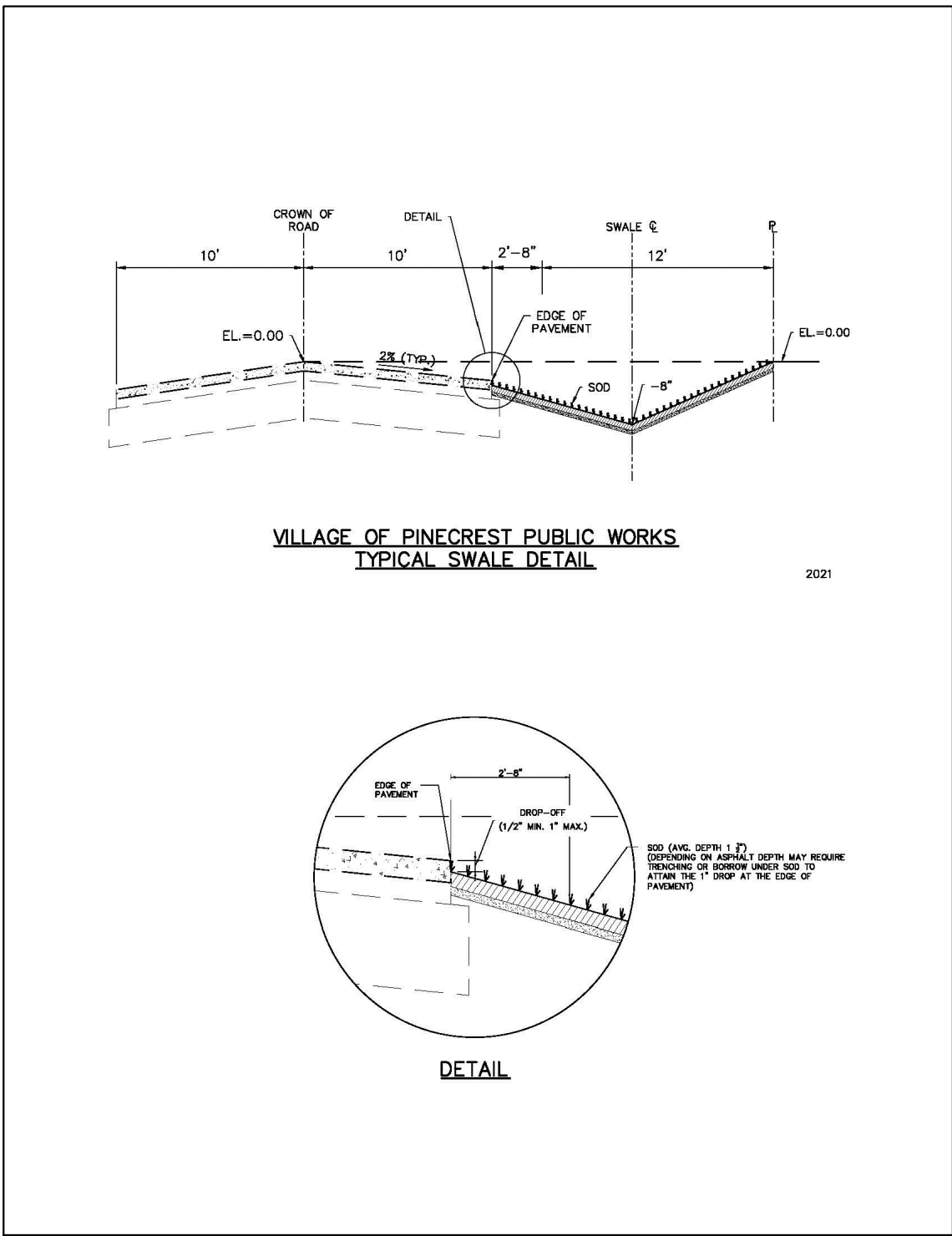




Date: 7/6/2023
Document: 7725 SW 114TH ST., VILLAGE OF PINECREST, FL
Project Manager: CMB
Project Name: 7725 SW 114TH ST., VILLAGE OF PINECREST, FL

Summary			
PRE-DEVELOPMENT CONDITION			
Definitions	Project Information	Comments	
I	Rainfall produced during 10 years, 24 hour storm event (Per Figure C-3 SFWMD) - (in)	8.75	(with 1.25 Safety Factor)
S	Soil storage capacity (in)		
A	Site total area (sf)	39,493	
Per	Pervious area - grass, gravel... (sf)	21,290	
Imp	Impervious area - roof, pavement, walkways, decks	18,203	
R	Run off depth (in)		
V	Volume of runoff (cubic feet)		
WE	Compacted water storage (in)		
AEPA	Average elevation of Pervious Areas (ft)	11.50	
HGWE	High ground water elevation (ft)	4.50	Also check the geotechnical engineer's report
DW	Distance between Avg Elevation of Pervious Areas and the High Ground Water Elevation	7.00	AEPA - HGWE = Depth to Water table - DW

Detailed Project Information:			
Impervious areas	Description	Pervious areas	Description
Imp_1	8,471	Per_1	31,022
Imp_2		Per_2	pool
Tot_Imp =	8471	Tot_Per =	31022

Soil Storage Capacity Calculations (S)			
Depth to Water Table	WE Compacted Water Storage (in)	S= Pervious Area * WE	
1	0.45	Site Total Area	
2	1.88		
3	4.95		
4	8.18		
		39493	
WE = 8.18		S= 6.43	

Runoff Depth Calculation (R)

$$R = (I - 0.2 * S)^{0.48} * 2$$

R = 4.01 in

(I + 0.8 * S)

Pre-Development Total Runoff Volume (V)

$$V = A * R / 12$$

PRE-DEV. Vol = 13,203 Cubic feet

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Summary			
POST DEVELOPMENT CONDITION			
Definitions	Project Information	Comments	
I	Rainfall produced during 10 years, 24 hour storm event (Per Figure C-3 SFWMD) - (in)	8.75	(with 1.25 Safety Factor)
S	Soil storage capacity (in)		
A	Site total area (sf)	39,493	
Per	Pervious area - grass, gravel... (sf)	21,290	
Imp	Impervious area - roof, pavement, walkways, decks	18,203	
R	Run off depth (in)		
V	Volume of runoff (cubic feet)		
WE	Compacted water storage (in)		
AEPA	Average elevation of Pervious Areas (ft)	11.50	
HGWE	High ground water elevation (ft)	4.50	Also check the geotechnical engineer's report
DW	Distance between Avg Elevation of Pervious Areas and the High Ground Water Elevation	7.00	AEPA - HGWE = Depth to Water table - DW

Detailed Project Information:			
Impervious areas	Description	Pervious areas	Description
Imp_1	18,203	Per_1	21,290
Imp_2	0	Per_2	1364
Tot_Imp =	18203	Tot_Per =	22654

Soil Storage Capacity Calculations (S)			
Depth to Water Table	WE Compacted Water Storage (in)	S= Pervious Area * WE	
1	0.45	Site Total Area	
2	1.88		
3	4.95		
4	8.18		
		39493	
WE = 8.18		S= 4.69	

Runoff Depth Calculation (R)

$$R = (I - 0.2 * S)^{0.48} * 2$$

R = 4.88 in

(I + 0.8 * S)

Volume of Runoff (V)

NOTE: During the Post-Development condition, the volume of runoff generated during the 10-year, 24-hour storm (V) is shown below.

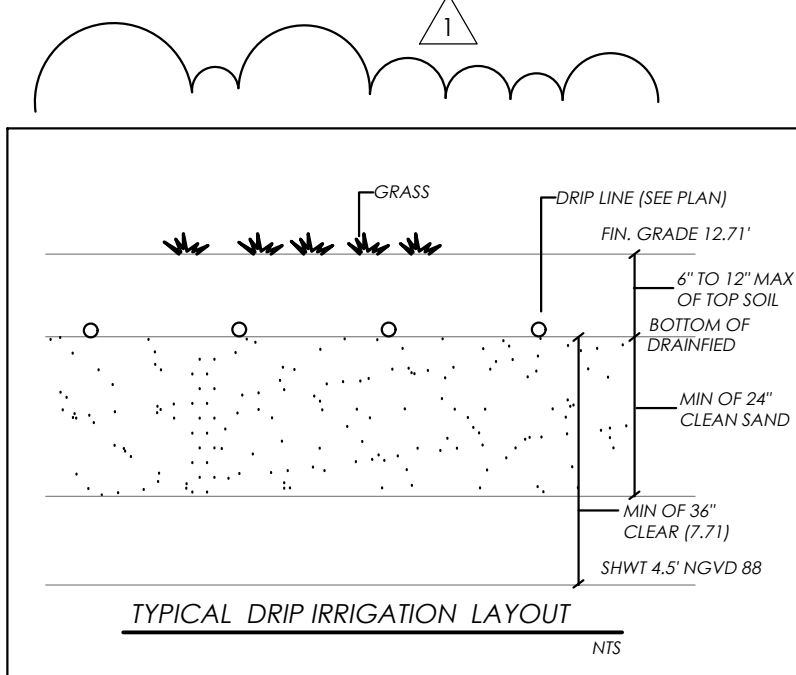
$$V = A * R / 12$$

V = 16,061 Cubic feet

Volume of retention provided					
Volume of swales					
Retention	A1 (Ft^2)	Ao (Ft^2)	A average (Ft)	h (R)	Volumen (Ft^3)
N	3879	3907	3693.00	1.5	5540
S	5443	4130	4816.50	1.5	7225
E	2539	1917	2228.00	1.5	3342
W	2590	2172	2381.00	1.5	3572
	0	0	0.00	0	0
			Total		19678

Volume of runoff > Volume of Retention

Conclusion	
Volume of runoff retained by the retention areas (cf) =	19,678
Volume of runoff retained by the Exfiltration Trench (cf) =	(3,617)
Total runoff volume retained (cf) =	16,061



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1 B.D.C. 08-24-23

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SUITE 1500
MIAMI, FL 33156
PHONE: 305.665.3077

NEW CONSTRUCTION AT PINECREST RESIDENCE:
BY HERITAGE HOME BUILDERS, LLC.
7725 SOUTHWEST 114 STREET
VILLAGE OF PINECREST, FL 33156

SEAL:

DRAINAGE
DETAILS & CALCULATION

DATE : 03/23/2023
SCALE : AS SHOWN
DRAWN :
CHECK BY:
JOB NO. : 23_0012

SD-2

SHEET NO. :

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