

PREPARED BY JRM	DATE PREPARED 10/1/2024	LBM Engineering, LLC 11 HALLY LANE COLCHESTER, CONNECTICUT 06415 TEL: (860)-416-9809 EMAIL: JOHN@LBMENGINEERING.COM	JOB NUMBER	PAGE NUMBER 1
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5A LORENZ INDUSTRIAL PARKWAY

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DRAINAGE ANALYSIS

NOV 05 2025

Land Use Department

CONSTRUCTION OF THE PROPOSED BUILDING AND NEW PAVED PARKING AREA, WILL INCREASE THE IMPERVIOUS SURFACES BY 3,700 SQ FT. (0.085 ACRES)

USING THE RATIONAL METHOD: $Q = A \times I \times R$

A (AREA IN ACRES)

I (IMPERVIOUS COEFFICIENT) = 0.9 PAVEMENT/ROOF
= 0.25 LAWN/VEGETATION

R (RAINFALL RATE INCHES/HOUR)

10 MINUTE TIME OF CONCENTRATION $R = 5.5 \text{ IN/HR}$

$Q_{25 \text{ YR EXISTING}} = 0.085 \times 0.25 \times 5.5 = 0.12 \text{ CFS}$

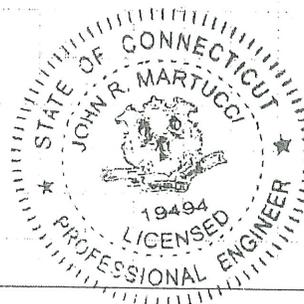
$Q_{25 \text{ YR PROPOSED}} = 0.085 \times 0.90 \times 5.5 = 0.42 \text{ CFS}$

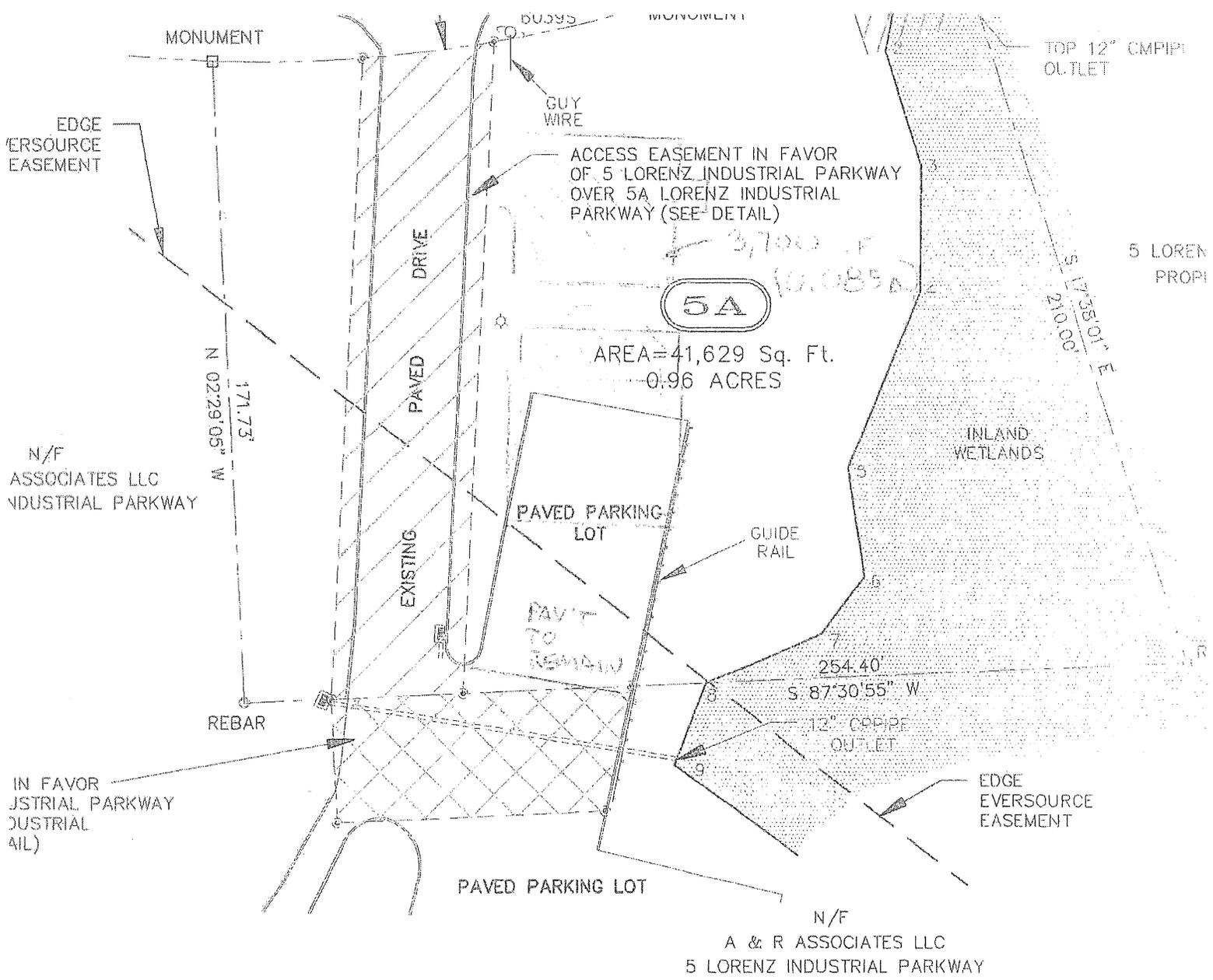
$Q_{25 \text{ YR INCREASE}} = 0.30 \text{ CFS}$

CONCLUSION: THE SITE IS AT THE VERY BOTTOM OF THE THAMES RIVER WATERSHED, THE SMALL INCREASE IN PEAK FLOW WILL NOT INCREASE THE POTENTIAL OF DOWNSTREAM FLOODING.

SUBMITTED BY
LBM ENGINEERING LLC

John R. Martucci
JOHN R. MARTUCCI, P.E.





EXISTING CONDITIONS
GRAPHIC SCALE



DRAINAGE
 AREA MAP
 P. 2 OF 3

SMALL DRAINAGE AREA: W/ OVERLAND
 & PAVEMENT, MIXED - USE 10 MINUTE TC

DURATION (min)	DURATION (hr)	RAINFALL INTENSITY (in/hr)					
		2 Yr	5 Yr	10 Yr	25 Yr	50 Yr	100 Yr
5	0.08	4.6	5.5	6.0	6.7	7.3	7.8
6	0.10	4.4	5.2	5.8	6.5	7.0	7.5
7	0.12	4.2	5.0	5.5	6.2	6.8	7.2
8	0.13	4.0	4.8	5.3	6.0	6.5	7.0
9	0.15	3.8	4.6	5.1	5.7	6.2	6.7
10	0.17	3.6	4.3	4.8	5.5	6.0	6.5
11	0.18	3.4	4.2	4.7	5.3	5.8	6.3
12	0.20	3.3	4.0	4.5	5.1	5.6	6.1
13	0.22	3.1	3.8	4.3	5.0	5.4	5.9
14	0.23	3.0	3.7	4.2	4.8	5.3	5.7
15	0.25	2.8	3.5	4.0	4.6	5.1	5.5
16	0.27	2.8	3.5	3.9	4.5	5.0	5.4
17	0.28	2.7	3.4	3.8	4.4	4.9	5.4
18	0.30	2.7	3.3	3.8	4.4	4.8	5.3
19	0.32	2.6	3.2	3.7	4.3	4.7	5.2
20	0.33	2.5	3.2	3.6	4.2	4.6	5.1
21	0.35	2.5	3.1	3.5	4.1	4.5	5.0
22	0.37	2.4	3.0	3.4	4.0	4.4	4.9
23	0.38	2.3	2.9	3.4	3.9	4.3	4.8
24	0.40	2.3	2.9	3.3	3.8	4.2	4.7
25	0.42	2.2	2.8	3.2	3.7	4.2	4.6
26	0.43	2.2	2.7	3.1	3.7	4.1	4.5
27	0.45	2.1	2.7	3.0	3.6	4.0	4.4
28	0.47	2.0	2.6	3.0	3.5	3.9	4.3
29	0.48	2.0	2.5	2.9	3.4	3.8	4.2
30	0.50	1.9	2.4	2.8	3.3	3.7	4.1

Rainfall Intensity/Duration/Frequency Relationship for Connecticut (English Units)

Table B-2.1