

DAMMON ENGINEERING, INC.

dammonengineering.com

ARCHITECTS

ENGINEERS

CONSULTING

DESIGN

STUDIES

EXPERT WITNESS

554 Old Spanish Trail
Slidell, LA 70458

P.O. Box 2830
Slidell, LA 70459

985-649-5832
FAX 985-641-5950

Existing

$$\text{Retention Pond} = 4880 \text{ ft}^3 = 180 \text{ yd}^3$$

New

$$\text{Fill brought into site} = \left(\begin{matrix} \text{BFE} \\ 9.0 - \end{matrix} \begin{matrix} \text{Exgrade} \\ 6.5 \end{matrix} \right) (20000 \text{ ft}^2) = 50000 \text{ ft}^3 = 1850 \text{ yd}^3$$

$$\text{Cuts made to achieve new paving elevations} = 907 \text{ yd}^3$$

$$\text{Cuts being removed from new swale area} = 256 \text{ yd}^3$$

$$\text{Cuts made by reworking ret. pond} = 7690 - 4880 = 2810 \text{ ft}^3$$

104 yd³
not enough ↗

$$\text{New retention pond Area} = 5920 \text{ ft}^2$$

$$\text{Volume required} = \begin{matrix} \text{Fill} \\ (1850) \end{matrix} - 907 - 256 = 687 \text{ yd}^3$$

$$687 \text{ yd}^3 = 18550 \text{ ft}^3 = \left[5920 \text{ ft}^2 \times \left(\frac{x}{2} \right) \right]$$

$$x = 2 \left(\frac{18550}{5920} \right) = 6.3 \text{ ft deep}$$