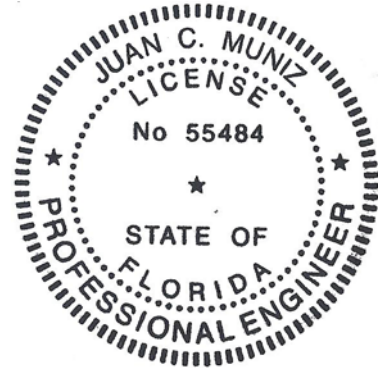


DRAINAGE REPORT

FOR

**PINECREST P8
13100 SW 80 AVENUE
PINECREST, FLORIDA 33156**



This item has been digitally
signed and sealed by
Juan C. Muniz, PE
on the date adjacent to the seal.
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be verified on any electronic
copies.

03-11-2025

Juan C. Muniz, PE #55484

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JANUARY 2025

I. PROJECT DESCRIPTION

The project consists of a new single family home addition.

II. EXISTING CONDITIONS (Vacant)

Site Area = 20,786 SF

Pervious Area = 16,440 SF

Impervious Area = 4,346 SF

III. PROPOSED SITE DISTRIBUTION

Site Area = 20,786 SF

Pervious Area = 9,990 SF

Impervious Area = 10,796 SF

IV. REQUIRED STORAGE

Rainfall Amount (P) = 9.5 inches

Average October Water Table Elevation = 3.50' N.G.V.D.

Average Pervious Elevation = 11.0

$$\text{Depth to water table} = 11.0' - 3.50' = 8.5'$$

Compacted Soil Storage = 8.175'

**According to Section 8.4.2 "Ground Storage" from the South Florida Water Management District's "Management and Storage of Surface Waters Permit Information Manual, Volume IV", compacted, cumulative water storage.*

Existing Conditions

$$S = (\text{Pervious Area} / \text{Site Area}) * (\text{Compacted Soil Storage}) = (16,440 / 20,786) * 8.175$$

$$S(\text{exist.}) = 6.46 \text{ in}$$

$$\text{Runoff (R)} = (P - 0.2S)^2 / (P + 0.8S) = 4.59 \text{ in}$$

$$\text{Volume of Runoff (V)} = A \cdot R / 12 = \underline{7,950 \text{ CF}}$$

Proposed Conditions

$$S = (\text{Pervious Area} / \text{Site Area}) * (\text{Compacted Soil Storage}) = (9,990 / 20,786) * 8.175$$

$$S(\text{proposed}) = 3.93 \text{ in}$$

$$\text{Runoff (R)} = (P - 0.2S)^2 / (P + 0.8S) = 6.32 \text{ in}$$

$$\text{Volume of Runoff (V)} = A \cdot R / 12 = \mathbf{10,983 \text{ CF}}$$

[illegible]

$$1.0 \text{ in} \times 20,786 \text{ SF} / 12 \text{ in/ FT} = 1,732 \text{ CF}$$

$$2.5 \text{ in} \times 10,796 \text{ SF} / 12 \text{ in/FT} = 2,249 \text{ CF}$$

V. PROVIDED STORAGE

$$\text{Swale Area Storage} = (\text{Top Area} + \text{Bottom Area})/2 * \text{Depth of Swale Area}$$

$$\text{Depth of Swale Area} = 11.00 - 10.0 = 1.0'$$

Area @ elevation 11.00 = 5,700 SF

Swale Area @ elevation 10.00 = 800 SF

$$\text{Total on-site storage} = (5,700 + 800)/2 * 1.00' = 3,250CF$$

>>>>>>>>>>>>>>>>3,250CF > 3,033 CF (OK)<<<<<<<<<<<<<<<<