

FIDANZA'S FAMILY HOUSE

11041 SW 77th AVENUE
PINECREST, FL 33156

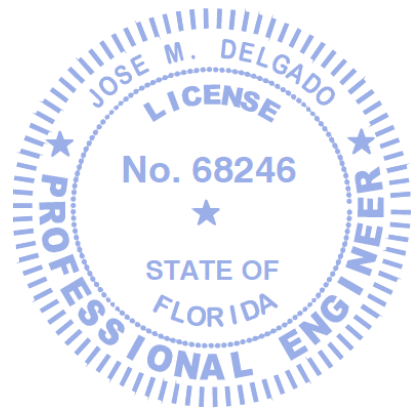
STORM WATER DRAINAGE REPORT

August 24, 2023

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Jose M.
Delgado

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FIDANZA'S FAMILY HOUSE

Pre-Development Areas

Total Site Area	65,017 s.f.	
Total Impervious	0 s.f.	0%
Total Pervious	65,017 s.f.	100%

Post-Development Areas

Total Site Area	65,017 s.f.	
Building Roof Area	15,707 s.f.	24%
Concrete	10,576 s.f.	16%
Septic Drainfield	2,976 s.f.	5%
Green Areas	35,758 s.f.	55%
Total Impervious	26,283 s.f.	40%
Total Pervious	38,734 s.f.	60%

See Note *

FIDANZA'S FAMILY HOUSE

CALCULATE WATER QUALITY

1" x Property Area

5,418 c.f.

2.5" x Impervious Area

5,476 c.f.

CALCULATE WATER QUANTITY

25-yr, 24-hr Storm, P =

9.50 in.

Soil Storage Capacity =

8.18 in.

Pre-Development Runoff

Calculate soil storage value, S

8.18 x 100% =

8.18

Calculate Runoff $R = (P - 0.2S)^2 / (P + .8S)$

3.85

in.

Calculate Volume $V = R \times A$

20,884

c.f.

Post-Development Runoff

Calculate soil storage value, S

8.18 x 48% =

4.87

Calculate Runoff $R = (P - 0.2S)^2 / (P + .8S)$

5.42

in.

Calculate Volume $V = R \times A$

29,391

c.f.

Volume Required for Water Quantity, $V_{QNT} = V_{POST} - V_{PRE}$

V=

29,391

-

20,884

=

8,506 c.f.

Dry Retention Volume Required:

8,506 c.f.

DRY RETENTION DESIGN

Volume (TB) = Full Depth Area x Depth

Volume (BB) = $\frac{(\text{Sloped Area})}{2}$ x Depth

	Basin 1	Basin 2	Basin 3	Basin 4	Depth	Volume
TB Area =	574	574	2172	1,126	0.5	2,223
(TB Area)/2 =	422	422	710	481	0.5	509
Exfiltration Trench 1 & 2 From Page 5 =						12,435
Total Volume =						15,167

Proposed Retention Volume: 15,167 c.f

Note *

For convenience, runoff from the entire roof of the house and pool deck is collected and routed to a proposed exfiltration trench for treatment and disposal.

PROPOSED LAND USE

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Building Roof	9,207 s.f.
Pool Deck	6,500 s.f.
Green Areas	0 s.f.
Total Impervious	15,707 s.f.
Total Pervious	0 s.f.
Total Area	15,707 s.f.

RUNOFF

$$V=A \times Q/12$$

$$Q = (P-0.2S)^2 / (P+.8S)$$

Where:

V =	Volume to be contained on-site
A =	Site Area
Q =	Accumulated Direct Runoff
P =	Precipitation
S =	Ratio of Pervious over Total Site Area x Compacted water Storage

P =	9.5 in.
Ave. W.T. =	3.5 NGVD

Ave. Finished Grade at Pervious Area =	10.40 NGVD
Depth to Water Table =	6.9 ft
Compacted Water Storage	S= 0.00 in.

	Q = 9.50 in.
Volume Runoff	V = 12,435 c.f.
	V = 0.29 ac-ft

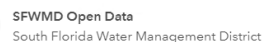
EXFILTRATION TRENCH CALCULATIONS PER SFWMD CRITERIA

Exfiltration Trench Disposal Volume =	12,435 c.f.
Exfiltration Trench Disposal Volume =	3.426 ac-in
Exfiltration Trench Disposal Volume =	0.285 ac-ft

CB Elev =	10
H2 =	6.5 ft.
DU =	4.5 ft.
DS =	1 ft.
W =	3.5 ft.
k =	4.52E-04
Depth =	8 ft.
Exf =	0.040567

Required Length of Exf. Trench =	84 ft.
Provided Length of Exf. Trench =	90 ft.

54 records



Feature Layer

1



Search result

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