTING BY 2/M12x100 GALV. WEDGE ANCHORS, HOLE 110 DEEP MIN 65mm EFFECTIVE EMBEDMENT INTO N25 CONCRETE.
- ULTIMATE MOMENT FOR BASE PLATES:
THE BASE PLATE IS SUFFICIENTLY STRONG SO IT IS NOT THE GOVERNING LIMIT. THE BASE PLATE CONNECTION CAN CARRY THE MOMENTS TRANSFERRED BY THE BRACING INTO THE CONCRETE FOOTING. THE FOOTING SHOULD BE DESIGNED BY AN ENGINEER BASED ON THE LOADS AND SOIL TYPE.
- THE EZIPIER CAN BE 90x2SHS OR 89x3.5SHS TO AS1163 - C350LO. THE PIER SHOULD BE CHECKED FOR STRENGTH BY AN ENGINEER.
- FOR PROTECTIVE COATING SYSTEMS REFER TO: NCC VOLUME 2, NASH STANDARD RESIDENTIAL AND LOW-RISE STEEL FRAMING PART 2: DESIGN SOLUTIONS, AS/NZS 4680 HOT-DIP ZINC COATINGS ON FABRICATED FERROUS ARTICLES, AS/NZS 4792 HOLLOW SECTIONS PRODUCED BY WELDING PRE-GALVANIZED STEEL STRIP.
- BOXSPAN BEARER CAN BE B150, B200, OR B250.
- SEE DRAWING P04-01 FOR THE EZIPIER WITH 'U' SHAPED PIER HEAD. SEE DRAWING P14 FOR THE 2 AND 4 HOLE BASE PLATE STRENGTH.

D	CERTIFICATION STAMP CHANGED	MR	18/11/22
C	PROTECTIVE COATING NOTE ADDED	MR	11/05/22
REV.	DESCRIPTION	DRN.	DATE