AZZOLINA & FEURY ENGINEERING, INC.
Professional Engineers and Land Surveyors
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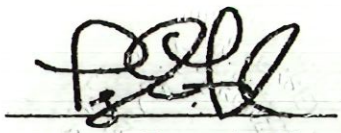
ON SITE RETENTION DESIGN

AUSTIN & DOREEN SIBONI
63 CENTRAL AVENUE
BLOCK 74 - LOT 8
BOROUGH OF DEMAREST
BERGEN COUNTY, NEW JERSEY
FILE #12429

April 30, 2024
Revised; June 6, 2024

AZZOLINA & FEURY ENGINEERING, INC.
CONSULTING ENGINEERS
PARAMUS, NEW JERSEY



Perry E. Frenzel, P.E.
Professional Engineer
N. J. Lic. #28190

AUSTIN & DOREEN SIBONI
Block 74 - Lot 8
63 Central Avenue
Borough of Demarest
Bergen County, New Jersey

Prepared by: JF
Checked by: PEF
Date: April 30, 2024
Rev. June 6, 2024
Job #12429

SEEPAGE PIT SYSTEM A DESIGN

Drainage Area: 1,437 ft^2 (Impervious; Entire Driveway Area) C=.99
2,363 ft^2 (Pervious; Lawn Area) C=.25

Design Storm: 3.0 in./hr. Intensity, 1 hr. Duration
3.0 in. of Total Rainfall

Volume of Runoff: {3.0 in. / (12 in./ft.)} x 1,437 ft^2 x .99 = **356 ft^3**
{3.0 in. / (12 in./ft.)} x 2,363 ft^2 x .25 = **148 ft^3**
Total = **504 ft^3**

SEEPAGE PIT SYSTEM A VOLUME

(2 Pit)
6.0' Diameter, 3' Deep
2' Stone Around, 2.5' Under
(See Plan for Detail)

Pit Volume: $2(\pi R^2 H) = 2\{\pi(3^2)(2.67')\}$ = **151 ft^3**

Stone Volume around Pit: $\{(V_{Stone}) - (V_{2ecepage\ Pit})\}$ x 40% Voids
$\{(WxLxH) - 2(\pi R^2_{outer} H)\}$ x 40% Voids
$\{(10.5'x21'x3') - 2(\pi(3.25)^2(3')\}$ x 0.40 = **185 ft^3**

Volume of Stone under Pit: (WxLxH) x 40% Voids = (10.5'x21'x2.5') x 0.40 = **221 ft^3**

Total Volume of Pit: 151 + 185 + 221 = **557 ft^3**

Storage Provided 557 ft^3 > 504 ft^3 Storage Required

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SEEPAGE PIT SYSTEM B DESIGN

Drainage Area: 822 ft^2 (Impervious; Roof Area)

Design Storm: 3.0 in./hr. Intensity, 1 hr. Duration
3.0 in. of Total Rainfall

Volume of Runoff: {3.0 in. / (12 in./ft.)} x 822 = **206 ft^3**

SEEPAGE PIT SYSTEM B VOLUME

(1 Pit)
6.0' Diameter, 3' Deep
2' Stone Around, 2.5' Under
(See Plan for Detail)

Pit Volume: $(\pi R^2 H) = \{\pi(3^2)(2.67')\}$ = **75 ft^3**

Stone Volume around Pit: $\{(V_{Stone}) - (V_{2eepage\ Pit})\}$ x 40% Voids
$\{(WxLxH) - (\pi R^2_{outer} H)\}$ x 40% Voids
$\{(10.5'x10.5'x3') - (\pi(3.25)^2(3')\}$ x 0.40 = **92 ft^3**

Volume of Stone under Pit: (WxLxH) x 40% Voids = (10.5'x10.5'x2.5') x 0.40 = **110 ft^3**

Total Volume of Pit: 75 + 92 + 110 = **277 ft^3**

Storage Provided 277 ft^3 > 206 ft^3 Storage Required