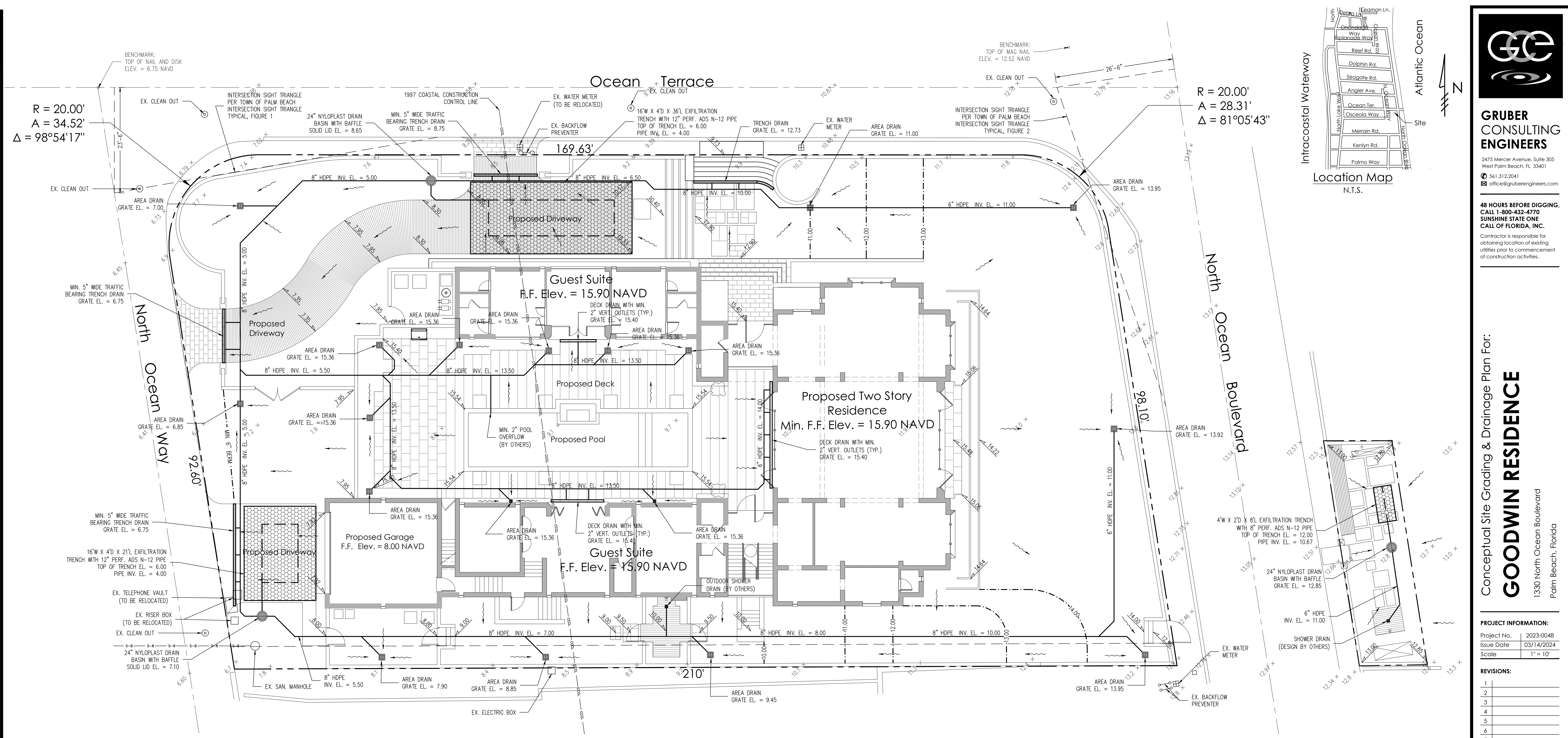




Notes:

- Exfiltration trenches and storm piping to be protected from roots with a root barrier.
- Roof drain downspouts are to be connected to the proposed drainage system. Contractor to provide engineer with downspout locations prior to installation of drainage system.
- Exfiltration trench design uses an assumed value of hydraulic conductivity. Client may obtain a site specific test for hydraulic conductivity prior to exfiltration trench installation.
- Contractor shall mill and overlay all roadway cuts a minimum of 50 ft. on either side of the excavation the entire width of each affected lane.
- Contractor is responsible for installing and maintaining erosion control measures during construction.
- Video inspection of storm drainage system required prior to installation of sod.

STORMWATER RETENTION CALCULATIONS Main House

A. SITE INFORMATION
Total Property Area = 23,811 sq.ft.
Drainage Area Impervious Surface = 12,398 sq.ft.
Drainage Area Pervious Surface = 11,413 sq.ft.

B. ESTIMATED STORMWATER RETENTION VOLUME
The retention volume is estimated using the Rational Method (Q=CIA) where:
C = 1.0 (Impervious surface)
C = 0.2 (pervious surface)
i = 2 in/hr
Impervious Surface Runoff Volume:
1.0 x 2 in/hr x 12,398 sq.ft. x 1 ft./12 in. = 2,066 cu.ft.
Pervious Runoff Volume:
0.2 x 2 in/hr x 11,413 sq.ft. x 1 ft./12 in. = 380 cu.ft.
Total Volume to be Retained = 2,446 cu.ft.

C. PROPOSED EXFILTRATION TRENCH SIZING

L	=	Total Length of Trench Provided	=	57	ft
W	=	Trench Width	=	16	ft
K	=	Hydraulic Conductivity	=	0.00005	cts/sq.ft./ft. of head
H2	=	Depth to Water Table	=	5.25	ft
DU	=	Un-Saturated Trench Depth	=	4.00	ft
DS	=	Saturated Trench Depth	=	0.00	ft
V	=	Volume Treated	=	2,979	cu.ft.

STORMWATER RETENTION CALCULATIONS Beach Parcel

A. SITE INFORMATION
Total Property Area = 760 sq.ft.
Drainage Area Impervious Surface = 383 sq.ft.
Drainage Area Pervious Surface = 377 sq.ft.

B. ESTIMATED STORMWATER RETENTION VOLUME
The retention volume is estimated using the Rational Method (Q=CIA) where:
C = 1.0 (Impervious surface)
C = 0.2 (pervious surface)
i = 2 in/hr
Impervious Surface Runoff Volume:
1.0 x 2 in/hr x 383 sq.ft. x 1 ft./12 in. = 64 cu.ft.
Pervious Runoff Volume:
0.2 x 2 in/hr x 377 sq.ft. x 1 ft./12 in. = 13 cu.ft.
Total Volume to be Retained = 77 cu.ft.

C. PROPOSED EXFILTRATION TRENCH SIZING

L	=	Total Length of Trench Provided	=	8	ft
W	=	Trench Width	=	4	ft
K	=	Hydraulic Conductivity	=	0.00005	cts/sq.ft./ft. of head
H2	=	Depth to Water Table	=	6.00	ft
DU	=	Un-Saturated Trench Depth	=	2.00	ft
DS	=	Saturated Trench Depth	=	0.00	ft
V	=	Volume Treated	=	96	cu.ft.

Legend

5.7 +
6.00
PROPOSED ELEVATION CONTOUR (NAVD-88)

FLOW DIRECTION

EXFILTRATION TRENCH

AREA DRAIN

24" NYLOPLAST DRAIN BASIN WITH BAFFLE

Scale: 1" = 10'

Location Map

N.T.S.

Atlantic Ocean

Site

North Ocean Boulevard

Goodwin Residence

1330 North Ocean Boulevard
Palm Beach, Florida

GRUBER CONSULTING ENGINEERS

2475 Mercer Avenue, Suite 305
West Palm Beach, FL 33401
561.312.2041
office@gruberengineers.com

48 HOURS BEFORE DIGGING.
CALL 1-800-432-4770
SUNSHINE STATE ONE
CALL OF FLORIDA, INC.

Contractor is responsible for obtaining location of existing utilities prior to commencement of construction activities.

Project No. 2023-0048
Issue Date 03/14/2024
Scale 1" = 10'

REVISIONS:

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CHAD M. GRUBER
FLORIDA P.E. NO. 57466

This item has been electronically signed and sealed by Chad M. Gruber on the date adjacent to the seal using a SIA authentication code. Printed copies of this document are not considered signed and sealed and the SIA authentication code must be verified on any electronic copies.

SHEET NUMBER:

Plan Background from Hardscape Plan by Nievera Williams Design Received 3/12/24

ARC-24-051

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