to - CITY OF MIDDLETOWN LAND USE DEPARTMENTS

RINO MOZZICATO
PROPERTY AT
796 SAYBROOK ROAD
MIDDLETOWN, CT

.

.INCLUDING DRAINAGE COMPUTATIONS SHOWNING NO IMPACT ON CITY DRAINAGE FOR 25,50 OR 100 YEAR STORM

from -
James Sakonchick, Pres.
Kratzert, Jones & Associates, Inc.
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2-28-2021

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DRAINAGE AREAS AND PATHWAYS

THE ENTIRE SITE DRAINS BY SHEET FLOW TO THE EXISTING STORM DRAINAGE IN SAYBROOK ROAD. THE 752 SAYBROOK ROAD SITE IS BEING DEVELOPED FOR A COMMERCIAL BUILDING AND ASSOCIATED PARKING.

THE LOT IS 54725 SF IN AREA. IT SLOPES FROM EAST TO WEST.

AS SHOWN ON THE "EXISTING DRAINAGE PLAN" THE DRAINAGE AREA IS 63000 SF AND STARTS IN THE EAST AS THE CENTER OF BARTHOMEW ROAD PAVING AND DRAINS WESTERLY TO THE EXISTING DRAINAGE IN SAYBROOK ROAD.

THE EXISTING SOILS ARE WETHERSFIELD WITH A LITTLE CHESHIRE ON THE NORTH END. THE EXISTING TIME OF CONCENTRATION IS 10 MINUTES. THE CHESHIRE SOILS GENERATE A 25 YEAR FLOW OF 0.42 CFS AND THE WETHERSFIELD SOILS 2.03 CFS FOR A TOTAL EXISTING FLOW OF 2.45 CFS. THE EXISTING DRAINAGE IN SAYBROOK ROAD HAS A PIPE RECEIVING STORM FLOW FROM THE SITE BETWEEN THE FORMER HOUSE AND ITS DRIVEWAY. THIS PIPE IS DAMAGED AND WILL BE REPLACED AS PART OF THE DEVELOPMENT AND ACT AS THE ONLY SITE OUTFALL.FROM THE DEVELOPED SITE.

METHODS TO REDUCE RATE OF RUNOFF

ANY DEVELOPMENT WILL INCREASE THE IMPERVIOUS AREAS DUE TO NEW BUILDINGS AND PARKING AREAS. THE INCREASE IN RATE OF RUNOFF AS WELL AS VOLUME OF RUNOFF WILL BE REDUCED BY HAVING THE RUNOFF DRAIN INTO LARGE UNDERGROUND STORAGE AREAS. THESE UNDERGROUND STORAGE AREAS WILL STORE THE WATER IN THE VOIDS AS WELL AS ENCOURAGE INFILTRATION INTO THE GROUND.

THE SOIL SURVEY SHOWS THE SITE HAS A DESIGN PERCOLATION OF 15 MINUTES TO THE INCH. THIS WAS CONFIRMED BY FIELD PERCOLATION TESTS. THIS PERCOLATION POTENTIAL ALLOWS FOR SIGNIFICANT INFILTRATION.

STORMWATER MANAGEMENT REFERENCE WORKS:

CONNECTICUT DOT DRAINAGE MANUAL

SCS -55

2004 SEDIMENT AND EROSION CONTROL MANUAL.

PLANS SHOWING
DRAINAGE

.

REFERENCE IS MADE
TO 24X36 INCH SHEETS
DR-EX S-2 D-1 D-2 D-3

.

REDUCED COPIES
OF THESE PLANS AT
END OF REPORT

.

TEXT CLEARER IN 2 PAGES

DRAINAGE COMPUTATIONS FOR 796 SAYBROOK ROAD MIDDLETOWN CT
TEMPLET WITH THE AI METHOD USED

RATIONAL DRAINAGE COMPUTATIONS

	EXISTING CONDITION			
DA_TEMPL	DA_AI&S			
FOR	"	"	"	"
DRAINAGE DESIGN STORM IN YEARS	25	25	25	25
DRAINAGE STRUCTURES I.D. NUMBERS OR DESCRIPTION				
	ON SITE	ON SITE	OFF SITE	ALL TO SAYBROOK ROAD DRAINAGE
From structure	CHESHIRE	WETHERSFIELD	WETHERSFIELD	
I.D. NUMBER #	SOILS EXIST	SOILS EXIST	SOILS EXIST	
THENCE TO I.D. #-	SAYBROOK RD	SAYBROOK RD	SAYBROOK RD	ALL DRAINAGE ON LEFT
TO I.D. # -	EX.DRAINAGE	EX.DRAINAGE	EX.DRAINAGE	TO EX. ROAD DRAINAGE
FORMER DRIVEN-SELF STORAGE				
A - PAVED AREA	0.01	0.12	0.20	
A - UNPAVED AREA	0.31	2.50	0.35	
ACRES ADDED-	0.32	2.10	0.42	
TOTAL ACRES LISTED-	0.32	1.00	0.42	
PIPE MATERIAL	OVERLAND	OVERLAND	SIZES	RCP 15" /24" AND 19"
LENGTH FEET	FLOW	FLOW	122.00	350.00
PIPE SIZE in-	TO EX. ROAD	TO EX. ROAD	15	15
"n" VALUE			0.013	0.030
REF. SLOPE			0.030	0.020
CAP. DEPTH SLOPE	0.020	0.020	0.020	0.020
(10 min. inlet HW)	OVERLAND	OVERLAND	OVERLAND	CAPACITY 15" PIPE
FULL VELOCITY FPS	NA	NA	NA	247.46 CFS AT 2%
CAP. CAPACITY CFS	NA	NA	NA	9.15.15 FPS
				CAPACITY 24" PIPE RCP @ 2%
				244.74 CFS
DRAINAGE CHARACTERISTICS				9.15.0 FPS
TIME MIN.-	10.00	10	10	CAPACITY 19"SCP AT 1%
TIME IN PIPE MIN	NA	NA	NA	2.41 CFS
TIME ACCUMULATED	NA	NA	NA	246.74
RAIN - INCHES-	5.40	5.40	5.40	EXISTING ROAD
C OR C PAVED	0.90	0.40	0.90	PIPES WELL OVER CAPACITY
C OR C UNPAVED	0.20	0.25	0.15	
AI OR AC-RD GRATE				
AI OR AC- PAVED	0.01	0.11	0.01	
AI OR AC- UNPAVED	0.06	0.25	0.05	
SUM OF AI TO GRATE	0.07	0.36	0.06	ACTUAL FLOW TO PIPES
SUM OF AI TO PIPE	0.07		0.33	243.67 CFS
	CFS	CFS	CFS	
Q TO SAYBROOK ROAD DRAINAGE CFS	0.42	2.83	3.45	3.87
Q THRU PIPE				3.87

Sheet Flow

Description ..... NE CORNER WOODS/BRUSH
Manning's n 0.5500
Flow Length ..... 27.0000 ft
Two Yr, 24 hr Rainfall ..... 3.2000 in
Land Slope ..... 0.2900 ft/ft
Computed Sheet flow time .....> 3.3350 min

Sheet Flow

Description ..... WOODS/BRUSH Manning's n 0.5500
Flow Length ..... 32.0000 ft
Two Yr, 24 hr Rainfall ..... 2.3000 in
Land Slope ..... 0.1500 ft/ft
Computed Sheet flow time .....> 5.8662 min

Shallow Concentrated Flow

Description ..... YARD
Surface ..... Unpaved
Flow Length ..... 150.0000 ft
Watercourse Slope ..... 0.0600 ft/ft
Velocity ..... 3.9521 fps
Computed Shallow flow time .....> 0.6326 min

Total Time of Concentration .....> 9.8 (10) min

535 SF C=.9
4275 SF C=.9
27 SHEET FLOW
32' SHEET FLOW
CHESHIRE SOILS HG "C"
13450SF C=.25
43780 SF C=.35
WETHERSFIELD SOILS HG "D"
AREA DEVELOPED
DRAINAGE AREA 63000 SF
10' SHALLOW CONCENTRATED FLOW
54725 SF R-15 ZONE FLOOD ZONE X
7030SF C=.9
8400 SF C=.25
10000 SF C=.9
DRAINAGE AREA 16500 SF
BARTHOLOMEW ROAD
SAYBROOK ROAD
RANDOLPH RD
10' D.ROW
B-2 ZONE
BENCH MARK
TF CR EL 274.60
KEY MAP
MIDDLETOWN GIS
SEE MAP 209-3
BUILDING
DRIVE
PAVED

Utilities Disclaimer:
The underground utilities shown have been located from Shifted field survey information and existing drawings. The surveyor makes no guarantee that the underground utilities shown comprise all such utilities in the area, either in service or abandoned. The surveyor further does not warrant that the underground utilities shown are in the exact location indicated.

kratzert, jones & associates, inc.
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SITE PLANNERS • BUILDING ENGINEERS
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SEAL: CT P.E. & L.S. #11,302

EXISTING DRAINAGE PLAN
for applicant

RINO MOZZICATO
DEVELOPER
125 New Britain Ave
Plainville, CT 06062
property at
796 SAYBROOK ROAD.
MIDDLETOWN, CT

SCALE: 1" = 20'
DATE: 2-23-2021
HALF | ONE INCH | TWO INCH
INCHES ON ORIGINAL

KJA FILE NO.: 221003
DRAWING NO.: DR-EX

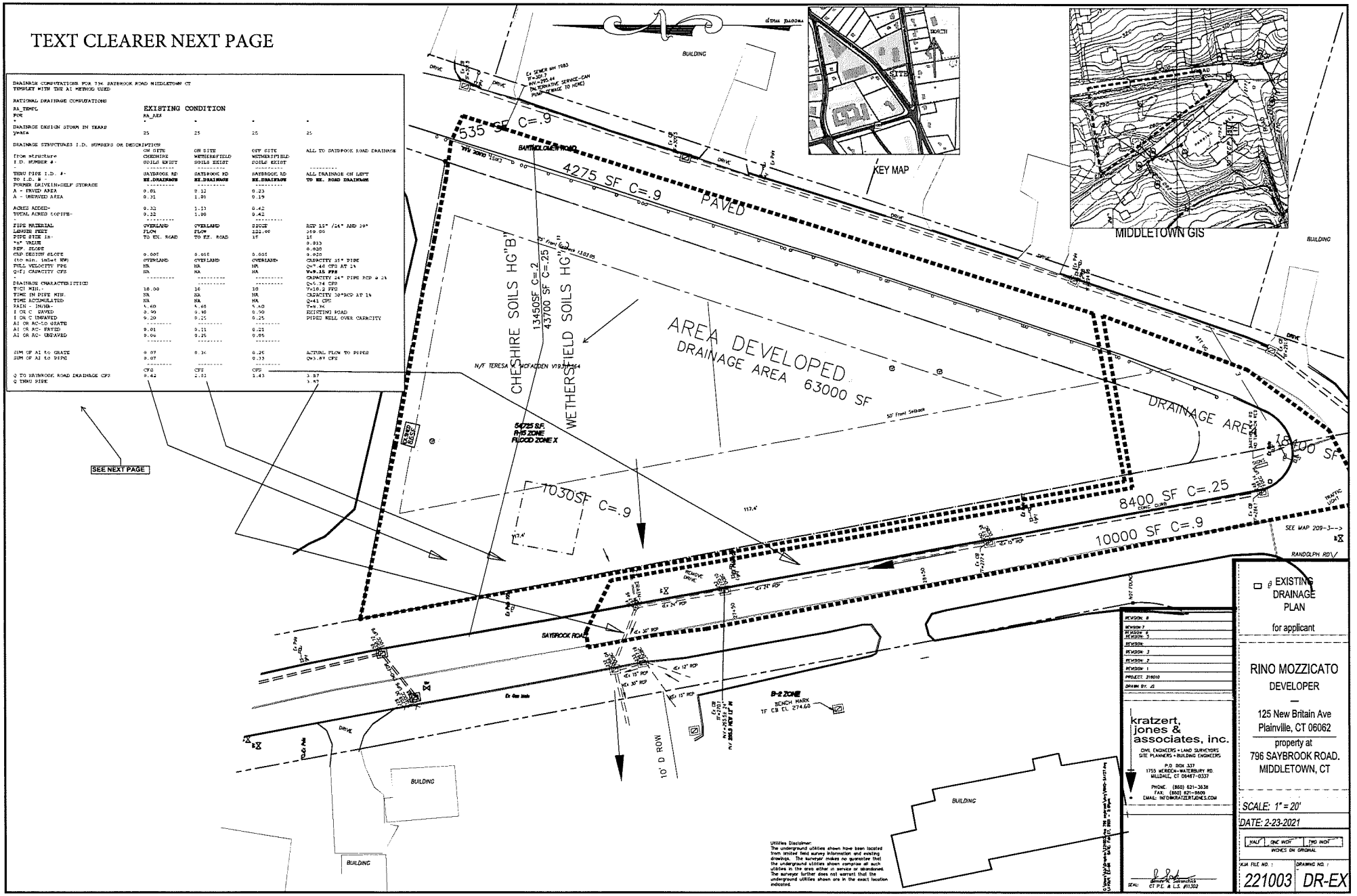
TEXT CLEARER NEXT PAGE

DRAINAGE COMPUTATIONS FOR 796 SAYBROOK ROAD MIDDLETOWN CT
TEMPLEY WITH THE AI METHOD USED

RATIONAL DRAINAGE COMPUTATIONS

RA_TEMPL	EXISTING CONDITION			
FOR	RA_RES			
"	"	"	"	"
DRAINAGE DESIGN STORM IN YEARS				
years	25	25	25	25
DRAINAGE STRUCTURES I.D. NUMBERS OR DESCRIPTION				
from structure	ON SITE	ON SITE	OFF SITE	ALL TO SAYBROOK ROAD DRAINAGE
I.D. NUMBER #	CHESHIRE SOILS EXIST	WETHERSFIELD SOILS EXIST	WETHERSFIELD SOILS EXIST	
"	"	"	"	"
THRU PIPE I.D. #	SAYBROOK RD	SAYBROOK RD	SAYBROOK RD	ALL DRAINAGE ON LEFT
TO I.D. #	RE.DRAINAGE	RE.DRAINAGE	RE.DRAINAGE	TO RE. ROAD DRAINAGE
FORMER DRIVEIN+SELF STORAGE				
A - PAVED AREA	0.01	0.12	0.23	
A - UNPAVED AREA	0.31	1.00	0.19	
ACRES ADDED-	0.32	1.13	0.42	
TOTAL ACRES TOPIPE-	0.32	1.00	0.42	
PIPE MATERIAL	OVERLAND	OVERLAND	PIPE	RCP 15" /24" AND 30"
LENGTH FEET	FLOW	FLOW	222.00	359.00
PIPE SIZE in-	TO EX. ROAD	TO EX. ROAD	15	15
"n" VALUE			0.013	0.013
REP. SLOPE			0.020	0.020
CMP DESIGN SLOPE	0.005	0.005	0.020	0.020
(to min. inlet HW)	OVERLAND	OVERLAND	OVERLAND	CAPACITY 15" PIPE
FULL VELOCITY FPS	NA	NA	NA	Q=7.46 CFS AT 2%
Q=f; CAPACITY CFS	NA	NA	NA	V=8.15 FPS
"	"	"	"	CAPACITY 24" PIPE RCP @ 2%
DRAINAGE CHARACTERISTICS				Q=5.74 CFS
TIME MIN.-	10.00	10	10	V=10.2 FPS
TIME IN PIPE MIN.	NA	NA	NA	CAPACITY 30"RCP AT 1%
TIME ACCUMULATED	NA	NA	NA	Q=11 CFS
RAIN - IN/HR-	4.60	4.60	4.60	V=8.9%
I OR C PAVED	0.90	0.90	0.90	EXISTING ROAD
I OR C UNPAVED	0.20	0.25	0.25	PIPES WILL OVER CAPACITY
AI OR AC-LO GRATE				
AI OR AC- PAVED	0.01	0.11	0.21	
AI OR AC- UNPAVED	0.06	0.21	0.06	
SUM OF AI to GRATE	0.07	0.32	0.26	ACTUAL FLOW TO PIPES
SUM OF AI to PIPE	0.07	0.32	0.33	Q=3.87 CFS
Q TO SAYBROOK ROAD DRAINAGE CFS	CFS	CFS	CFS	
Q THRU PIPE	0.42	1.01	1.43	3.87
				3.87

SEE NEXT PAGE

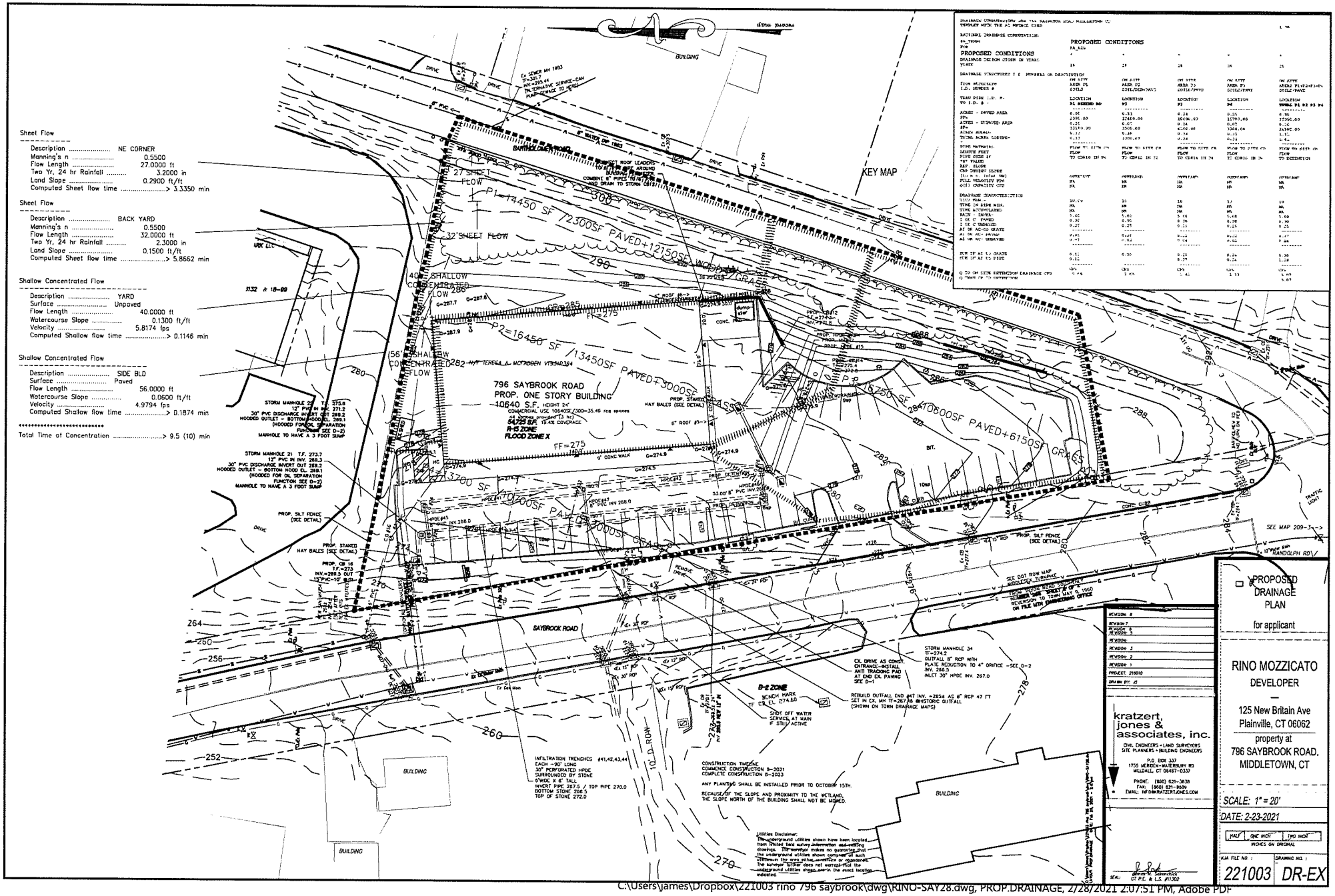


DRAINAGE COMPUTATIONS FOR 796 SAYBROOK ROAD MIDDLETOWN CT
TEMPLET WITH THE AI METHOD USED

RATIONAL DRAINAGE COMPUTATIONS

EXISTING CONDITION

RA_TEMPL	RA_AES			
FOR	*	*	*	*
*				
DRAINAGE DESIGN STORM IN YEARS				
years	25	25	25	25
DRAINAGE STRUCTURES I.D. NUMBERS OR DESCRIPTION				
	ON SITE	ON SITE	OFF SITE	ALL TO SAYBROOK ROAD DRAINAGE
from structure	CHESHIRE	WETHERSFIELD	WETHERSFIELD	
I.D. NUMBER #-	SOILS EXIST	SOILS EXIST	SOILS EXIST	
-	---------	---------	---------	---------
THRU PIPE I.D. #-	SAYBROOK RD	SAYBROOK RD	SAYBROOK RD	ALL DRAINAGE ON LEFT
TO I.D. # -	**EX.DRAINAGE**	**EX.DRAINAGE**	**EX.DRAINAGE**	**TO EX. ROAD DRAINAGE**
FORMER DRIVEIN>SELF STORAGE	---------	---------	---------	
A - PAVED AREA	0.01	0.12	0.23	
A - UNPAVED AREA	0.31	1.00	0.19	
ACRES ADDED-	0.32	1.13	0.42	
TOTAL ACRES toPIPE-	0.32	1.00	0.42	
-	---------		---------	
PIPE MATERIAL	OVERLAND	OVERLAND	SICCP	RCP 15" /24" AND 30"
LENGTH FEET	FLOW	FLOW	122.00	350.00
PIPE SIZE in-	TO EX. ROAD	TO EX. ROAD	15	15
"n" VALUE				0.013
REF. SLOPE				0.020
CAP.DESIGN SLOPE	0.005	0.005	0.005	0.020
(to min. inlet HW)	OVERLAND	OVERLAND	OVERLAND	CAPACITY 15" PIPE
FULL VELOCITY FPS	NA	NA	NA	Q=7.46 CFS AT 2%
Q(f) CAPACITY CFS	NA	NA	NA	**V=9.15 FPS**
-	---------	---------	---------	CAPACITY 24" PIPE RCP @ 2%
DRAINAGE CHARACTERISTICS		---------	---------	Q=5.34 CFS
T(C) MIN.-	10.00	10	10	V=10.2 FPS
TIME IN PIPE MIN.	NA	NA	NA	CAPACITY 30"RCP AT 1%
TIME ACCUMULATED	NA	NA	NA	Q=41 CFS
RAIN - IN/HR-	5.60	5.60	5.60	V=8.36
I OR C PAVED	0.90	0.90	0.90	EXISTING ROAD
I OR C UNPAVED	0.20	0.25	0.25	PIPES WELL OVER CAPACITY
AI OR AC-to GRATE	--------	--------	--------	
AI OR AC- PAVED	0.01	0.11	0.21	
AI OR AC- UNPAVED	0.06	0.25	0.05	
	--------	--------	--------	
SUM OF AI to GRATE	0.07	0.36	0.25	ACTUAL FLOW TO PIPES
SUM OF AI to PIPE	0.07		0.33	Q=3.87 CFS
	--------	--------	--------	
	CFS	CFS	CFS	
Q TO SAYBROOK ROAD DRAINAGE CFS	0.42	2.03	1.43	3.87
Q THRU PIPE				3.87



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DRAINAGE COMPUTATIONS FOR 796 SAYBROOK ROAD MIDDLETOWN CT
TEMPLET WITH THE AI METHOD USED

RATIONAL DRAINAGE COMPUTATIONS

RA_TEMPL

FOR

PROPOSED CONDITIONS

DRAINAGE DESIGN STORM IN YEARS
years

DRAINAGE STRUCTURES I.D. NUMBERS OR DESCRIPTION

from structure
I.D. NUMBER #-
-
THRU PIPE I.D. #-
TO I.D. # -

ACRES - PAVED AREA
SF=
ACRES - UNPAVED AREA
SF=
ACRES ADDED-
TOTAL ACRES toPIPE-
-
PIPE MATERIAL
LENGTH FEET
PIPE SIZE in-
"n" VALUE
REF. SLOPE
CAP.DESIGN SLOPE
(to min. inlet HW)
FULL VELOCITY FPS
Q(f) CAPACITY CFS
-
DRAINAGE CHARACTERISTICS
T(C) MIN.-
TIME IN PIPE MIN.
TIME ACCUMULATED
RAIN - IN/HR-
I OR C PAVED
I OR C UNPAVED
AI OR AC-to GRATE
AI OR AC- PAVED
AI OR AC- UNPAVED

SUM OF AI to GRATE
SUM OF AI to PIPE

Q TO ON SITE DETENTION DRAINAGE CFS
Q THRU CB TO DETENTION

PROPOSED CONDITIONS

RA_AES

*	*	*	*	*
25	25	25	25	25
ON SITE	ON SITE	ON SITE	ON SITE	ON SITE
AREA P1	AREA P2	AREA P3	AREA P3	AREAS P1+P2+P3+P4
SOILS	SOIL/BLD+PAVE	SOILS/PAVE	SOILS/PAVE	SOILS/PAVE
LOCATION	LOCATION	LOCATION	LOCATION	LOCATION
P1 BEHIND BD	**P2**	**P3**	**P4**	**TOTAL P1 P2 P3 P4**
0.05	0.31	0.24	0.25	0.85
2300.00	13450.00	10600.00	10700.00	37050.00
0.28	0.07	0.14	0.07	0.56
12150.00	3000.00	6150.00	3000.00	24300.00
0.33	0.38	0.38	0.31	1.41
0.33	3000.07	0.38	0.31	1.41
FLOW TO SITE CB	FLOW TO SITE CB	FLOW TO SITE CB	FLOW TO SITE CB	FLOW TO SITE CB
FLOW	FLOW	FLOW	FLOW	FLOW
TO CB#16 IN P4	TO CB#12 IN P2	TO CB#14 IN P4	TO CB#16 IN P4	TO DETENTION
OVERLAND	OVERLAND	OVERLAND	OVERLAND	OVERLAND
NA	NA	NA	NA	NA
NA	NA	NA	NA	NA
10.00	10	10	10	10
NA	NA	NA	NA	NA
NA	NA	NA	NA	NA
5.60	5.60	5.60	5.60	5.60
0.90	0.90	0.90	0.90	0.90
0.25	0.25	0.25	0.25	0.25
0.05	0.28	0.22	0.22	0.77
0.07	0.02	0.04	0.02	0.14
0.12	0.30	0.25	0.24	0.90
0.12		0.37	0.24	1.28
CFS	CFS	CFS	CFS	CFS
0.66	1.65	1.42	1.33	5.07
				5.07

1.00

RAINFALL DATA

NOAA Atlas 14, Volume 10, Version 2
MIDDLETOWN 4 W
Station ID: 06-4767
Location name: Middletown, Connecticut, US*
Latitude: 41.5500°, Longitude: -72.7167°
Elevation:
Elevation (station metadata): 369 ft*
* source: Google Maps

POINT PRECIPITATION FREQUENCY ESTIMATES

Sanja Perica, Sandra Pavlovic, Michael St. Laurent, Carl Trypaluk, Dale Unruh, Orlan Wilhite

NOAA, National Weather Service, Silver Spring, Maryland

PF tabular | PF graphical | Maps & aerials

PF tabular

PDS-based point precipitation frequency estimates with 90% confidence intervals (in inches)[1]

Duration	Average recurrence interval (years)									
	1	2	5	10	25	50	100	200	500	1000
5-min	0.328 (0.257-0.407)	0.401 (0.313-0.498)	0.520 (0.405-0.648)	0.618 (0.479-0.776)	0.754 (0.565-0.991)	0.859 (0.630-1.15)	0.964 (0.686-1.34)	1.09 (0.737-1.56)	1.26 (0.819-1.87)	1.39 (0.881-2.10)
10-min	0.464 (0.363-0.577)	0.568 (0.444-0.706)	0.736 (0.574-0.919)	0.876 (0.679-1.10)	1.07 (0.801-1.40)	1.22 (0.893-1.63)	1.37 (0.972-1.90)	1.55 (1.04-2.21)	1.79 (1.16-2.65)	1.97 (1.25-2.98)
15-min	0.546 (0.428-0.679)	0.668 (0.522-0.830)	0.866 (0.675-1.08)	1.03 (0.798-1.29)	1.26 (0.942-1.65)	1.43 (1.05-1.92)	1.61 (1.14-2.24)	1.82 (1.23-2.60)	2.10 (1.36-3.11)	2.32 (1.47-3.50)
30-min	0.751 (0.587-0.932)	0.912 (0.713-1.13)	1.18 (0.917-1.47)	1.40 (1.08-1.75)	1.70 (1.27-2.23)	1.93 (1.42-2.59)	2.16 (1.54-3.02)	2.45 (1.65-3.50)	2.83 (1.84-4.19)	3.12 (1.98-4.71)
60-min	0.955 (0.747-1.19)	1.16 (0.904-1.44)	1.49 (1.16-1.86)	1.76 (1.36-2.21)	2.14 (1.60-2.81)	2.43 (1.78-3.26)	2.72 (1.94-3.79)	3.08 (2.08-4.40)	3.56 (2.31-5.27)	3.92 (2.48-5.93)
2-hr	1.27 (0.999-1.56)	1.52 (1.20-1.87)	1.93 (1.52-2.39)	2.27 (1.78-2.83)	2.74 (2.08-3.58)	3.10 (2.30-4.16)	3.47 (2.50-4.84)	3.98 (2.69-5.64)	4.65 (3.02-6.84)	5.16 (3.28-7.74)
3-hr	1.47 (1.17-1.81)	1.76 (1.40-2.16)	2.23 (1.77-2.75)	2.63 (2.06-3.26)	3.16 (2.41-4.13)	3.58 (2.67-4.78)	4.00 (2.90-5.58)	4.61 (3.13-6.51)	5.41 (3.53-7.93)	6.03 (3.83-9.01)
6-hr	1.87 (1.50-2.27)	2.24 (1.79-2.73)	2.84 (2.27-3.48)	3.34 (2.65-4.12)	4.04 (3.10-5.23)	4.57 (3.44-6.07)	5.10 (3.74-7.08)	5.90 (4.03-8.29)	6.96 (4.55-10.1)	7.76 (4.95-11.5)
12-hr	2.29 (1.86-2.77)	2.77 (2.24-3.35)	3.56 (2.87-4.32)	4.21 (3.37-5.14)	5.11 (3.96-6.56)	5.80 (4.40-7.64)	6.49 (4.78-8.94)	7.51 (5.15-10.5)	8.86 (5.82-12.8)	9.88 (6.32-14.6)
24-hr	2.69 (2.20-3.22)	3.31 (2.71-3.97)	4.32 (3.52-5.20)	5.16 (4.17-6.25)	6.31 (4.94-8.07)	7.20 (5.51-9.45)	8.09 (6.02-11.1)	9.45 (6.51-13.1)	11.3 (7.41-16.2)	12.6 (8.10-18.5)
2-day	3.06 (2.53-3.63)	3.83 (3.16-4.56)	5.09 (4.19-6.08)	6.14 (5.01-7.38)	7.58 (5.99-9.66)	8.69 (6.73-11.4)	9.80 (7.39-13.5)	11.7 (8.05-16.0)	14.1 (9.32-20.1)	16.0 (10.3-23.2)
3-day	3.33 (2.77-3.94)	4.18 (3.48-4.96)	5.58 (4.62-6.64)	6.74 (5.54-8.07)	8.34 (6.63-10.6)	9.57 (7.45-12.5)	10.8 (8.19-14.8)	12.9 (8.94-17.7)	15.7 (10.4-22.3)	17.8 (11.5-25.8)
4-day	3.57 (2.99-4.22)	4.49 (3.75-5.30)	5.98 (4.97-7.09)	7.22 (5.96-8.61)	8.92 (7.12-11.3)	10.2 (7.99-13.3)	11.5 (8.78-15.8)	13.8 (9.58-18.9)	16.8 (11.1-23.8)	19.0 (12.3-27.5)
7-day	4.26 (3.59-4.99)	5.28 (4.44-6.19)	6.95 (5.82-8.18)	8.33 (6.93-9.88)	10.2 (8.22-12.9)	11.7 (9.19-15.1)	13.2 (10.0-17.9)	15.6 (10.9-21.2)	18.8 (12.5-26.5)	21.2 (13.7-30.5)
10-day	4.95 (4.19-5.77)	6.03 (5.10-7.04)	7.79 (6.57-9.14)	9.26 (7.74-10.9)	11.3 (9.08-14.1)	12.8 (10.1-16.4)	14.4 (10.9-19.3)	16.8 (11.8-22.8)	20.0 (13.4-28.2)	22.5 (14.6-32.2)
20-day	7.13 (6.10-8.25)	8.28 (7.08-9.60)	10.2 (8.66-11.8)	11.7 (9.92-13.7)	13.9 (11.2-17.1)	15.6 (12.3-19.6)	17.2 (13.0-22.6)	19.4 (13.7-26.0)	22.4 (15.0-31.1)	24.6 (16.0-35.0)
30-day	8.96 (7.72-10.3)	10.1 (8.73-11.7)	12.1 (10.4-14.0)	13.7 (11.6-16.0)	15.9 (12.9-19.4)	17.6 (13.9-21.9)	19.3 (14.6-25.0)	21.3 (15.1-28.4)	23.9 (16.1-33.2)	25.9 (16.9-36.8)
45-day	11.2 (9.74-12.9)	12.5 (10.8-14.3)	14.5 (12.5-16.7)	16.1 (13.8-18.7)	18.4 (15.0-22.2)	20.2 (16.0-24.8)	21.9 (16.5-27.9)	23.7 (16.9-31.4)	26.0 (17.6-35.8)	27.7 (18.1-39.2)
60-day	13.1 (11.4-15.0)	14.4 (12.5-16.4)	16.4 (14.2-18.9)	18.1 (15.6-21.0)	20.5 (16.8-24.6)	22.3 (17.7-27.3)	24.1 (18.2-30.5)	25.7 (18.4-33.9)	27.8 (18.9-38.2)	29.4 (19.2-41.4)

[1] Precipitation frequency (PF) estimates in this table are based on frequency analysis of partial duration series (PDS).

Numbers in parenthesis are PF estimates at lower and upper bounds of the 90% confidence interval. The probability that precipitation frequency estimates (for a given duration and average recurrence interval) will be greater than the upper bound (or less than the lower bound) is 5%. Estimates at upper bounds are not checked against probable maximum precipitation (PMP) estimates and may be higher than currently valid PMP values.

Please refer to NOAA Atlas 14 document for more information.

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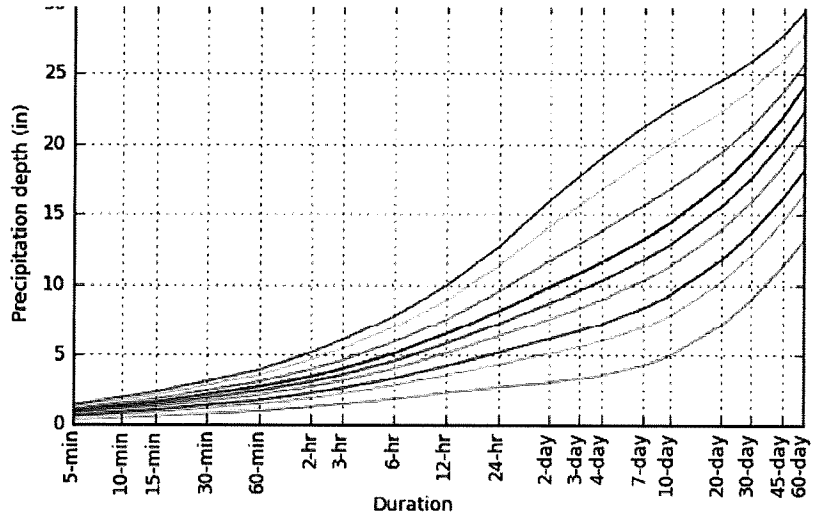
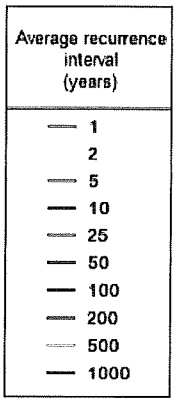
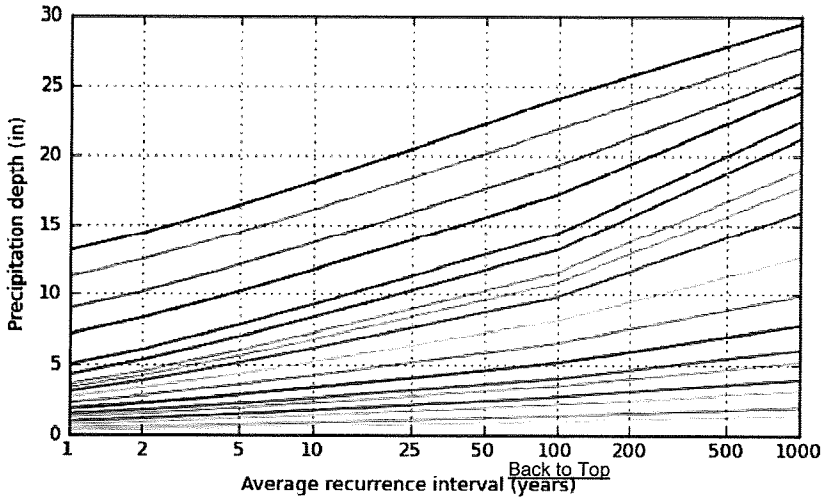
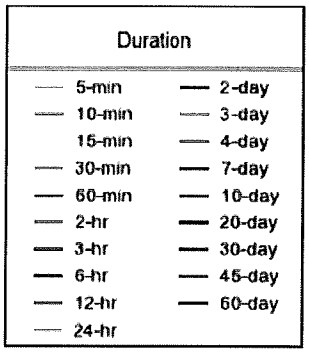
PF graphical









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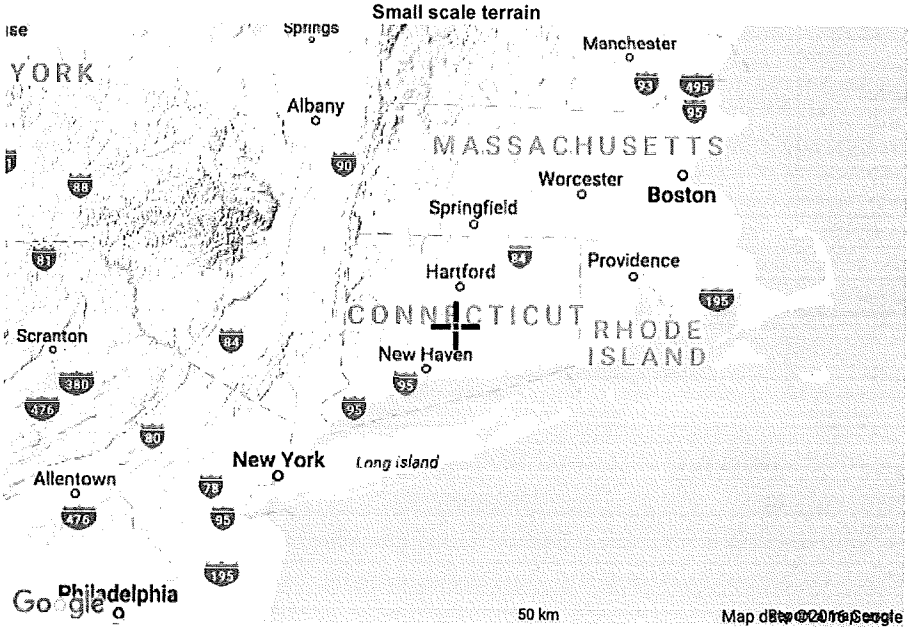
Maps & aerials

NOAA Atlas 14, Volume 10, Version 2

Created (GMT): Mon Aug 15 12:09:11 2016

Small scale terrain



INFORMATION FROM SCS SOIL SURVEY ON SITE SOILS

Report — Map Unit Description

State of Connecticut

87B—Wethersfield loam, 3 to 8 percent slopes

SEE DR-EX FOR MAP (4TH PAGE)

Map Unit Setting

National map unit symbol: 9lrh
Elevation: 0 to 1,200 feet
Mean annual precipitation: 43 to 54 inches
Mean annual air temperature: 45 to 55 degrees F
Frost-free period: 140 to 185 days
Farmland classification: All areas are prime farmland

Map Unit Composition

Wethersfield and similar soils: 80 percent
Minor components: 20 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Wethersfield

- Damage by Fire and Seedling Mortality on Forestland
- Forestland Planting and Harvesting
- Forestland Site Preparation
- Haul Roads, Log Landings, and Soil Rutting on Forestland
- Hazard of Erosion and Suitability for Roads on Forestland
- Rangeland Fencing, Pygmy Rabbit Habitat, and Resistance to Fugitive Dust
- Rangeland Invasive Species Susceptibility
- Rangeland Mechanical Treatment by Chaining, Rolling Drum, and Shredder
- Rangeland Site Degradation and Fire Damage Susceptility
- Rangeland Tillage, Compaction Resistance, and Soil Restoration

Recreational Development

- Camp Areas, Picnic Areas, and Playgrounds
- Paths, Trails, and Golf Fairways

Sanitary Facilities

- Landfills
- Sewage Disposal

Soil Chemical Properties

- Chemical Soil Properties

Soil Erosion

- Conservation Planning
- RUSLE2 Related Attributes
- Windbreaks and Environmental Plantings

Soil Health

- Organic Matter Depletion, Salt Concentration, Aerobic Soil Organisms, Organic Soil Subsidence
- Soil Health - Bulk Density and Texture
- Soil Health - Compaction, Surface Sealing
- Soil Health - Organic Matter

Soil Physical Properties

- Engineering Properties
- Fragments on the Soil Surface
- Particle Size and Coarse Fragments
- Physical Soil Properties

Soil Qualities and Features

- Soil Features
- Soil Locations

Vegetative Productivity

- Environmental Plantings and Windbreaks
- Forestland Productivity
- Irrigated and Nonirrigated Yields by Map Unit Component
- Irrigated Yields by Map Unit
- Irrigated Yields by Map Unit Component
- Link to Ecological Site Descriptions in EDIT
- Nonirrigated Yields by Map Unit
- Nonirrigated Yields by Map Unit Component
- Rangeland and Forest Vegetation Classification, Productivity, and Plant Composition
- Rangeland Productivity
- Rangeland Productivity and Plant Composition

Waste Management

- Agricultural Disposal of Manure, Food-Processing Waste, and Sewage Sludge
- Agricultural Disposal of Wastewater by Irrigation and Overland Flow
- Agricultural Disposal of Wastewater by Rapid Infiltration and Slow Rate Treatment
- Large Animal Carcass Disposal

Setting

Landform: Drumlins, hills
Down-slope shape: Linear
Across-slope shape: Convex
Parent material: Coarse-loamy lodgment till derived from basalt and/or sandstone and shale

Typical profile

Ap - 0 to 3 inches: loam
Bw1 - 3 to 13 inches: loam
Bw2 - 13 to 27 inches: gravelly loam
Cd - 27 to 65 inches: gravelly loam

Properties and qualities

Slope: 3 to 8 percent
Depth to restrictive feature: 20 to 40 inches to densic material
Drainage class: Well drained
Runoff class: Medium
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately high (0.00 to 0.20 in/hr)
Depth to water table: About 18 to 30 inches
Frequency of flooding: None
Frequency of ponding: None
Available water capacity: Low (about 4.3 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 2e
Hydrologic Soil Group: C
Ecological site: F145XY012CT - Well Drained Dense Till Uplands
Hydric soil rating: No

Minor Components

Yalesville ←

Percent of map unit: 5 percent
Landform: Hills, ridges
Down-slope shape: Convex
Across-slope shape: Linear
Hydric soil rating: No

Ludlow

Percent of map unit: 5 percent
Landform: Drumlins, hills
Down-slope shape: Concave
Across-slope shape: Linear
Hydric soil rating: No

Cheshire

Percent of map unit: 5 percent
Landform: Hills, till plains
Down-slope shape: Linear
Across-slope shape: Linear
Hydric soil rating: No

Wilbraham

Percent of map unit: 3 percent
Landform: Depressions, drainageways
Down-slope shape: Concave
Across-slope shape: Concave
Hydric soil rating: Yes

Menlo

Percent of map unit: 2 percent
Landform: Depressions, drainageways
Down-slope shape: Concave
Across-slope shape: Concave
Hydric soil rating: Yes

306—Udorthents-Urban land complex

Map Unit Setting

National map unit symbol: 9lmg
Elevation: 0 to 2,000 feet
Mean annual precipitation: 43 to 56 inches
Mean annual air temperature: 45 to 55 degrees F
Frost-free period: 120 to 185 days
Farmland classification: Not prime farmland

Map Unit Composition

Udorthents and similar soils: 50 percent
Urban land: 35 percent
Minor components: 15 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Udorthents

Setting

Down-slope shape: Convex
Across-slope shape: Linear
Parent material: Drift

Typical profile

A - 0 to 5 inches: loam
C1 - 5 to 21 inches: gravelly loam

TABLE 14.--ENGINEERING PROPERTIES AND CLASSIFICATIONS--Continued

Soil name and map symbol	Depth	USDA texture	Classification		Frag-ments > 3 inches	Percentage passing sieve number--				Liquid limit	Plas-ticity index
			Unified	AASHTO		4	10	40	200		
	In				Pct					Pct	
Wd----------	0-10	Sandy loam------	SM, OL	A-2, A-4	0-5	90-100	85-100	70-100	30-50	<25	NP-3
Walpole	10-23	Fine sandy loam, sandy loam, gravelly sandy loam.	SM	A-2, A-4	0-5	85-100	60-100	40-95	25-50	---	NP
	23-60	Gravelly loamy sand, gravelly sand, sand.	SP, SM, GP	A-1, A-2, A-3	0-20	55-100	50-100	25-90	0-25	---	NP
We, Wh----------	0-48	Mucky peat------	Pt	A-8	0	---	---	---	---	---	NP
Westbrook	48-99	Silt loam, very fine sandy loam, silt.	ML, CL-ML, OL	A-4	0	95-100	95-100	95-100	85-100	<25	NP-5
WkB, WkC, WkD------	0-12	Loam----------	ML	A-4, A-5	0-5	85-95	80-95	65-85	55-70	<45	NP-8
Wethersfield	12-26	Loam, silt loam, fine sandy loam.	ML	A-4, A-5	0-5	85-95	80-95	65-85	55-70	<45	NP-7
	26-60	Gravelly loam, loam, gravelly fine sandy loam.	SM, ML	A-4	0-10	75-90	70-90	55-80	40-65	<35	NP-7
WmB, WmC----------	0-12	Very stony loam	ML	A-4, A-5	10-20	85-95	80-95	65-85	55-70	<45	NP-8
Wethersfield	12-26	Loam, silt loam, fine sandy loam.	ML	A-4, A-5	5-15	85-95	80-95	65-85	55-70	<45	NP-7
	26-60	Loam, gravelly loam, gravelly fine sandy loam.	SM, ML	A-4	0-10	75-90	70-90	55-80	40-65	<35	NP-7
WnC----------	0-12	Extremely stony loam.	ML	A-4, A-5	10-25	85-95	80-95	65-85	55-70	<45	NP-8
Wethersfield	12-26	Loam, silt loam, fine sandy loam.	ML	A-4, A-5	5-15	85-95	80-95	65-85	55-70	<45	
	26-60	Loam, gravelly loam, gravelly fine sandy loam.	SM, ML	A-4	0-10	75-90	70-90	55-80	40-65	<35	
Wr----------	0-4	Silt loam-------	ML	A-4, A-5	0-5	80-95	70-95	65-85	55-70	<45	
Wilbraham	4-20	Loam, silt loam,	ML	A-4, A-5	0-5	80-95	70-95	65-85	55-70	<45	

DRAINAGE CALCULATION NARRATIVE

WE HAVE BASED OUR REPORT ON THE 25 YEAR STORM AS REQUIRED BY THE DOT. WE HAVE INCLUDED SUPPLEMENTAL DRAINAGE CALCULATIONS FOR 50 AND 100 YEAR STORMS.

PURPOSE OF 25 YEAR DRAINAGE CALCULATION IS TO SHOW THAT THE DEVELOPMENT WILL NOT HAVE AN ADVERSE IMPACT ON THE TOWN ROAD.

.

THE EXISTING SITE WATERSHED IS DEPICTED ON THE PREVIOUS GRAPHIC.
THE TOTAL DRAINAGE AREA DEVELOPED IS 63000+ S.F.
OF THIS TOTAL 31659 SF (37050SF 4275 1030 86 EX EX. IMP) WILL BE CONVERTED TO IMPERVIOUS SURFACES.

.

BECAUSE OF THE SMALL WATERSHED, WE PROPOSE TO USE VOLUME CALCULATIONS OF TOTAL RUNOFF FOR A ONE HOUR STORM.

.

AS CALCULATED ON THE FOLLOWING SHEETS FOR THE 31659 SF OF NEW IMPERVIOUS AREA:
COEFFECIENT OF RUNOFF C EXISTING C=.3 VOLUME (25) EXISTING =3647 CF
COEFFECIENT OF RUNOFF C PROPOSED C=.63 VOLUME (25)PROPOSED=7634 CF
INCREASE IN VOLUME OF RUNOFF =3986 CF
Q(25) EXIST = .42+2.03=2.45 CFS Q PROP= 5.07 CFS INCREASE CREATED = 2.62 CFS
BOTH BASED ON A 10 MINUTE TIME OF CONCENTRATION.

ON SITE DETENTION

.

TO MINIMIZE THE RATE OF RUNOFF FROM THE DEVELOPMENT, ON SITE DETENTION WAS CREATED FOR THE VOLUME OF INCREASE IN RUNOFF FOR THE 25, 50 AND 100 YEAR STORM.

.

FROM THE 31659 SF MADE IMPERVIOUS;

.

NEW VOLUME V(new) =3986 CF

.

STORAGE PROVIDED = 5685 CF STATIC STORAGE AND 7845 CF TOTAL STORAGE.
ON SITE OUTFALL
OUTFALL FROM THE DETENTION AREA IS RESTRICTED BY A 4" ORIFICE. COMPUTED MAXIMUM FLOW THRU THE ORIFICE IS LESS THAN 1.0 CFS.

rational computation flow = AREA P1 P2 P3 P4 MAXIMUM FLOW =1.65 cfs FOR P2 (P1=.66/P2=1.65/P3=1.42/P4=1.33)

CHECK CAPACITY OF PIPES 15" PVC S=.01 n=.013

Q(full) capacity = 6.73 cfs >> 1.65 cfs

v(full) = 5.48 fps> 10 fps suggested limit.

ok

.

Drainage Calculations

RINO MOZZICATO

COMMERCIAL

796 SAYBROOK ROAD MIDDLETOWN CT

for a 25- year storm

796 SAY 221103 Infiltration(Pkhr).xlsx

Drainage Area ENTIRE AREA DEVELOPED

During a 25 year storm approximately 2.3 inches of rain will fall in one hour.

Underexisting conditions, almost 10% to 30% of this rainfall would normally be runoff. 90% will be runoff from the new impervious areas.

I= 2.3 *in/hr* or 0.192 *ft/hr* for a 25- year storm

Existing Conditions: OF AREA DEVELOPED

	Area (sf)	*Area (Ac.)*	*C*		
Total:	63000				
Grass:	57074	1.31	0.24	(use average of C)	
mpervious former house/drive/ROAD:	5926	0.14	0.9		
Total:	63000	1.45			
Weighted 'C':	0.30				
EX.VOLUME RUNOFF=	0.30	63000	0.192	=	3647.639 CF

Proposed Conditions: OF AREA DEVELOPED

	Area (sf)	*Area (Ac.)*	*C*		
Grass:	25950	0.60	0.25		
Existing Impervious:	4896	0.11	0.9		
Proposed Impervious:	32154	0.74	0.9		
Total:	63000	1.45			
Weighted 'C':	0.63				
EX.VOLUME RUNOFF=	0.63	63000	0.192	=	7634.563 CF
					3986.924

$Q = c\,I\,A$

Drainage Calculations

RINO MOZZICATO

COMMERCIAL

796 SAYBROOK ROAD MIDDLETOWN CT

for a 25- year storm

796 SAY 221103 Infiltration(Pkhr).xlsx

Drainage Area ENTIRE AREA DEVELOPED

Volume of New Runoff

$V_{new}=(C_{prop}-C_{ex})*I*A$

C_{prop}	0.63	
C_{ex}	0.30	
I	1.000	in/hr
A	1.45	Ac.
Q=	0.478	CFS
Vnew=	1719	CF
	for the first inch rainfall	

Volume of TOTAL Runoff

for a 25- year storm

$V_{total}=(C_{prop})*I*A$

C_{prop}	0.63	
I	1.000	in/hr
A	1.45	Ac.
	0.914	CFS
Vtotal=	**3292**	CF
	for the first inch rainfall	

$V_{new}=(C_{prop}-C_{ex})*I*A$

C_{prop}	0.63	
C_{ex}	0.30	
I	2.300	in/hr
A	1.45	Ac.
Q=	1.098	CFS
Vnew=	**3954**	CF (HOUR)
	for a 25- year storm	

$V_{total}=(C_{prop})*I*A$

C_{prop}	0.63	
I	2.300	in/hr
A	1.45	Ac.
	2.103	CFS
Vtotal=	7635	CF (HOUR)
	for a 25- year storm	

Drainage Calculations

RINO MOZZICATO
COMMERCIAL
796 SAYBROOK ROAD MIDDLETOWN CT

for a 25- year storm

796 SAY 221103 Infiltration(Pkhr).xlsx

Drainage Area ENTIRE AREA DEVELOPED
Volume of Storage- Pipes USED= YES

Pipe:

Dia. 30 inches
Stores: 4.91 cf/ ft length

Stone:

Trench Width: 6 ft
Trench Depth: 6 ft
Void Ratio: 0.35
Stores: 10.88 cf/ ft length

Total Storage:

4.91 + 10.88 15.79 cf/ ft length

Infiltration DESIGN INFILTRATION RATE 15 MIN/INCH
Infiltration Rate= DESIGN 15.00 min/in or 4.00 in/hr
or 0.33 ft/hr

Surface Area Trench=2sides+bottom= 18 sf/ ft length

0.33 ft/hr * 18.00 sf/ ft length = 6.00 cf/hr/ ft length

Total Absorption= 15.79 cf/ ft length + 6.00 cf/hr/ ft length= 21.79 cf/ ft length

Therefore,

	Storage Required:				3954 cf		
	STORAGE PROVIDED					% OF REQ.	
0.0112	Storage Provided- Drywells:	0	drywells *	724 cf storage/ drywell=	0 cf		
89.3167	Storage Provided- Pipe:	360	ft *	15.79 cf storage/ ft length=	5685 cf	=>req.first inch runoff=	3292 cf
	INFILTRATION Provided- Pipe:	360	ft *	6.00 cf storage/ ft length=	2160 cf		
				Total:	7845 cf	198% of new runoff=	3954 cf

Storage provided exceeds storage required
discharge rate to EX. ROAD DRAINAGE limited by 4" outfall orifice

Drainage Calculations

for a 50- year storm

RINO MOZZICATO

COMMERCIAL

796 SAYBROOK ROAD MIDDLETOWN CT

796 SAY 221103 Infiltration(Pkhr).xlsx

Drainage Area ENTIRE AREA DEVELOPED

During a 50 year storm approximately 2.43 inches of rain will fall in one hour.

Underexisting conditions, almost 10% to 30% of this rainfall would normally be runoff. 90% will be runoff from the new impervious areas.

I= 2.43 *in/hr* or 0.203 *ft/hr* for a 50- year storm

Existing Conditions: OF AREA DEVELOPED

	Area (sf)	*Area (Ac.)*	*C*		
Total:	63000				
Grass:	57074	1.31	0.24	(use average of C)	
npervious former house/drive/ROAD:	5926	0.14	0.9		
Total:	63000	1.45			
Weighted 'C':	0.30				
EX.VOLUME RUNOFF=	0.30	63000	0.203	=	3853.81 CF

Proposed Conditions: OF AREA DEVELOPED

	Area (sf)	*Area (Ac.)*	*C*		
Grass:	25950	0.60	0.25		
Existing Impervious:	4896	0.11	0.9		
Proposed Impervious:	32154	0.74	0.9		
Total:	63000	1.45			
Weighted 'C':	0.63				
EX.VOLUME RUNOFF=	0.63	63000	0.203	=	8066.081 CF
			INCREASE		4212.271 CF

$Q = c\,I\,A$

Drainage Calculations

RINO MOZZICATO

COMMERCIAL

796 SAYBROOK ROAD MIDDLETOWN CT

for a 50- year storm

796 SAY 221103 Infiltration(Pkhr).xlsx

Drainage Area ENTIRE AREA DEVELOPED

Volume of New Runoff

$V_{new}=(C_{prop}-C_{ex})*I*A$

C_{prop}	0.63	
C_{ex}	0.30	
I	1.000	in/hr
A	1.45	Ac.
Q=	0.478	CFS
Vnew=	1719	CF

for the first inch rainfall

$V_{new}=(C_{prop}-C_{ex})*I*A$

C_{prop}	0.63	
C_{ex}	0.30	
I	2.430	in/hr
A	1.45	Ac.
Q=	1.160	CFS
Vnew=	**4177**	CF (HOUR)

for a 50- year storm

Volume of TOTAL Runoff

for a 50- year storm

$V_{total}=(C_{prop})*I*A$

C_{prop}	0.63	
I	1.000	in/hr
A	1.45	Ac.
	0.914	CFS
Vtotal=	**3292**	CF

for the first inch rainfall

$V_{total}=(C_{prop})*I*A$

C_{prop}	0.63	
I	2.430	in/hr
A	1.45	Ac.
	2.222	CFS
Vtotal=	8066	CF (HOUR)

for a 50- year storm

Drainage Calculations

RINO MOZZICATO

COMMERCIAL

796 SAYBROOK ROAD MIDDLETOWN CT

for a 50- year storm

796 SAY 221103 Infiltration(Pkhr).xlsx

Drainage Area ENTIRE AREA DEVELOPED

Volume of Storage- Pipes USED= YES

Pipe:

Dia. 30 inches
Stores: 4.91 cf/ ft length

Stone:

Trench Width: 6 ft
Trench Depth: 6 ft
Void Ratio: 0.35
Stores: 10.88 cf/ ft length

Total Storage:

4.91 + 10.88 15.79 cf/ ft length

Infiltration DESIGN INFILTRATION RATE 15 MIN/INCH

Infiltration Rate= DESIGN 15.00 min/in or 4.00 in/hr
or 0.33 ft/hr

Surface Area Trench=2sides+bottom= 18 sf/ ft length

0.33 ft/hr * 18.00 sf/ ft length = 6.00 cf/hr/ ft length

Total Absorption= 15.79 cf/ ft length + 6.00 cf/hr/ ft length= 21.79 cf/ ft length

Therefore,

Storage Required:					4177 cf		
STORAGE PROVIDED						% OF REQ.	
0.0112 Storage Provided- Drywells:	0	drywells *	724	cf storage/ drywell=	0 cf		
89.3167 Storage Provided- Pipe:	360	ft *	15.79	cf storage/ ft length=	5685 cf	=>req.first inch runoff=	3292 cf
INFILTRATION Provided- Pipe:	360	ft *	6.00	cf storage/ ft length=	2160 cf		
				Total:	7845 cf	188% of new runoff=	4177 cf

Storage provided exceeds storage required

discharge rate to EX. ROAD DRAINAGE limited by 4" outfall orifice

Drainage Calculations

RINO MOZZICATO

COMMERCIAL

796 SAYBROOK ROAD MIDDLETOWN CT

for a 100- year storm

796 SAY 221103 Infiltration(Pkhr).xlsx

Drainage Area ENTIRE AREA DEVELOPED

During a 100 year storm approximately 3 inches of rain will fall in one hour.

Underexisting conditions, almost 10% to 30% of this rainfall would normally be runoff. 90% will be runoff from the new impervious areas.

I= 3 *in/hr* or 0.250 *ft/hr* for a 100- year storm

Existing Conditions: OF AREA DEVELOPED

	Area (sf)	*Area (Ac.)*	*C*		
Total:	63000				
Grass:	57074	1.31	0.24	(use average of C)	
npervious former house/drive/ROAD:	5926	0.14	0.9		
Total:	63000	1.45			
Weighted 'C':	0.30				
EX.VOLUME RUNOFF=	0.30	63000	0.250	=	4757.79 CF

Proposed Conditions: OF AREA DEVELOPED

	Area (sf)	*Area (Ac.)*	*C*		
Grass:	25950	0.60	0.25		
Existing Impervious:	4896	0.11	0.9		
Proposed Impervious:	32154	0.74	0.9		
Total:	63000	1.45			
Weighted 'C':	0.63				
EX.VOLUME RUNOFF=	0.63	63000	0.250	=	9958.125 CF
					5200.335

$Q = c\,I\,A$

Drainage Calculations

RINO MOZZICATO

COMMERCIAL

796 SAYBROOK ROAD MIDDLETOWN CT

for a 100- year storm

796 SAY 221103 Infiltration(Pkhr).xlsx

Drainage Area ENTIRE AREA DEVELOPED

Volume of New Runoff

$V_{new}=(C_{prop}-C_{ex})*I*A$

C_{prop}	0.63	
C_{ex}	0.30	
I	1.000	in/hr
A	1.45	Ac.
Q=	0.478	CFS
Vnew=	1719	CF

for the first inch rainfall

Volume of TOTAL Runoff

for a 100- year storm

$V_{total}=(C_{prop})*I*A$

C_{prop}	0.63	
I	1.000	in/hr
A	1.45	Ac.
	0.914	CFS
Vtotal=	**3292**	CF

for the first inch rainfall

$V_{new}=(C_{prop}-C_{ex})*I*A$

C_{prop}	0.63	
C_{ex}	0.30	
I	3.000	in/hr
A	1.45	Ac.
Q=	1.433	CFS
Vnew=	**5157**	CF (HOUR)

for a 100- year storm

$V_{total}=(C_{prop})*I*A$

C_{prop}	0.63	
I	3.000	in/hr
A	1.45	Ac.
	2.743	CFS
Vtotal=	9958	CF (HOUR)

for a 100- year storm

Drainage Calculations

RINO MOZZICATO

COMMERCIAL

796 SAYBROOK ROAD MIDDLETOWN CT

for a 100- year storm

796 SAY 221103 Infiltration(Pkhr).xlsx

Drainage Area ENTIRE AREA DEVELOPED

Volume of Storage- Pipes USED= YES

Pipe:		*Stone:*	
Dia.	30 inches	Trench Width:	6 ft
Stores:	4.91 cf/ ft length	Trench Depth:	6 ft
		Void Ratio:	0.35
		Stores:	10.88 cf/ ft length

Total Storage:

4.91 + 10.88 15.79 cf/ ft length

Infiltration DESIGN INFILTRATION RATE 15 MIN/INCH

Infiltration Rate= DESIGN 15.00 min/in or 4.00 in/hr

or 0.33 ft/hr

Surface Area Trench=2sides+bottom= 18 sf/ ft length

0.33 ft/hr * 18.00 sf/ ft length = 6.00 cf/hr/ ft length

Total Absorption= 15.79 cf/ ft length + 6.00 cf/hr/ ft length= 21.79 cf/ ft length

Therefore,

	Storage Required:				5157 cf		
	STORAGE PROVIDED					% OF REQ.	
0.0112	Storage Provided- Drywells:	0	drywells *	724 cf storage/ drywell=	0 cf		
89.3167	Storage Provided- Pipe:	360	ft *	15.79 cf storage/ ft length=	5685 cf	=>req.first inch runoff=	3292 cf
	INFILTRATION Provided- Pipe:	360	ft *	6.00 cf storage/ ft length=	2160 cf		
				Total:	7845 cf	152% of new runoff=	5157 cf

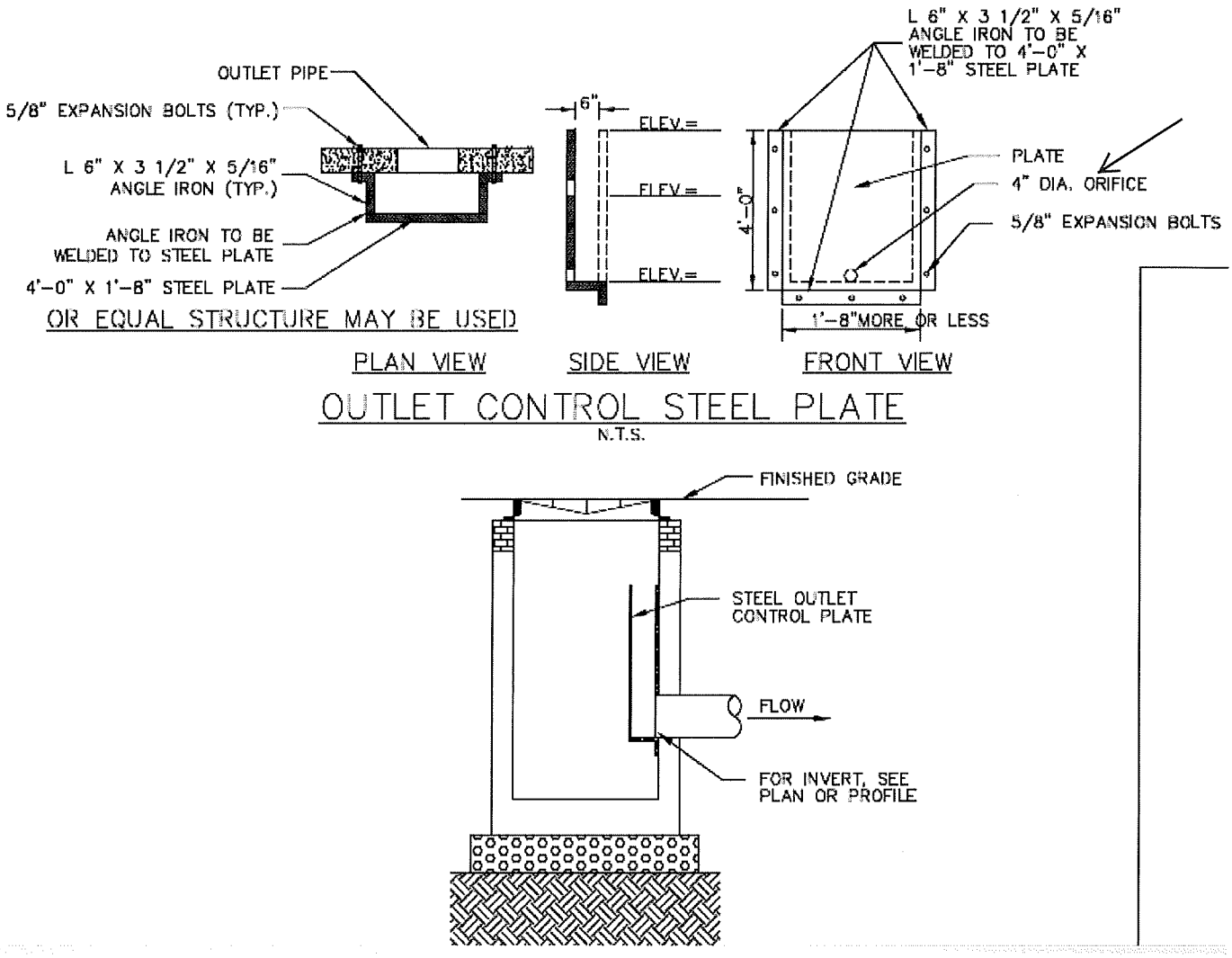
Storage provided exceeds storage required

discharge rate to EX. ROAD DRAINAGE limited by 4" outfall orifice

ORIFICE DATA

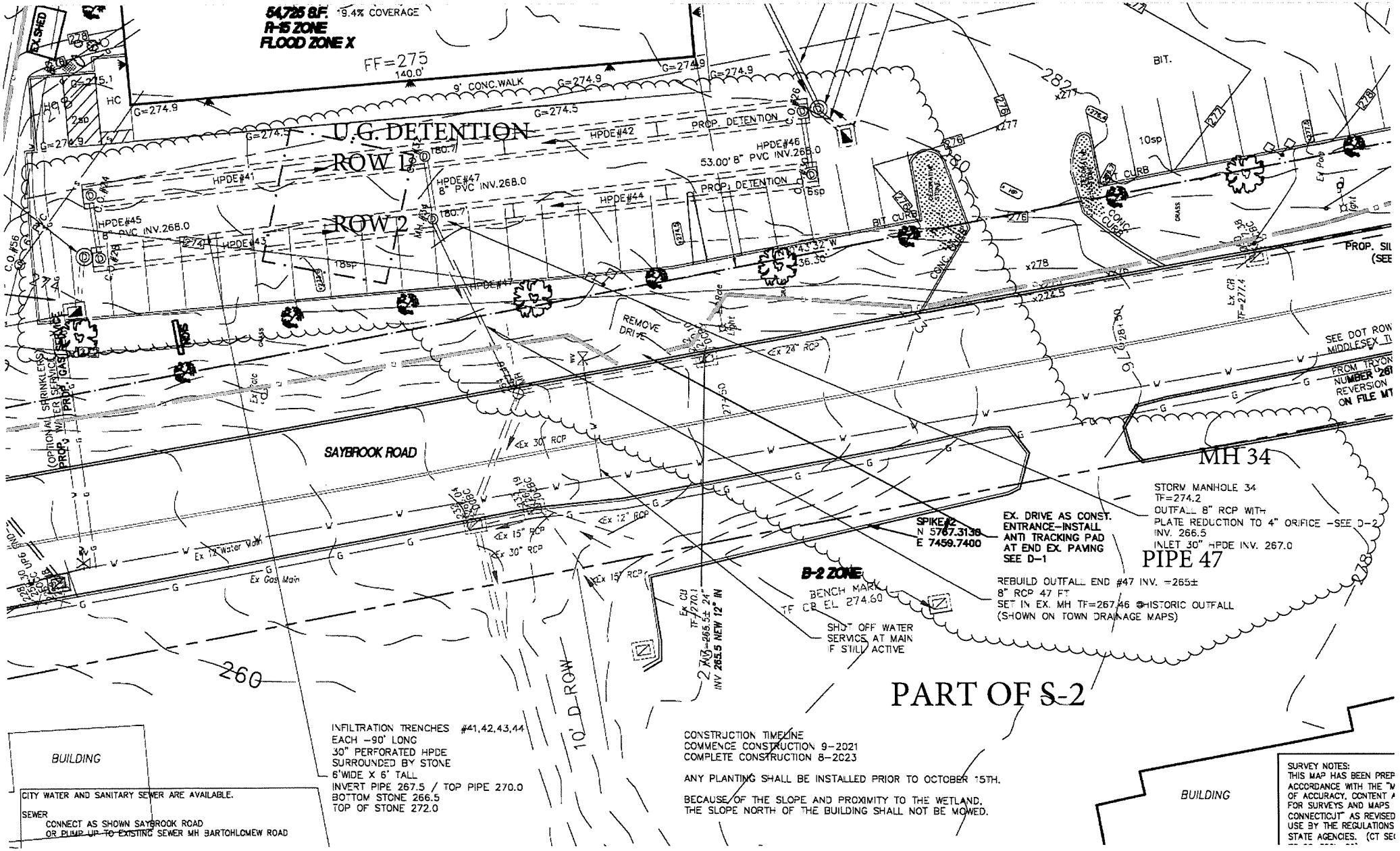
RESTRICTS FLOW
TO PREVENT INCREASE
RATE OF RUNOFF TO
WATERCOURSE BEFORE
DOT BOX CULVERT.

OUTLET CONTROL FROM STORM MH #34 LIMITED BY 4 INCH ORIFICE WHICH DRAINS INTO 8" PIPE OUTFALL #47 (LARGER TO PREVENT CLOGGING BY RODENTS



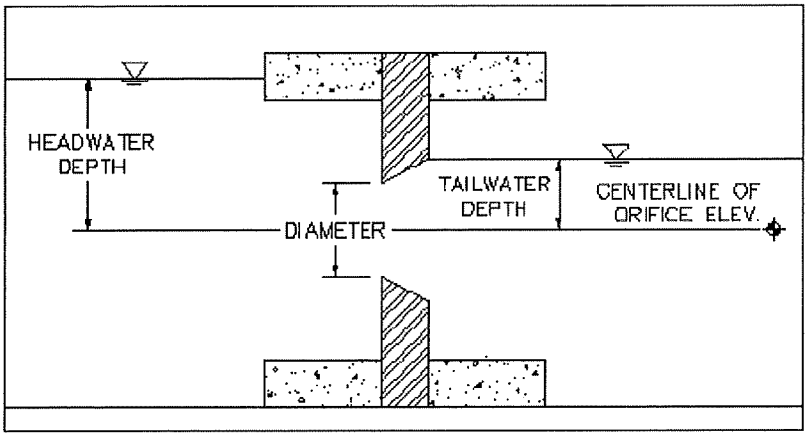
Screen clipping taken: 8/16/2016 9:22 AM

DETAIL FROM SHEET D-2


54,725 S.F. 19.4% COVERAGE
R-15 ZONE
FLOOD ZONE X
EX. SHED
FF=275
140.0'
9' CONC. WALK
G=274.9
G=274.5
U.G. DETENTION
ROW 1
ROW 2
PROP. DETENTION
HPDE#41
HPDE#42
HPDE#43
HPDE#44
HPDE#45
HPDE#46
HPDE#47
53.00' 8" PVC INV.268.0
8" PVC INV.268.0
HC
2sp
18sp
6sp
10sp
BIT.
BIT CURB
CONC. CURB
GRASS
SAYBROOK ROAD
Ex 30" RCP
Ex 24" RCP
Ex 15" RCP
Ex 12" RCP
Ex 12" Water Main
Ex Gas Main
REMOVE DRIVE
SPIKE #2
N 5767.3138
E 7459.7400
EX. DRIVE AS CONST. ENTRANCE-INSTALL ANTI TRACKING PAD AT END EX. PAVING SEE D-1
B-2 ZONE
BENCH MARK
TF CB EL 274.60
SHUT OFF WATER SERVICE AT MAIN IF STILL ACTIVE
MH 34
STORM MANHOLE 34
TF=274.2
OUTFALL 8" RCP WITH
PLATE REDUCTION TO 4" ORIFICE -SEE D-2
INV. 266.5
INLET 30" HPDE INV. 267.0
PIPE 47
REBUILD OUTFALL END #47 INV. =265±
8" RCP 47 FT
SET IN EX. MH TF=267.46 @HISTORIC OUTFALL
(SHOWN ON TOWN DRAINAGE MAPS)
PART OF S-2
10' D ROW
260
BUILDING
INFILTRATION TRENCHES #41,42,43,44
EACH -90' LONG
30" PERFORATED HPDE
SURROUNDED BY STONE
6'WIDE X 6' TALL
INVERT PIPE 267.5 / TOP PIPE 270.0
BOTTOM STONE 266.5
TOP OF STONE 272.0
CONSTRUCTION TIMELINE
COMMENCE CONSTRUCTION 9-2021
COMPLETE CONSTRUCTION 8-2023
ANY PLANTING SHALL BE INSTALLED PRIOR TO OCTOBER 15TH.
BECAUSE OF THE SLOPE AND PROXIMITY TO THE WETLAND, THE SLOPE NORTH OF THE BUILDING SHALL NOT BE MOWED.
CITY WATER AND SANITARY SEWER ARE AVAILABLE.
SEWER
CONNECT AS SHOWN SAYBROOK ROAD
OR PUMP UP TO EXISTING SEWER MH BARTOHLOMEW ROAD
SURVEY NOTES:
THIS MAP HAS BEEN PREP
ACCORDANCE WITH THE "M
OF ACCURACY, CONTENT A
FOR SURVEYS AND MAPS
CONNECTICUT" AS REVISED
USE BY THE REGULATIONS
STATE AGENCIES. (CT SE

Use the Orifice Calculator to calculate hydraulic values for orifices.

The following illustration shows orifice values:



Orifice values

The structure height, headwater, and tailwater are all measured from the center of the orifice.

The Orifice Calculator uses the following formula:

$$Q = cA\sqrt{2gH}$$

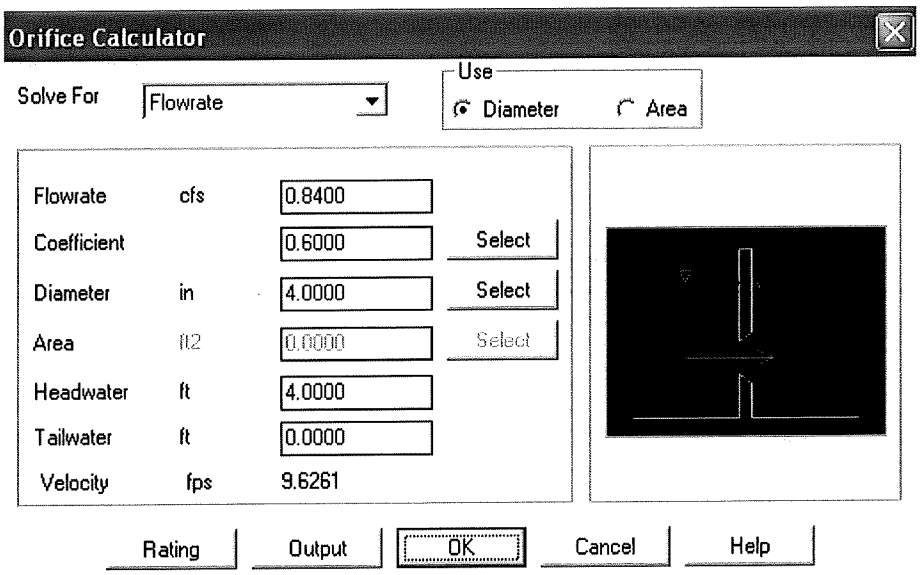
where:

- Q = Design flow rate
- c = Orifice coefficient
- A = Cross-sectional area
- g = Acceleration due to gravity (32.174 ft/s2 or 9.807 m/s2)
- H = Total head (Headwater minus Tailwater)

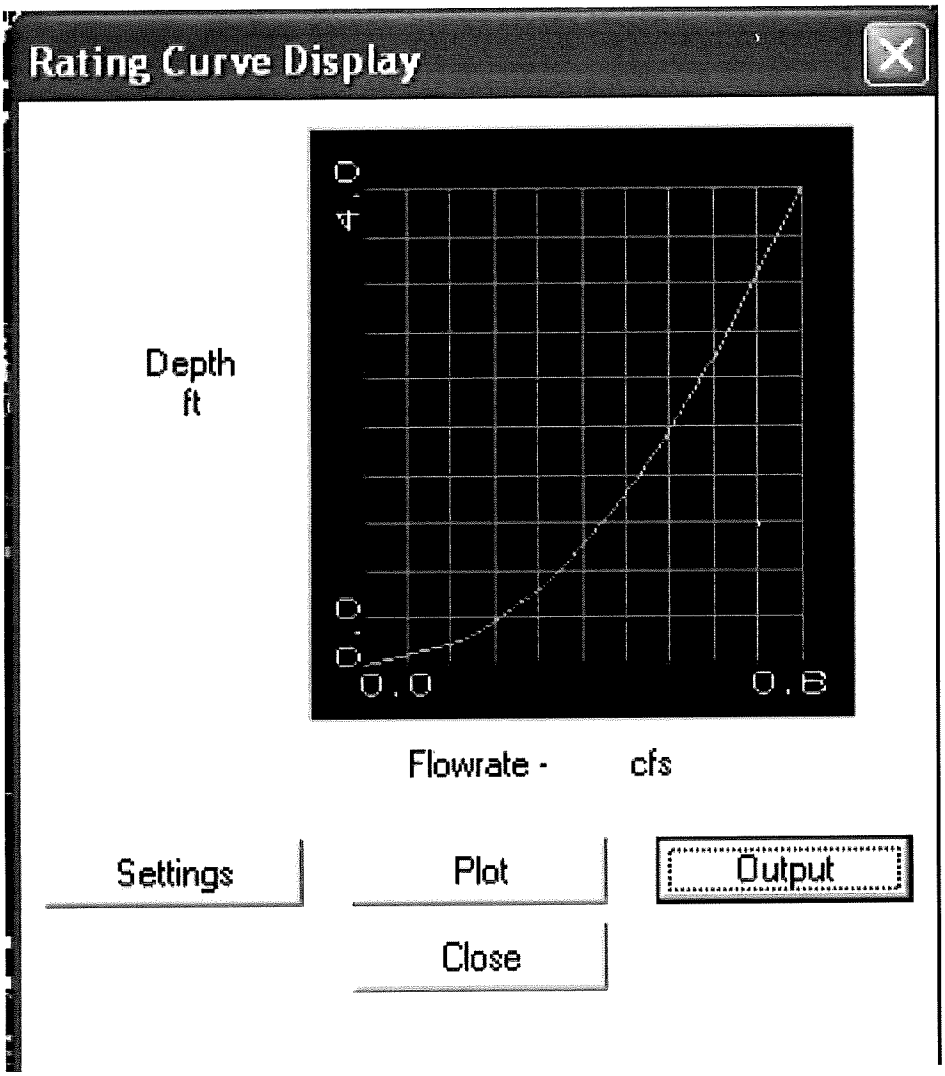
Screen clipping taken: 8/16/2016 10:32 AM

sharp-edged orifices have coefficients around 0.6 to 0.63

Screen clipping taken: 8/16/2016 9:23 AM



Screen clipping taken: 8/16/2016 10:26 AM

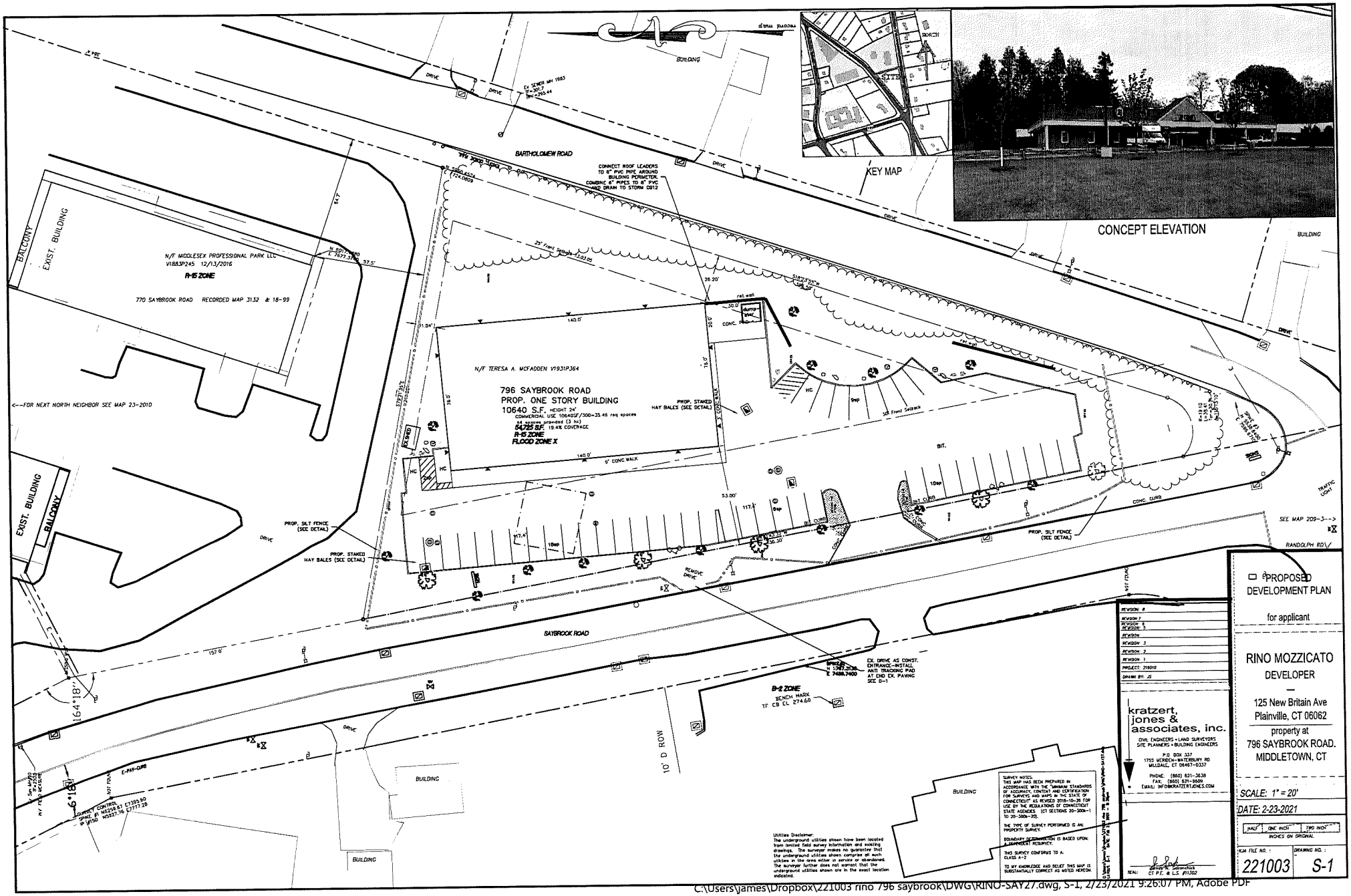


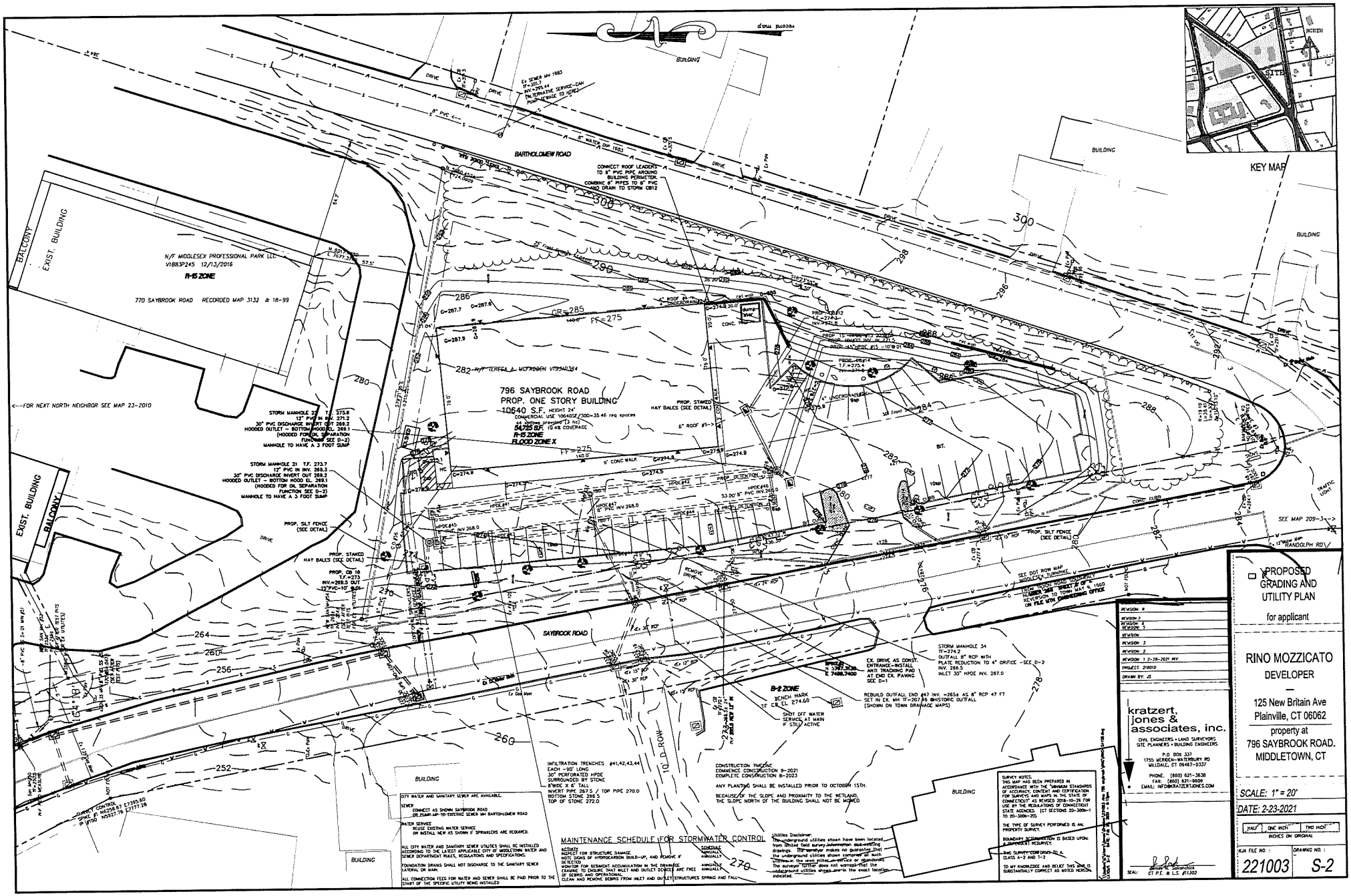
Screen clipping taken: 8/16/2016 10:24 AM

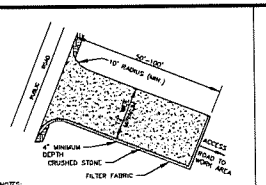
#Units=Structural Dimensions,in,Flowrate,cfs
#Orifice Rating Curve Data
#Depth - ft Flowrate - cfs
#---------- ----------

0.00000000,	0.00000000
0.20000000,	0.18783700
0.30000000,	0.23005240
0.40000000,	0.26564163
0.50000000,	0.29699638
0.60000000,	0.32534323
0.70000000,	0.35141085
0.80000000,	0.37567400
0.90000000,	0.39846245
1.00000000,	0.42001630
1.10000000,	0.44051682
1.20000000,	0.46010481
1.30000000,	0.47889227
1.40000000,	0.49696999
1.50000000,	0.51441281
1.60000000,	0.53128327
1.70000000,	0.54763426
1.80000000,	0.56351100
1.90000000,	0.57895252
2.00000000,	0.59399275
2.10000000,	0.60866145
2.20000000,	0.62298486
2.30000000,	0.63698626
2.40000000,	0.65068646
2.50000000,	0.66410409
2.60000000,	0.67725594
2.70000000,	0.69015721
2.80000000,	0.70282170
2.90000000,	0.71526199
3.00000000,	0.72748958
3.10000000,	0.73951501
3.20000000,	0.75134801
3.30000000,	0.76299751
3.40000000,	0.77447180
3.50000000,	0.78577855
3.60000000,	0.79692490
3.70000000,	0.80791749
3.80000000,	0.81876251
3.90000000,	0.82946574
4.00000000,	0.84003261

REDUCED SITE PLANS

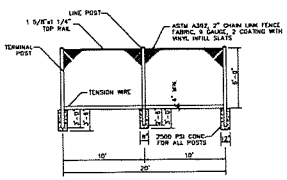

KEY MAP
CONCEPT ELEVATION
BARTHOLOMEW ROAD
SAYBROOK ROAD
RANDOLPH RD
796 SAYBROOK ROAD
PROP. ONE STORY BUILDING
10640 S.F.
54725 SF. 19.4% COVERAGE
R-15 ZONE
FLOOD ZONE X
N/F MIDDLESEX PROFESSIONAL PARK LLC
V1883P245 12/13/2016
R-15 ZONE
770 SAYBROOK ROAD RECORDED MAP 31.32 & 18-99
N/F TERESA A. MCFADDEN V1931P364
EXIST. BUILDING
BALCONY
<--FOR NEXT NORTH NEIGHBOR SEE MAP 23-2010
SEE MAP 209-3-->
PROP. SILT FENCE (SEE DETAIL)
PROP. STAKED HAY BALES (SEE DETAIL)
B-2 ZONE
BENCH MARK
TF CB EL 274.60
10' D ROW
BUILDING
CONCRETE
BIT.
CONC. CURB
CONC. WALK
HC
CONNECT ROOF LEADERS TO 6" PVC PIPE AROUND BUILDING PERIMETER. COMBINE 6" PIPES TO 8" PVC AND DRAIN TO STORM CB12
EX. DRIVE AS CONST. ENTRANCE-INSTALL ANTI TRACKING PAD AT END EX. PAVING SEE D-1
REMOVE DRIVE
Utilities Disclaimer:
The underground utilities shown have been located from limited field survey information and existing drawings. The surveyor makes no guarantee that the underground utilities shown comprise all such utilities in the area either in service or abandoned. The surveyor further does not warrant that the underground utilities shown are in the exact location indicated.
SURVEY NOTES:
THIS MAP HAS BEEN PREPARED IN ACCORDANCE WITH THE STANDARDS OF ACCURACY, STRUCTURE AND CERTIFICATION FOR SURVEYS AND MAPS IN THE STATE OF CONNECTICUT AS REVISED 2018-10-26 FOR USE BY THE REGULATIONS OF CONNECTICUT STATE AGENCIES. (CT SECTIONS 20-300A-1 TO 20-300A-20).
THE TYPE OF SURVEY PERFORMED IS A/C PROPERTY SURVEY.
BOUNDARY DETERMINATION IS BASED UPON A DEPENDENT RESURVEY.
THIS SURVEY CONFORMS TO A CLASS A-2
TO MY KNOWLEDGE AND BELIEF THIS MAP IS SUBSTANTIALLY CORRECT AS NOTED HEREON.
SEAL: CT P.E. & L.S. #13362
PROPOSED DEVELOPMENT PLAN
for applicant
RINO MOZZICATO
DEVELOPER
125 New Britain Ave
Plainville, CT 06062
property at
796 SAYBROOK ROAD.
MIDDLETOWN, CT
SCALE: 1" = 20'
DATE: 2-23-2021
ONE INCH
TWO INCH
INCHES ON ORIGINAL
KJA FILE NO.: 221003
DRAWING NO.: S-1
kratzert, jones & associates, inc.
CIVIL ENGINEERS • LAND SURVEYORS
SITE PLANNERS • BUILDING ENGINEERS
P.O. BOX 337
1755 MERIDEN-WATERBURY RD
MILLDALE, CT 06467-0337
PHONE: (860) 621-3638
FAX: (860) 621-3609
EMAIL: INFO@KRATZERT-JONES.COM
C:\Users\james\Dropbox\221003 rino 796 saybrook\DWG\RINO-SAY27.dwg, S-1, 2/23/2021 9:26:07 PM, Adobe PDF


796 SAYBROOK ROAD
PROP. ONE STORY BUILDING
10640 S.F. HEIGHT 24'
COMMERCIAL USE 10640SF/300=35.46 req spaces
44 spaces provided (1 hc)
34725 SF. 10.4% COVERAGE
R-15 ZONE
FLOOD ZONE X
BARTHOLOMEW ROAD
SAYBROOK ROAD
RANDOLPH RD
N/F MIDDLESEX PROFESSIONAL PARK LLC
V1883P245 12/13/2016
R-15 ZONE
770 SAYBROOK ROAD RECORDED MAP 3132 & 18-99
<--FOR NEXT NORTH NEIGHBOR SEE MAP 23-2010
SEE MAP 209-1-->
EXIST. BUILDING
BALCONY
B-2 ZONE
BENCH MARK
TF EX. EL. 274.60
SHOT OFF WATER SERVICE AT MAIN P STRU ACTIVE
PROP. SILT FENCE (SEE DETAIL)
PROP. STAKED HAY BALES (SEE DETAIL)
CONNECT ROOF LEADERS TO 4" PVC PIPE AROUND BUILDING PERIMETER COMBINE 6" PIPES TO 8" PVC AND DRAIN TO STORM CB12
STORM MANHOLE 21 T.F. 273.7
12" PVC IN INV. 269.3
30" PVC DISCHARGE INVERT OUT 269.2
HOODED OUTLET - BOTTOM HOOD EL. 269.1
(HOODED FOR OIL SEPARATION FUNCTION SEE D-2)
MANHOLE TO HAVE A 3 FOOT SUMP
STORM MANHOLE 34
TF=274.2
OUTFALL 8" RCP WITH PLATE REDUCTION TO 4" ORIFICE -SEE D-2
INV. 266.5
INLET 30" HPDE INV. 267.0
EX. DRIVE AS CONST. ENTRANCE-INSTALL ANTI TRACKING PAD AT END EX. PAVING SEE D-1
REBUILD OUTFALL END @47 INV. =265± AS 8" RCP 47 FT SET IN EX. MH TF=267.86 @HISTORIC OUTFALL (SHOWN ON TOWN DRAINAGE MAPS)
CONSTRUCTION TIMLINE
COMMENCE CONSTRUCTION 9-2021
COMPLETE CONSTRUCTION 8-2023
ANY PLANTING SHALL BE INSTALLED PRIOR TO OCTOBER 15TH.
BECAUSE OF THE SLOPE AND PROXIMITY TO THE WETLAND, THE SLOPE NORTH OF THE BUILDING SHALL NOT BE MOWED.
INFILTRATION TRENCHES #41,42,43,44
EACH ~90' LONG
30" PERFORATED HPDE
SURROUNDED BY STONE
8'WIDE X 6' TALL
INVERT PIPE 267.5 / TOP PIPE 270.0
BOTTOM STONE 266.5
TOP OF STONE 272.0
MAINTENANCE SCHEDULE FOR STORMWATER CONTROL
ACTIVITY
INSPECT FOR STRUCTURE DAMAGE.
NOTE SIGNS OF HYDROCARBON BUILD-UP, AND REMOVE IF NECESSARY
REMOVE ANY SEDIMENT ACCUMULATION IN THE DRAINAGE STRUCTURES SPRING AND FALL
EXAMINE TO ENSURE THAT INLET AND OUTLET DEVICES ARE FREE OF DEBRIS AND OPERATIONAL
CLEAN AND REMOVE DEBRIS FROM INLET AND OUTLET
GENERAL
ANNUALLY
ANNUALLY
ANNUALLY
Utilities Disclaimer:
The underground utilities shown have been located from limited field survey information and existing drawings. The surveyor makes no guarantee that the underground utilities shown comprise all such utilities in the area either in service or abandoned. The surveyor further does not warrant that the underground utilities shown are in the exact location indicated.
SURVEY NOTES:
THIS MAP HAS BEEN PREPARED IN ACCORDANCE WITH THE "CHMAMM STANDARDS FOR SURVEY CONTENT AND CERTIFICATION FOR SURVEYS AND MAPS IN THE STATE OF CONNECTICUT" AS REVISED 2018-10-26 FOR USE BY THE REGULATIONS OF CONNECTICUT STATE AGENCIES. (CT SECTIONS 20-300b-1 TO 20-300b-20).
THE TYPE OF SURVEY PERFORMED IS AN PROPERTY SURVEY.
BOUNDARY DETERMINATION IS BASED UPON A CONFLICT RESURVEY.
THIS SURVEY CONFORMS TO A CLASS A-2 AND T-2
TO MY KNOWLEDGE AND BELIEF THIS DRAWING IS SUBSTANTIALLY CORRECT AS NOTED HEREON.
SEAL: CT P.E. & L.S. #11302
PROPOSED GRADING AND UTILITY PLAN
for applicant
RINO MOZZICATO
DEVELOPER
125 New Britain Ave
Plainville, CT 06062
property at
796 SAYBROOK ROAD.
MIDDLETOWN, CT
SCALE: 1" = 20'
DATE: 2-23-2021
HALF ONE INCH TWO INCH
INCHES ON ORIGINAL
KJA FILE NO.: 221003
DRAWING NO.: S-2
kratzert, jones & associates, inc.
CIVIL ENGINEERS • LAND SURVEYORS
SITE PLANNERS • BUILDING ENGINEERS
P.O. BOX 337
1755 MERIDEN-WATERBURY RD
MILLDALE, CT 06467-0337
PHONE: (860) 621-3638
FAX: (860) 621-8609
EMAIL: INFO@KRATZERT-JONES.COM
KEY MAP
NORTH
SITE



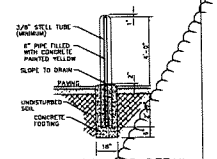
NOTES:
- STRIP GROUND, REMOVE TOP SOIL AND ORGANICS PRIOR TO STONE PLACEMENT
- CRUSHED +L GRADATION SHALL BE DOT NO.3 OR ASTM C-33 NO. 3

CONSTRUCTION ENTRANCE DETAIL
N.T.S.

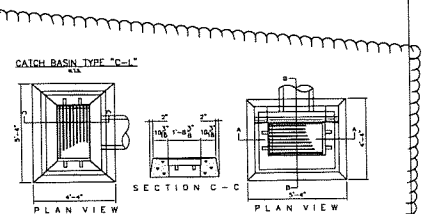


NOTES
1. BOTTOM TENSION WIRE SHALL BE 7 GAUGE ATTACHED WITH 12 1/2" GAUGE HOG RINGS, 12" O.C.
2. TOP RAIL COUPLINGS TO BE SPACED EVERY 20'. EXPANSION COUPLINGS TO BE AT 100' INTERVALS.
3. TOP RAIL AND WIRE TIES SHALL BE SPACED 24" MAX.
4. ALL GATES SHALL CONFORM WITH CT D.O.T. STANDARDS, INCLUDING LATEST REVISIONS.
5. THE RHODE CHARLWAY SWING GATES AND WANDOORS AS SHOWN ON SITE PLAN

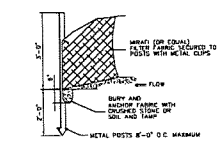
CHAIN LINK FENCE
N.T.S.



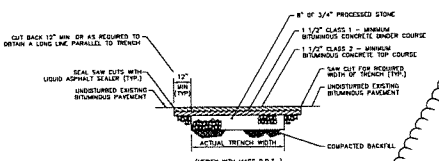
CONCRETE BOLLARD DETAIL
N.T.S.



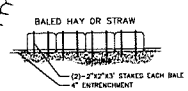
CATCH BASIN TYPE "C" DETAIL
N.T.S.



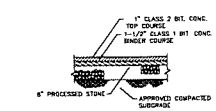
SILT FENCE DETAIL
N.T.S.



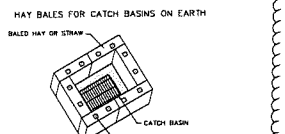
PERMANENT PAVEMENT REPAIR DETAIL
(FOR PUBLIC ROADWAYS)
N.T.S.



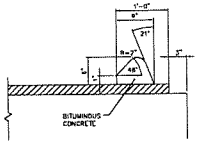
SEDIMENTATION BARRIER
HAY BALE PROTECTION
GENERAL INSTALLATION
N.T.S.



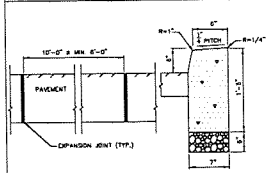
MINIMUM PAVEMENT SECTION
N.T.S.



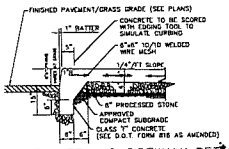
SEDIMENTATION BARRIER INSTALLATION
N.T.S.



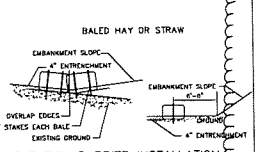
BITUMINOUS CONCRETE LIP CURBING
N.T.S.



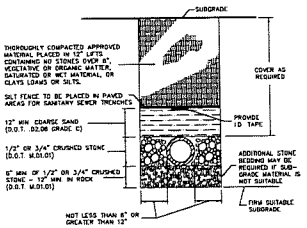
CONCRETE CURBING DETAIL
N.T.S.



CONCRETE CURB AND SIDEWALK DETAIL
N.T.S.



SEDIMENTATION BARRIER INSTALLATION
HAY BALE INSTALLATION
N.T.S.



TYPICAL TRENCH FOR UTILITIES
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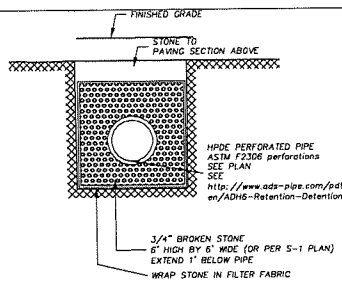

HORIZONTAL DRYWELL
INFILTRATION TRENCH SECTION
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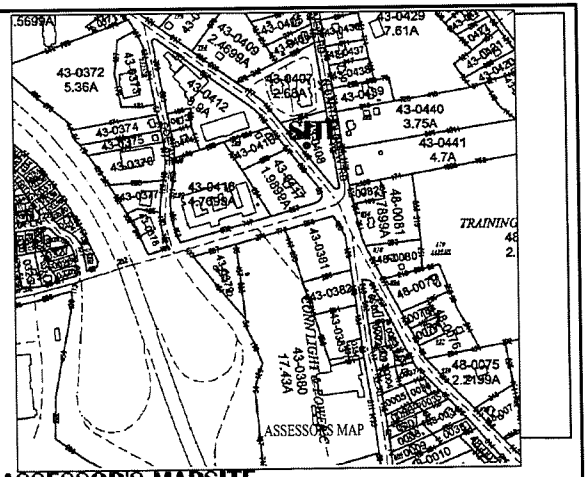


ASSESSOR'S MAPSITE

CONSTRUCTION SEQUENCE:

1. AN ON-SITE JOB MEETING TO DISCUSS AND PLAN IMPLEMENTATION OF EROSION CONTROLS SHALL TAKE PLACE PRIOR TO COMMENCEMENT OF CONSTRUCTION ACTIVITY.
2. CALL BEFORE YOU DIG 1-800-922-4455.
3. PURSUANT TO THE EROSION SEDIMENTATION CONTROL PLAN, NOTIFY THE TOWN PLANNING, INLAND WETLANDS AGENCY AND ENGINEERING DEPARTMENTS OF ENSUING CONSTRUCTION ACTIVITY.
4. ESTABLISH EROSION AND SEDIMENTATION CONTROL MEASURES, AS SHOWN ON PLAN PRIOR TO INITIATING ANY CONSTRUCTION ACTIVITY.
5. USE PROP. SILT FENCING AND ROAD AS A LIMIT OF ACTIVITY AREA OF GRADING OR CLEARING FOR LOCATION SHOWN.
6. WATERCOURSE ON SITE TO BE PROTECTED
7. LIMITS OF CLEARING TO BE STAKED IN THE FIELD PRIOR TO CONSTRUCTION.
8. CLEAR AND GRUB TREES AND STUMPS SHALL BE DISPOSED OF IN AN APPROVED MANNER. OPEN CONSTRUCTION ENTRANCE(S).
9. START MASS EARTH MOVEMENT AND SITE REDEVELOPMENT
10. STRIP TOPSOIL AND REMOVE FROM AREA AND CREATE TEMPORARY TOPSOIL STOCKPILES. TOPSOIL TOPSOIL STOCKPILE SHALL BE OUTSIDE OF ANY AREAS WHICH ARE REGULATED BY INLAND WETLANDS.
11. INSTALL SEDIMENTATION BASINS.
12. AS THE SHAPE OF THE SITE CONTINUES, START BUILDING EXCAVATION AND PLACE FOUNDATION, SLAB AND BUILDING.
13. CONSTRUCT SITE UTILITIES; PROTECT CATCH BASINS WITH STAKED HAY BALES, TRAP ANY SEDIMENT THAT ACCUMULATES DURING CONSTRUCTION.
14. FINISH GRADE AND PLACE +L BASE FOR PAVED AREAS
15. CONSTRUCT CONCRETE WALKS AND PLACE BITUMINOUS CONCRETE
16. FINISH GRADE SITE, SPREAD TOPSOIL AND SEED ALL AREAS DISTURBED BY CONSTRUCTION. STABILIZE ALL SLOPES.

SUGGESTED SEED MIXTURE	LBS/AC	LBS/1000 SF
KENTUCKY BLUEGRASS	20	0.45
CREEPING RED FESCUE	20	0.45
PERENNIAL RYEGRASS	5	0.10
	45	1.00

17. REMOVE SEDIMENT AND DISPOSE OF OFFSITE IN AN ENVIRONMENTALLY ACCEPTABLE MANNER.
18. REMOVE ANTI-TRACKING PAD, REPAIR ANY DAMAGE TO CURBING.
19. AFTER DISTURBED AREAS HAVE HAD VEGETATION RE-ESTABLISHED ON THEM, SILTATION BARRIERS SHALL BE REMOVED.
Remove siltation barriers and properly dispose of once permanent stabilization has occurred as directed by the City Engineer and Inland Wetlands Compliance Officer

EROSION AND SEDIMENTATION CONTROL NOTES:

1. LAND DISTURBANCE SHALL BE KEPT TO A MINIMUM. REGTABILIZATION SHALL BE SCHEDULED AS SOON AS PRACTICABLE. FOR THOSE AREAS WHICH ARE LEFT EXPOSED FOR MORE THAN 30 DAYS TEMPORARY SEEDING FOR STABILIZATION SHALL BE UTILIZED. ANNUAL RYEGRASS MAY BE UTILIZED OR AN APPROVED EQUAL.
2. SLOPES SHALL BE RESTRICTED TO 2' HORIZONTAL/1' VERTICAL MAXIMUM OR FLATTER THROUGH GRADING AND/OR RETAINING WALLS
3. DISTURBED AREAS, EXCEPT PAVED AREAS, SHALL BE LOAMED (4"MIN.) AND SEEDED OR MULCHED
4. ALL EROSION AND SEDIMENTATION CONTROL MEASURES SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE STANDARDS AND SPECIFICATIONS OF The 2002 Connecticut Guidelines for Soil Erosion and Sediment Control as amended www.ct.gov/dep/lib/dep/wm/stormwater/manual.pdf
http://www.ct.gov/dep/cwp/view.asp?a=2720&q=325682&depNav_GID=1654
5. THE APPLICATION AND SPECIFIC DETAILS OF THE EROSION AND SEDIMENTATION CONTROL SHALL CONFORM TO THE SOIL AND WATER CONSERVATION DISTRICT REGULATIONS, GUIDELINES FOR Soil Erosion and Sediment Control SEDIMENT CONTROL, AVAILABLE ON INTERNET
6. ALL CONTROL MEASURES SHALL BE MAINTAINED IN EFFECTIVE CONDITION THROUGHOUT THE CONSTRUCTION PERIOD
7. ADDITIONAL CONTROL MEASURES SHALL BE INSTALLED DURING THE CONSTRUCTION PERIOD IF DEEMED NECESSARY BY THE TOWN PLANNER, INLAND WETLANDS COMPLIANCE OFFICER AND/OR THE TOWN ENGINEER.
8. SEDIMENTATION BARRIERS TO BE FABRITEX 150 GRADE, APPROVED EQUAL OR STAKED HYBALES.
9. SEDIMENTATION BARRIER TO BE INSTALLED AS SHOWN ON THIS PLAN PRIOR TO ANY CONSTRUCTION, PLOT PLANS FOR INDIVIDUAL LOTS SHALL CONTAIN DETAILED DELINEATION OF SILTATION BARRIERS INCLUDING ANY ADDITIONAL EROSION CONTROLS AS DEEMED NECESSARY
10. CONTRACTOR IS RESPONSIBLE FOR CORRECTING ANY UNFORSEEN FIELD CONDITIONS
11. ALL CONSTRUCTION SHALL CONFORM TO THE STANDARDS OF THE MUNICIPALITY.
12. RINO MOZZICATO OR HIS DULY AUTHORIZED AGENT (860) 796-1403 IS RESPONSIBLE FOR NOTIFYING THE MUNICIPALITIES PLANNING AND ENGINEERING DEPARTMENTS AND INLAND WETLANDS COMPLIANCE OFFICER AT LEAST 24 HOURS IN ADVANCE OF START OF ANY CONSTRUCTION ACTIVITY.
13. RINO MOZZICATO OR HIS DULY AUTHORIZED AGENT (860) 796-1403 IS ASSIGNED THE RESPONSIBILITY FOR IMPLEMENTATION OF EROSION AND SEDIMENTATION CONTROL. THIS RESPONSIBILITY INCLUDES THE INSTALLATION AND MAINTENANCE OF THE CONTROLS, PERFORMING ALL PARTIES ENGAGED IN THE CONSTRUCTION PLAN TO BE IN COMPLIANCE WITH THE OBJECTIVES OF THE PLAN, WITH THE INLAND WETLANDS AND ZONING OFFICE AND INLAND WETLANDS COMPLIANCE OFFICER OF ANY TRANSFER OF THIS RESPONSIBILITY, AND FOR CONVEYING A COPY OF THE EROSION AND SEDIMENT CONTROL PLAN IF THE TITLE OF THE LAND IS TRANSFERRED.
14. SEDIMENT CONTROL: TEMPORARY MOWOUS BARRIERS, USING HAY BALES OR SILT FENCE, HELD IN PLACE WITH WOODEN STAKES SHALL BE USED AT ALL AREAS WHERE STORM WATER CONTAINING SUSPENDED SEDIMENT COULD DRAIN OFF SITE.
15. SILT FENCE AND/OR HAY BALES TO BE INSTALLED PRIOR TO COMMENCEMENT OF CONSTRUCTION OPERATIONS. ANY DAMAGED BARRIERS SHALL BE REPLACED AND/OR REPAIRED IMMEDIATELY FOLLOWING DAMAGE.
16. PURSUANT TO THE REGULATIONS, A LAYER OF TOPSOIL SHALL BE SPREAD OVER THE EXCAVATED AREA, LOAMED & SEEDED, 4 INCHES MINIMUM IN DEPTH IN ACCORDANCE WITH THE APPROVED CONTOUR PLAN.
17. CATCH BASIN MAINTENANCE SCHEDULE:
SEDIMENT TO BE EXTRACTED FROM SUMP(S) BI-YEARLY IN THE SPRING AND FALL AND DISPOSED OF IN AN ENVIRONMENTALLY ACCEPTABLE MANNER.
18. IF OVER 5 ACRES ARE TO BE DISTURBED AT ONE TIME, THE SITE CONTRACTOR SHALL OBTAIN A NPDES STORMWATER PERMIT.

NOTES:
EROSION CONTROLS SHALL BE INSPECTED ONCE A WEEK AND AFTER ANY STORM OR PRECIPITATION EVENT. REPAIR AS NECESSARY.
COPIES OF THE REPORT SHALL BE SENT TO THE INLAND WETLANDS COMPLIANCE OFFICER
REMOVE ANY INVASIVE SPECIES DISCOVERED DURING CONSTRUCTION
BUT ONLY IN THE AREAS TO BE DISTURBED BY THE CONSTRUCTION
PURSUANT TO THE TOWN REGULATIONS, A LAYER OF ARABLE TOPSOIL OF A QUALITY APPROVED BY THE TOWN ENGINEER SHALL BE SPREAD OVER THE AREAS TO BE RESTORED. TOPSOIL SHALL BE 4 INCHES MINIMUM IN DEPTH
SEED MIXTURE TO BE UTILIZED DURING RECLAMATION PROCESS IS:
35 PERCENT CREEPING RED FESCUE,
30 PERCENT TALL FESCUE,
15 PERCENT PERENNIAL RYE GRASS,
10 PERCENT RED TOP,
10 PERCENT BIRDS FOOT TREFOIL
SEED RATE AT 40 POUNDS PER ACRE.

THE CITY OF MIDDLETOWN RESERVES THE RIGHT TO REVISE THE EROSION CONTROL PLAN AS CONDITIONS WARRANT. ADDITIONAL EROSION CONTROL MEASURES MAY BE REQUIRED AT THE DIRECTION OF THE CITY OF MIDDLETOWN ZEO.

NOT ALL DETAILS APPLY TO ALL JOBS

REVISION:
REVISION:
REVISION: 2
REVISION: 1

PROJECT:

SEAL:

JAMES SANDWORSKI P.E.

kratzert, jones & associates, inc.
CIVIL ENGINEERS • LAND SURVEYORS
SITE PLANNERS • BUILDING ENGINEERS
P.O. BOX 337
1755 MERIDEN - WATERBURY RD.
MILLDALE, CT 06467-0337
PHONE: (860) 621-3638
FAX: (860) 621-9609
EMAIL: INFO@KRATZERJONES.COM

DETAIL SHEET

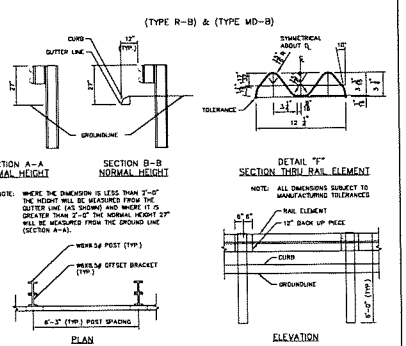
for applicant

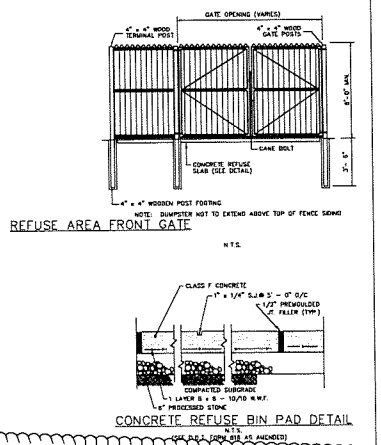
RINO MOZZICATO
OWNER
—
125 New Britain Ave
Plainville, CT 06062
property at
796 SAYBROOK ROAD
MIDDLETOWN, CT

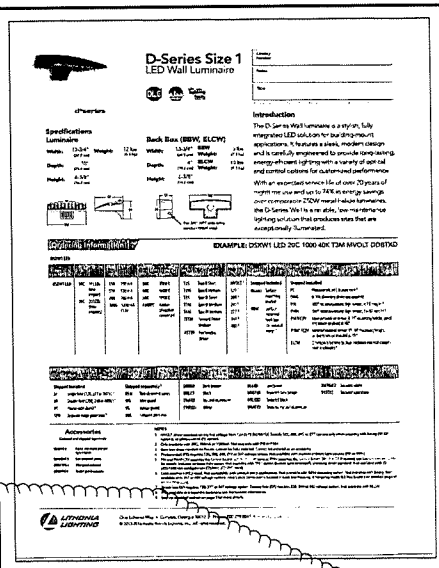
SCALE: NA
DATE: 6-1-2017

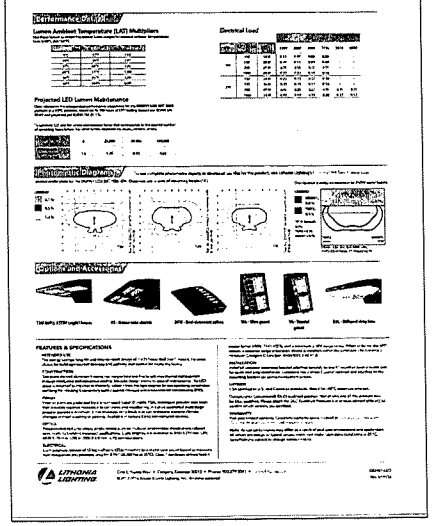
HALF ONE INCH TWO INCH
INCHES ON ORIGINAL

K-J-K FILE NO: 216010
DRAWING NO: D-1
792 WASHINGTON ST

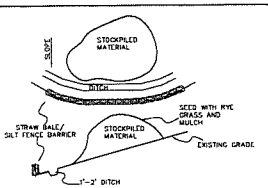






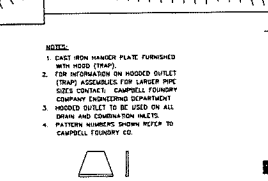


BUILDING LIGHTS MOUNTED AT 24 FT



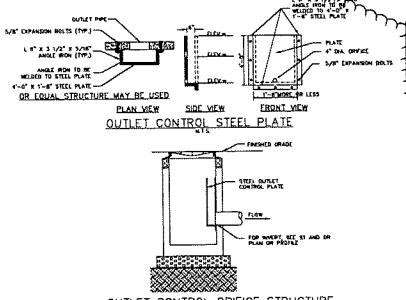
Plant Material Type	Minimum Size
Canopy Tree	
Single-Stem	2 inch (caliper)
Multi-Stem Clump	8 feet (height)
Understory Tree	4 feet (height)
	2 inch (caliper)
Evergreen Tree	4 feet (height)
Shrub	
Deciduous	18 inches (height)
Evergreen	15 inches (height)

SIZES



PATTERN NUMBER	DIMENSIONS IN INCHES A	B	C	PIPE SIZE
2560	9 1/2	18	3 3/4	8
2561	11 1/2	20 1/2	5 1/2	8
2562	13 1/4	23 1/2	5 1/2	10
2563	13 3/4	26	7 1/2	12
2564	16	27	10	15
2565	20	27	10	18
2566	20 1/4	30	11 1/4	21

PATTERN NUMBER	DIMENSIONS IN INCHES A	B	C	D	E	PIPE SIZE
2560 210	13	22	8	3 1/2	9 1/2	8
2561 210	15	22	10	3 1/2	9 1/2	8
2562 210	15	23	12 1/2	3 1/2	7 1/4	10
2563 210	22	33	13	6	9	12
2564 210	23	35	19 3/4	5 1/2	9 1/4	15
2565 210	28 1/4	39 3/4	21	5	8 1/2	18
2566 210	30 1/2	42 1/4	24	6	10	21

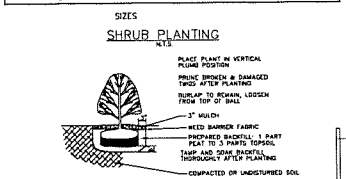


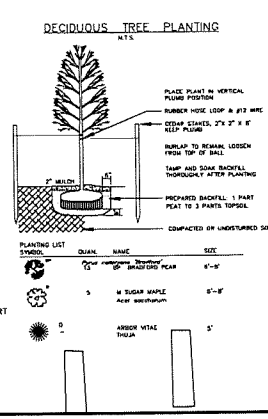
NOTE:
VERIFY WITH ZONING REGULATIONS

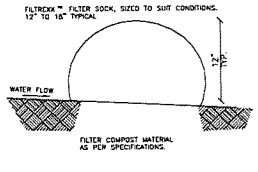
BASE OF SIGN SHALL BE ENGINEERED BY SIGN INSTALLER IN ACCORDANCE WITH THE BUILDING CODE REQUIREMENTS.

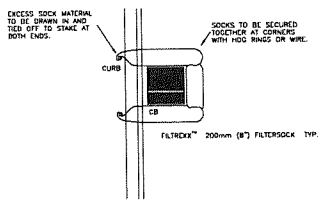
NOT ALL DETAILS APPLY TO ALL JOBS

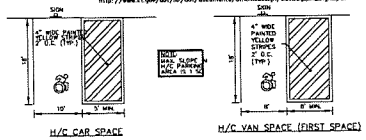
1











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FAX: (860) 621-8609
EMAIL: INFO@KRATZERTJONES.COM

REVISION:	
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REVISION:	
REVISION: 1	
PROJECT:	
D.B.	S.R.: D.R.:
MTH	

SEAL:

JAMES SHOMOCK P.E.

DETAIL SHEET
for applicant

RINO MOZZICATO
OWNER
—
125 New Britain Ave
Plainville, CT 06062
property at
796 SAYBROOK ROAD
MIDDLETOWN, CT

SCALE: NONE
DATE: 2-23-2021

HALF	ONE INCH	TWO INCH

INCHES ON ORIGINAL

KJA FILE NO : 221103
DRAWING NO : D-2