Atlantic
DESIGN ENGINEERS, INC.

DRAINAGE CALCULATIONS
For
801 Village
801 Main Street
Wareham, MA 02571

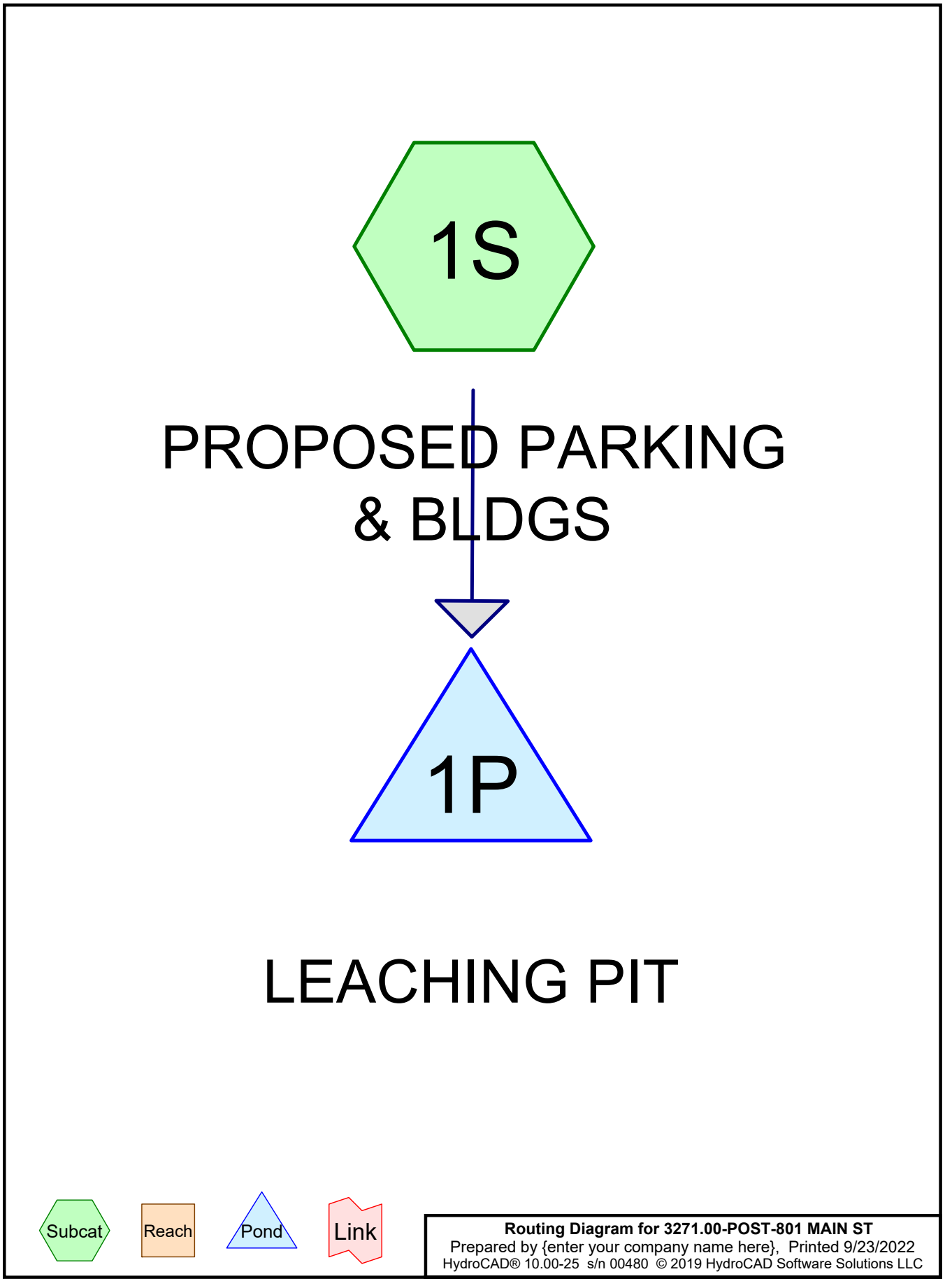
Prepared for:

Villages 801 Main Street, LLC
815 Main Street
Wareham, MA 02571

Prepared by:

Atlantic Design Engineers, Inc.
P.O. Box 1051
Sandwich, MA 02563

September 23, 2022
ADE Project No. 3271.00



Routing Diagram for 3271.00-POST-801 MAIN ST
Prepared by {enter your company name here}, Printed 9/23/2022

Area Listing (all nodes)

Area (sq-ft)	CN	Description (subcatchment-numbers)
1,263	98	CONC SIDEWALK (1S)
3,180	39	GRASS (1S)
4,312	98	PAVEMENT (1S)
2,526	98	ROOF (1S)
11,282	**81**	**TOTAL AREA**

Time span=0.00-36.00 hrs, dt=0.01 hrs, 3601 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind method - Pond routing by Stor-Ind method

Subcatchment 1S: PROPOSED PARKING & Runoff Area=0.259 ac 71.81% Impervious Runoff Depth=3.93"
Flow Length=172' Tc=8.3 min CN=81 Runoff=1.10 cfs 3,694 cf

Pond 1P: LEACHING PIT Peak Elev=6.69' Storage=0.029 af Inflow=1.10 cfs 3,694 cf
Outflow=0.22 cfs 3,694 cf

Total Runoff Area = 11,282 sf Runoff Volume = 3,694 cf Average Runoff Depth = 3.93"
28.19% Pervious = 3,180 sf 71.81% Impervious = 8,102 sf

Summary for Subcatchment 1S: PROPOSED PARKING & BLDGS

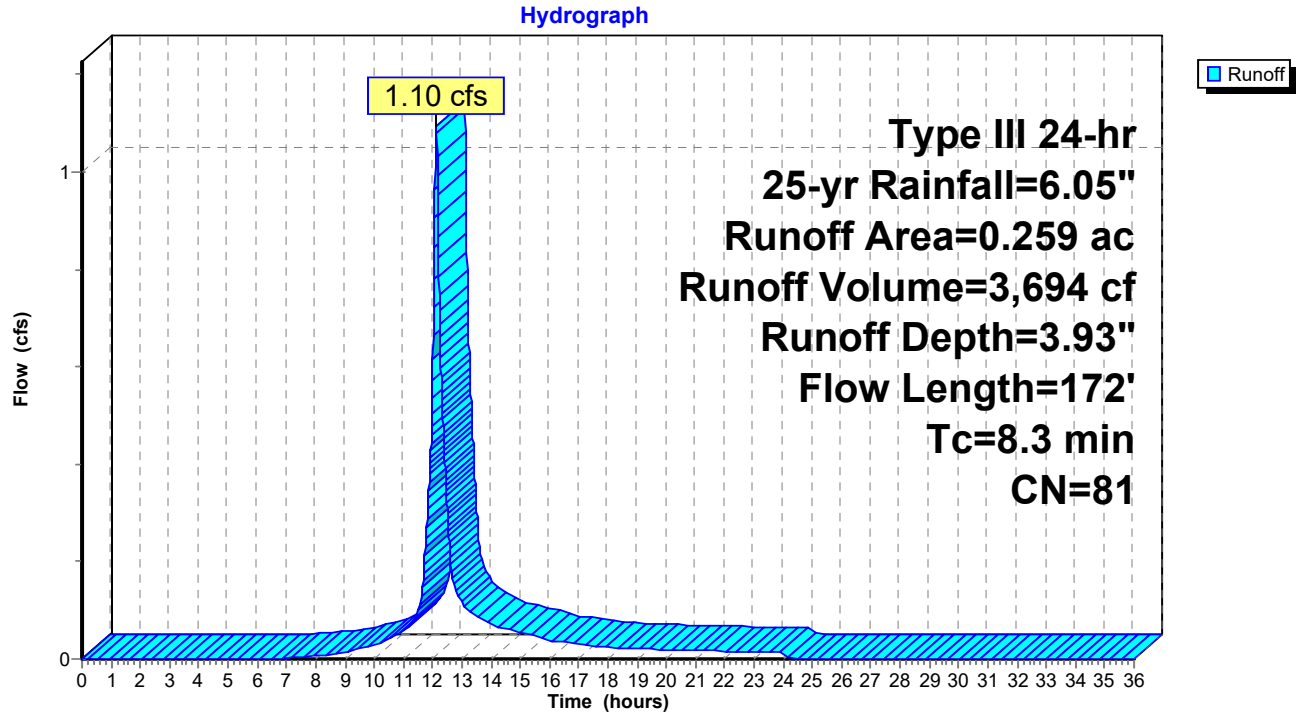
Runoff = 1.10 cfs @ 12.12 hrs, Volume= 3,694 cf, Depth= 3.93"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-yr Rainfall=6.05"

	Area (ac)	CN	Description
*	0.029	98	CONC SIDEWALK
*	0.058	98	ROOF
*	0.073	39	GRASS
*	0.099	98	PAVEMENT
	0.259	81	Weighted Average
	0.073		28.19% Pervious Area
	0.186		71.81% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.3	37	0.0050	0.08		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.60"
0.3	15	0.0150	0.89		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.60"
0.7	120	0.0220	3.01		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
8.3	172	Total			

Subcatchment 1S: PROPOSED PARKING & BLDGS



Summary for Pond 1P: LEACHING PIT

Inflow Area = 11,282 sf, 71.81% Impervious, Inflow Depth = 3.93" for 25-yr event
Inflow = 1.10 cfs @ 12.12 hrs, Volume= 3,694 cf
Outflow = 0.22 cfs @ 12.58 hrs, Volume= 3,694 cf, Atten= 80%, Lag= 27.9 min
Discarded = 0.22 cfs @ 12.58 hrs, Volume= 3,694 cf

Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs
Peak Elev= 6.69' @ 12.58 hrs Surf.Area= 0.007 ac Storage= 0.029 af

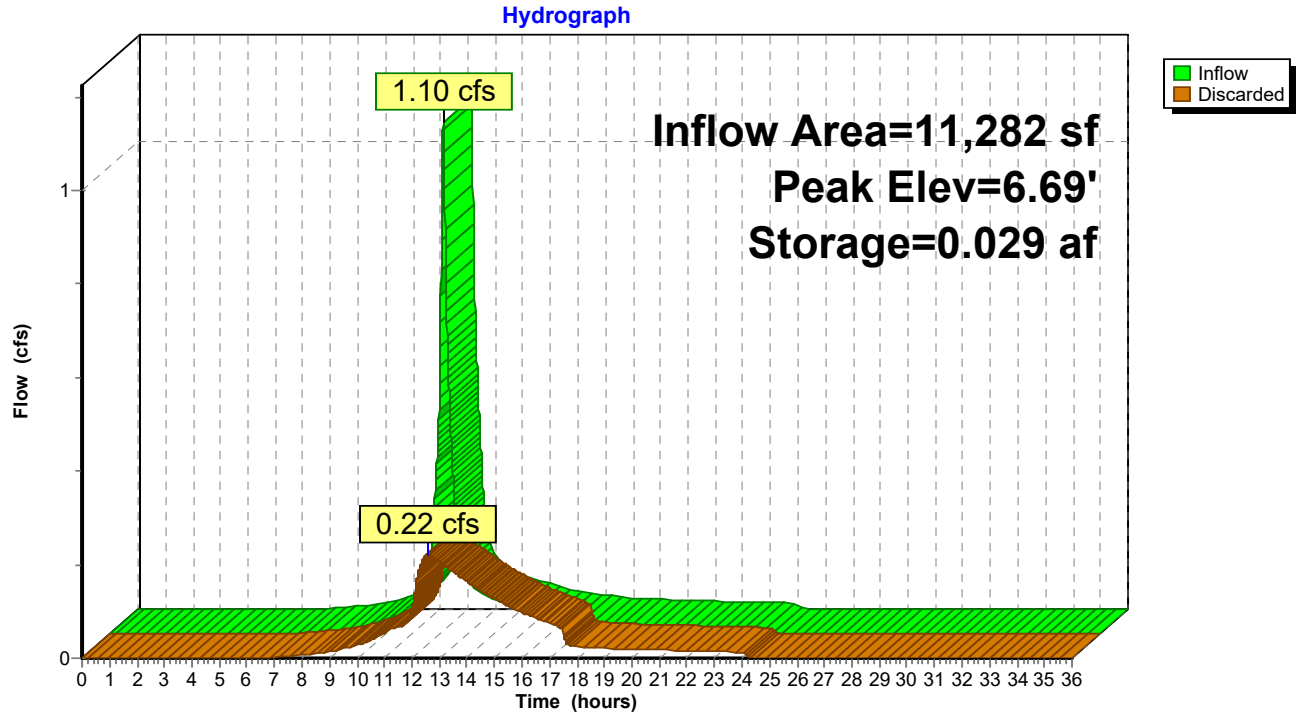
Plug-Flow detention time= 54.6 min calculated for 3,694 cf (100% of inflow)
Center-of-Mass det. time= 54.6 min (868.0 - 813.4)

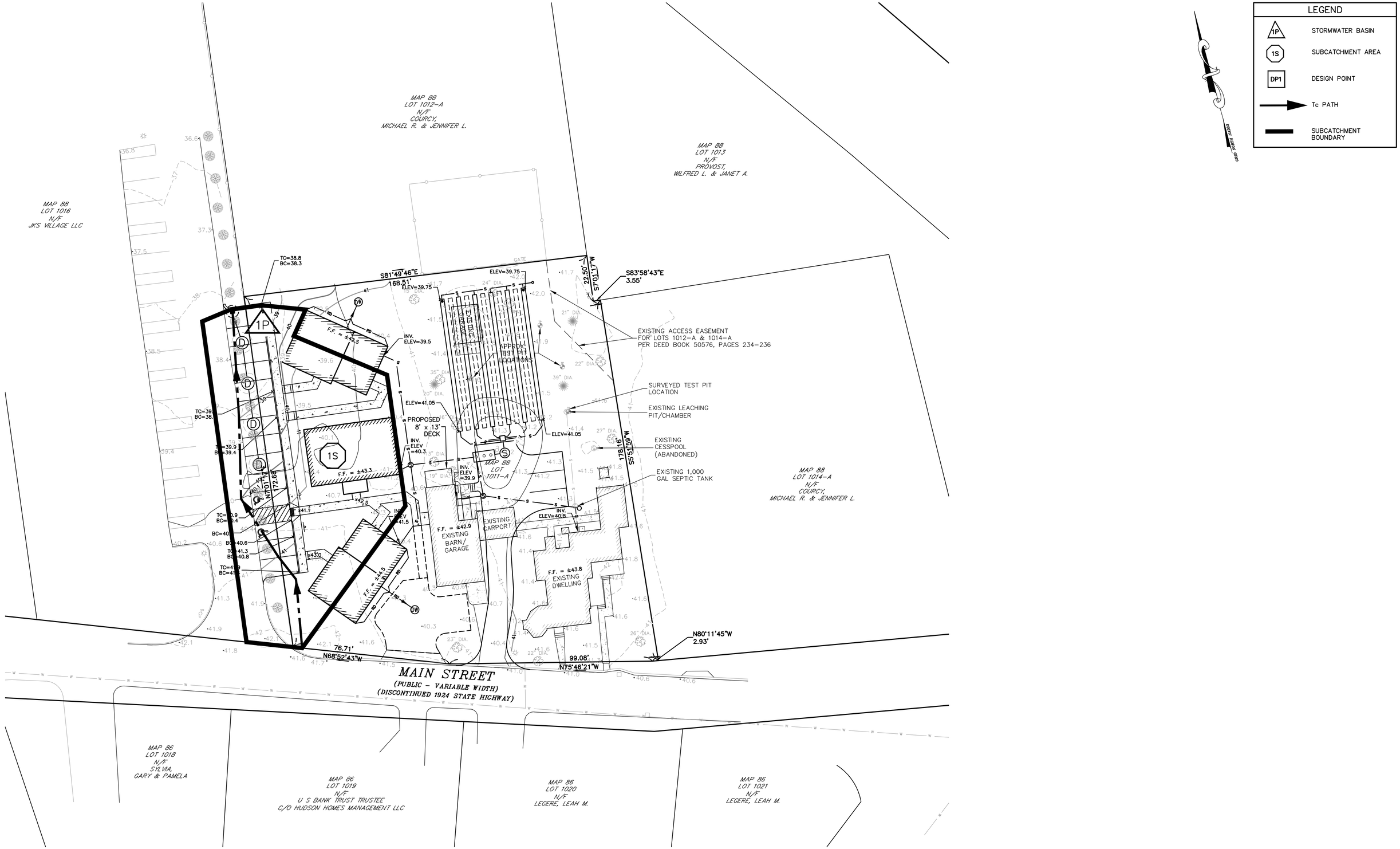
Volume	Invert	Avail.Storage	Storage Description
#1	0.50'	0.016 af	**6.00'D x 6.00'H Vertical Cone/Cylinder** x 4 Inside #2
#2	0.00'	0.017 af	**10.00'D x 8.00'H Vertical Cone/Cylinder (STONE)** x 4 0.058 af Overall - 0.016 af Embedded = 0.042 af x 40.0% Voids
		0.032 af	Total Available Storage

Device	Routing	Invert	Outlet Devices
#1	Discarded	0.00'	**8.270 in/hr Exfiltration over Wetted area**

Discarded OutFlow Max=0.22 cfs @ 12.58 hrs HW=6.69' (Free Discharge)
1=Exfiltration (Exfiltration Controls 0.22 cfs)

Pond 1P: LEACHING PIT





FILE: 3271.00-WSH

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Designed by :
Drawn by :
Checked by :
Survey chk. by :
Approved by :

SCALE
SCALE 1" = 20'
0 5 10 20 40

DATE

NO.	BY	DATE	REVISION

APPLICANT:
VILLAGES 801 MAIN STREET, LLC
815 MAIN STREET - MGMT. OFFICE
WAREHAM, MASSACHUSETT 02571

POST DEVELOPMENT WATERSHED PLAN
OF
801 VILLAGE
WAREHAM, MASSACHUSETTS
SEPTEMBER 23, 2022

Sheet 1 of 1
JOB NUMBER 3271.00