Title

Aaron

quadratics

$y=a\left(x−0\right)\left(x−1158\right)$

$50=a\left(129\right)\left(129−1158\right)$$=−0.000377$

$y=−\frac{50}{132741}x\left(x−1158\right)$

$y1=\frac{−50}{132741}\left(174\right)\left(174−1158\right)$

$=64.492−50$

$y1=14.492$

Therefore the first cable equals 14.492m

$y2 =n−\frac{−50}{132741}\left(219\right)\left(219−1158\right)$

$=77.459−50$

$y2=27.459$

Therefore the secind cable equals 27.459m

$y3=\frac{−50}{132741}\left(264\right)\left(264−1158\right)$

$=88.900−50$

$y3=38.900$

Therfore the third cable equals 38.900m

$y4=\frac{−50}{132741}\left(309\right)\left(309−1158\right)$

$=98.816−50$

$y4=48.816$

therefore the fourth cable equals 48.816m

$y5=\frac{−50}{132741}\left(354\right)\left(354−1158\right)$

$=107.207−50$

$y5=57.207$

Therefore the fifth cable equals 57.207m

$y6=\frac{−50}{132741}\left(399\right)\left(399−1158\right)$

$=114.072−50$

$y6=64.072$

Therefore the sixth cable equals 64.072m

$y7=\frac{−50}{132741}\left(444\right)\left(444−1158\right)$

$=119.411−50$

$y7=69.411$

Therefore the seventh cable equals 69.411

$y8=\frac{−50}{132741}\left(489\right)\left(489−1158\right)$

$=123.225−50$

$y8=73.225$

Therefore the eighth cable equals 73.225

$y9=−\frac{50}{132741}\left(534\right)\left(532−1158\right)$

$=125.513−50$

$y9=75.513$

Therefore the ninthcable equals 75.513m

$y10=\frac{−50}{132741}\left(579\right)\left(579−1158\right)$

$=126.276−50$

$y10=76.276$

Therefore the tenth cable equals 76.276m

$y11=\frac{−50}{132741}\left(624\right)\left(624−1158\right)$

$=125.513−50$

$y11=75.513$

Therefore the eleventh cable equals 75.513m

$y12=\frac{−50}{132741}\left(669\right)\left(669−1158\right)$

$=123.225−50$

$y12=73.225$

Therefore the twelth cable equals 73.225m

$y13=\frac{−50}{132741}\left(714\right)\left(714−1158\right)$

$=119.411−50$

$y13=69.411$

Therefore the thirteenth cable equals 69.411m

$y14=\frac{−50}{132741}\left(759\right)\left(759−1158\right)$

$=114.072−50$

$y14= 64.072$

Therefore the fourteenth cable equals 64.072m

$y15=\frac{−50}{132741}\left(804\right)\left(804−1158\right)$

$=107.207−50$

$y15=57.207$

Therefore the fiftteenth cable equals 57.207m

$y16=\frac{−50}{132741}\left(849\right)\left(849−1158\right)$

$=98.816−50$

$y16=48.816$

Therefore the sixteenth cable equals 48.816m

$y17=\frac{−50}{132741}\left(894\right)\left(894−1158\right)$

$=88.900−50$

$y17=38.900$

Therefore the seventeenth cable equals 38.900m

$y18=\frac{−50}{132741}\left(939\right)\left(939−1158\right)$

$=77.459−50$

$y18=27.459$

Therefore the eighteenth cable equals 27.459m

$y19=\frac{−50}{132741}\left(984\right)\left(984−1158\right)$

$=64.492−50$

$y19=14.492$

Therefore the ninteenth cable equals 14.492m

$14.492+27.459+38.900+48.816+57.207+64.072+69.411+73.225$

$=393.584$

$75.513+76.276+75.513+73.225+69.411+64.072+57.207+48.816$

$=540.033$

$38.900+27.459+14.492$

$=80.851$

$393.584+540.033+80.851$

$=1014.468$

The total amount of cable needed to replace the sydney harbour bridge is 1014.468m of steel cable

1014.466