QUADRANT HOMES - SLOCUM PROPERTY
PACE # 11378
Tyler Christofferson, PE
3/8/13

EXHIBIT 15
PAGE 1 OF 1

- STOPPING SIGHT DISTANCE CHECKS

  - CREST VERTICAL CURVE

DESIGN SPEED = 25 MPH

SSD = STOPPING SIGHT DIST
$t = 2.5$ SEC
$V = 25$ MPH
$f = a/g$
$a = 11.2$ ft/sec^2
$g = 32.2$ ft/sec^2
$G = 2\%$ OR 0.02

(1) $$SSD = 1.47tV + \frac{V^2}{30(f+G)}$$

$$SSD = 1.47(2.5)(25) + \frac{25^2}{30\left(\frac{11.2}{32.2} - 0.02\right)}$$

SSD = 155.42 FT WILL USE 156 FT

(2) $S > L$

$$L = 2S - \frac{2158}{A}$$

L = LENGTH OF CURVE
S = 156 FT
$A = |G_2 - G_1|$
$G_2 = -2$
$G_1 = 15$

$$L = 2(156) - \frac{2158}{|-2+15|}$$

L = 146 156 > 146 SO S > L

(3) $$K = \frac{L}{A}$$

K = LENGTH OF VERT CURVE PER % GRADE DIFF
L = LENGTH OF CURVE = 146 FT
$A = |G_2 - G_1|$

$$K = \frac{146}{|-2+15|}$$

K = 11.23 ← MINIMUM K VALUE FOR CREST VERT CURVE

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