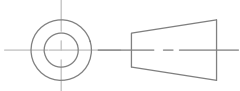


Please refer to sheet 2 for Main Cable Tesnion

 <p>THIRD ANGLE PROJECTION</p>		<small>UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE IN MILLIMETERS SURFACE FINISH: TOLERANCES: LINEAR: ±0.05 ANGULAR: 0.05°</small>		<small>FINISH:</small>	<small>DEBUR AND BREAK SHARP EDGES</small>	<small>DO NOT SCALE DRAWING</small>	
						HYQUEST SOLUTIONS PTY LTD	
						CABLEWAY TYPICAL INSTALLATION	
						<small>TITLE:</small>	
						<small>DRAWN:</small>	
						<small>CHK'D:</small>	
						<small>APPV'D:</small>	
						<small>MFG:</small>	
						<small>Q.A:</small>	
						<small>MATERIAL:</small>	
						<small>TYPICAL CABLEWAY INSTALL-beacon A3</small>	
<small>REV</small>		<small>DESCRIPTION</small>		<small>DATE</small>		<small>SCALE:1:100</small>	
<small>A</small>		<small>FIRST ISSUE</small>		<small>8.20</small>		<small>SHEET 1 OF 2</small>	

Assume using 3.2 mm Amegraph Cable The breaking strain 710Kg so the maximum sensor weight with safety Factor of 5 is								142 Kgs
Assume using 2.5 mm Amegraph Cable The breaking strain 710Kg so the maximum sensor weight with safety Factor of 4 is								112.125 Kgs
Assume the following for all designs								
Span S length M		60	70	75	90	125	150	150
Sag is D in metres	2% of Span	1.2	1.4	1.5	1.8	2.5	3	3
H Column m	1.9	1.9	1.9	1.9	1.9	1.9	1.9	2
Initial Sag is 0.87%		0.522	0.609	0.6525	0.783	1.0875	1.305	1.31
Main Cable Size mm		12	12	12	12	12	12	16
Weight of cable kg/m		0.548	0.548	0.548	0.548	0.548	0.548	0.9449541
Force of cable N W		5.37588	5.37588	5.37588	5.37588	5.37588	5.37588	9.27
Minimum breaking Strain BS N		92,300.00	92,300.00	92,300.00	92,300.00	92,300.00	92,300.00	153,036.00
Weight of sinker Kg		70	70	70	100	100	100	150
Force of Sinker N P		686.70	686.70	686.70	981.00	981.00	981.00	1,471.50
Amegraph Cable Size		2.50	2.50	2.50	2.50	2.50	2.50	3.20
Breaking Strain MBLS		4,400.00	4,400.00	4,400.00	4,400.00	4,400.00	4,400.00	6,965.00
Initial Tension @ 0.87% Sag								
D Sag with no sensor attached		0.522	0.609	0.6525	0.783	1.0875	1.305	1.305
T_h is the horizontal tension N		4,634.38	5,406.78	5,792.97	6,951.57	9,654.96	11,585.95	19,902.19
T is the actual Tension N		4,637.18	5,410.05	5,796.48	6,955.78	9,660.80	11,592.96	19,914.33
Factor of safety FOS		19.90432	17.06084	15.92345	13.26955	9.554073	7.96172735	7.6847157
Working Tension @ 2% Sag								
D Sag with Sensor attached		1.2	1.4	1.5	1.8	2.5	3	3
T_h is the horizontal tension N		10,599.71	10,935.70	11,103.69	15,286.43	16,462.41	17,302.39	27,084.38
T is the actual Tension N		10,633.57	10,970.64	11,139.17	15,335.27	16,515.00	17,357.67	27,170.91
Factor of safety FOS		8.680058	8.413368	8.286076	6.018805	5.588858	5.31753495	5.6323479
Ultimate Tension @3.7% Sag								
D Sag with Sensor Snaged		2.22	2.59	2.775	3.33	4.625	5.55	5.55
T_h is the horizontal tension N		30,819.44	31,001.05	31,091.86	31,364.29	31,999.95	32,453.99	51,758.45
T is the actual Tension N		30,820.45	31,002.06	31,092.87	31,365.30	32,000.96	32,455.00	51,759.46
Factor of safety FOS		2.994765	2.977221	2.968526	2.942743	2.884288	2.8439374	2.9566771
Moment of the Pole Base Mmax Nm		58,556.93	58,902.00	59,074.54	59,592.15	60,799.90	61,662.59	103,516.89
Permanent Expansion of the Cable M		0.15	0.18	0.19	0.23	0.31	0.38	0.38
Temp Min -30 Cable Contraction		-0.0225	-0.02625	-0.02813	-0.03375	-0.04688	-0.05625	-0.05625
Temp Max 60 Cable Expansion		0.045	0.0525	0.05625	0.0675	0.09375	0.1125	0.1125

Please note:
 1) These calculation are only for internal use.
 2) These calculation are only done for 2.5mm diameter sensor cable and 12mm diameter main cable.
 3) The civil engineer should not rely on these calculation to anchor the cableway
 4) These calculations are only a guide the help the civil engineer to decide on a sound structure for the cableway

FINISH:

DEBUR AND
BREAK SHARP
EDGES

DO NOT SCALE DRAWING

HYQUEST SOLUTIONS PTY LTD

TITLE:		Cableway Typical Installation	
DWG NO.	TYPICAL CABLEWAY INSTALL-beacon		A3
SCALE:1:100	SHEET 2 OF 2		

NAME	SIGNATURE	DATE
DRAWN AGEM		8.20
CHK'D		
APPV'D		
MFG		
Q.A		
MATERIAL:		
REV	DESCRIPTION	DATE
A	FIRST ISSUE	8.20