CABLE SLOPE & SAG WORKSHEET

USE THIS WORKSHEET TO HELP SET UP YOUR ZIPLINE. BY USING THESE STEPS YOU WILL BE ABLE TO DETERMINE THE LENGTH, SLOPE, SAG, ELEVATION CHANGE (IF ANY) IN YOUR LANDSCAPE AND YOUR STARTING AND ENDING ANCHOR.

1. MEASURE THE DISTANCE BETWEEN START AND END ANCHORS. USING “FEET” ENTER YOUR MEASUREMENT IN BOX 1. THIS WILL BE YOUR LENGTH. (ROUND UP TO NEAREST FT.)

2. CALCULATE THE SLOPE OF THE ZIP LINE AND ENTER IN BOX 2.
   a. MULTIPLY BOX 1 BY .03 IF YOU ONLY HAVE A STOP BLOCK
   b. MULTIPLY BOX 1 BY .06 IF YOU HAVE A BUNGEE BRAKE

3. CALCULATE THE SAG.  
   a. MULTIPLY BOX 1 BY .02 AND ENTER THE ANSWER IN BOX 3.

4. MEASURE AND CALCULATE ELEVATION CHANGE. IF GROUND IS LEVEL, ENTER “0” IN BOX 4C.  
   IF NOT, USE A SIGHT LEVEL AND HAVE A FRIEND ASSIST IN MEASURING.

Determine your Sighting Height and enter it in Box “4B”.

SIGHT A LEVEL LINE TO YOUR END ANCHOR THROUGH YOUR SIGHT LEVEL. TILT SIGHT LEVEL UP OR DOWN UNTIL BUBBLE ALIGNS WITH CENTER CROSSHAIRES. FIND A LEVEL LINE AND HAVE YOUR FRIEND MARK THE END ANCHOR. MEASURE THE HEIGHT OF THE MARK FROM THE GROUND AND ENTER IN BOX “4A”.  
A-B=C (ELEVATION CHANGE) – NOT TO BE CONFUSED WITH CABLE SLOPE.

HELPFUL HINT: AS AN ALTERNATIVE TO A SIGHT LEVEL YOU CAN USE AN ALTIMETER APP.

5. DETERMINE YOUR ENDING ANCHOR POINT HEIGHT BY ADDING BOX 3 PLUS 7 FT. 
   AND ENTER THE ANSWER IN BOX 5. THIS IS THE HEIGHT OF YOUR ENDING ANCHOR POINT.

6. TO DETERMINE THE HEIGHT OF YOUR STARTING ANCHOR POINT, ADD BOX 2 AND BOX 5 TOGETHER THEN SUBTRACT BOX 4C. ENTER THE ANSWER IN BOX 6. THIS IS THE HEIGHT OF YOUR STARTING ANCHOR POINT.