LITTER DRY STACK STRUCTURE
DESIGN WORKSHEET
(THREE WALLS – ONE END OPEN)

Conservation District: **Oconee River** Field Office: **Watkinsville**

Cooperator: **John Doe** Location: **Oconee County**

V_L = Volume of litter stored (Form GA-ENG-313A, Item "Operation Storage Requirement."): **9,000** ft^3

W_b = Width of building (dimension from inside of post to inside of post): **40** ft.

h_m = Max height of pile (Max. 7 ft.): **7** ft.

h_w = Height of wall (Max for wooden wall = 5 ft): **5** ft.

h_s = Height of pile at side walls (Normally equal to the wall height): **5** ft.

h_e = Height to gable end closure wall (12 or 14 ft depending on design chosen): **14** ft.

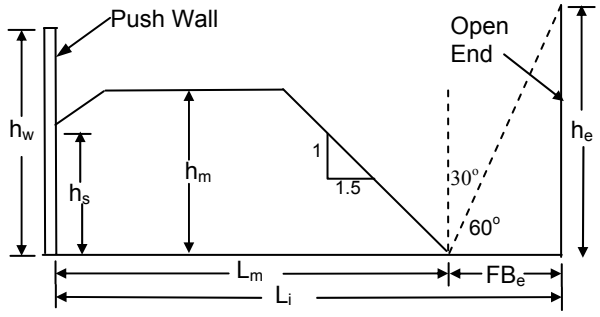
A_x = Cross sectional area of pile (calculate below)

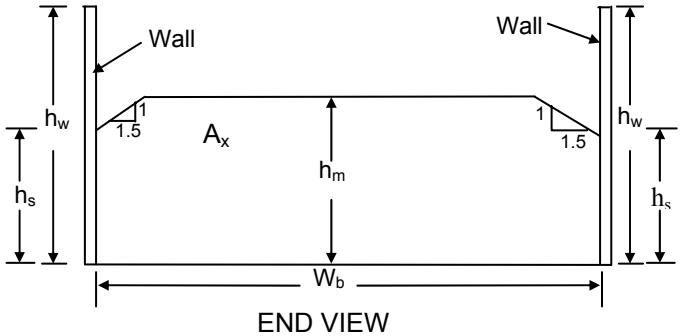
L_m = Length of litter pile (calculate below)

L_i = Length of building (initial calculation) including freeboard (FB_e).

L_T = Total length; L_i rounded to accommodate post spacing

FB_e = Horizontal freeboard between toe of pile and open end of building. Recommend 30 degrees from the vertical on all exposed sides to prevent windblown rainfall from impacting on the containment area.





END VIEW

$A_x = h_m W_b - 1.5(h_m - h_s)^2$ = **7** x **40** - [1.5 x (**7** - **5**)^2] = **274** ft^2

FB_e = **7 ft** for 12 ft high support posts OR **8 ft** for 14 ft high support posts = **8** ft

$L_m = V_L / A_x + (0.75 \times h_m)$ = (**9,000** / **274**) + (0.75 x **7**) = **38.1** ft.

$L_i = L_m + FB_e$ = **38.1** + **8** = **46.1** ft. Post Spacing: **5** ft. c-c

L_T = **45** ft. (Round L_i to accommodate post spacing. Round to closest even spacing.)

Floor area = $L_T \times W_b$ = **45** x **40** = **1,800** ft^2

Designed by: _____ Date: _____

Checked by: _____ Date: _____

Approved by: _____ Date: _____