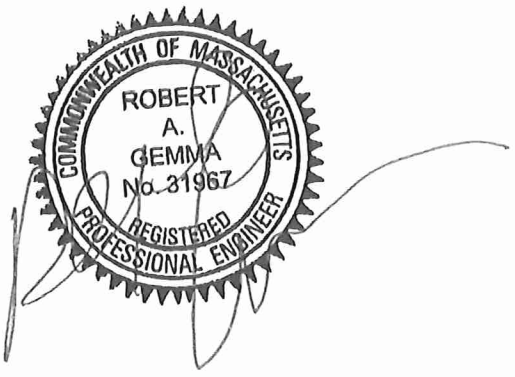
HYDROLOGIC ANALYSIS:

Proposed Renovations
Amsden Building
101 Concord Street
Framingham, MA

Prepared for: ***VTT Framingham Renaissance***
100 Concord Street
Framingham, MA

Prepared by: ***MetroWest Engineering, Inc.***
75 Franklin Street
Framingham, MA 01702
(508) 626-0063



April, 2013

LEGEND

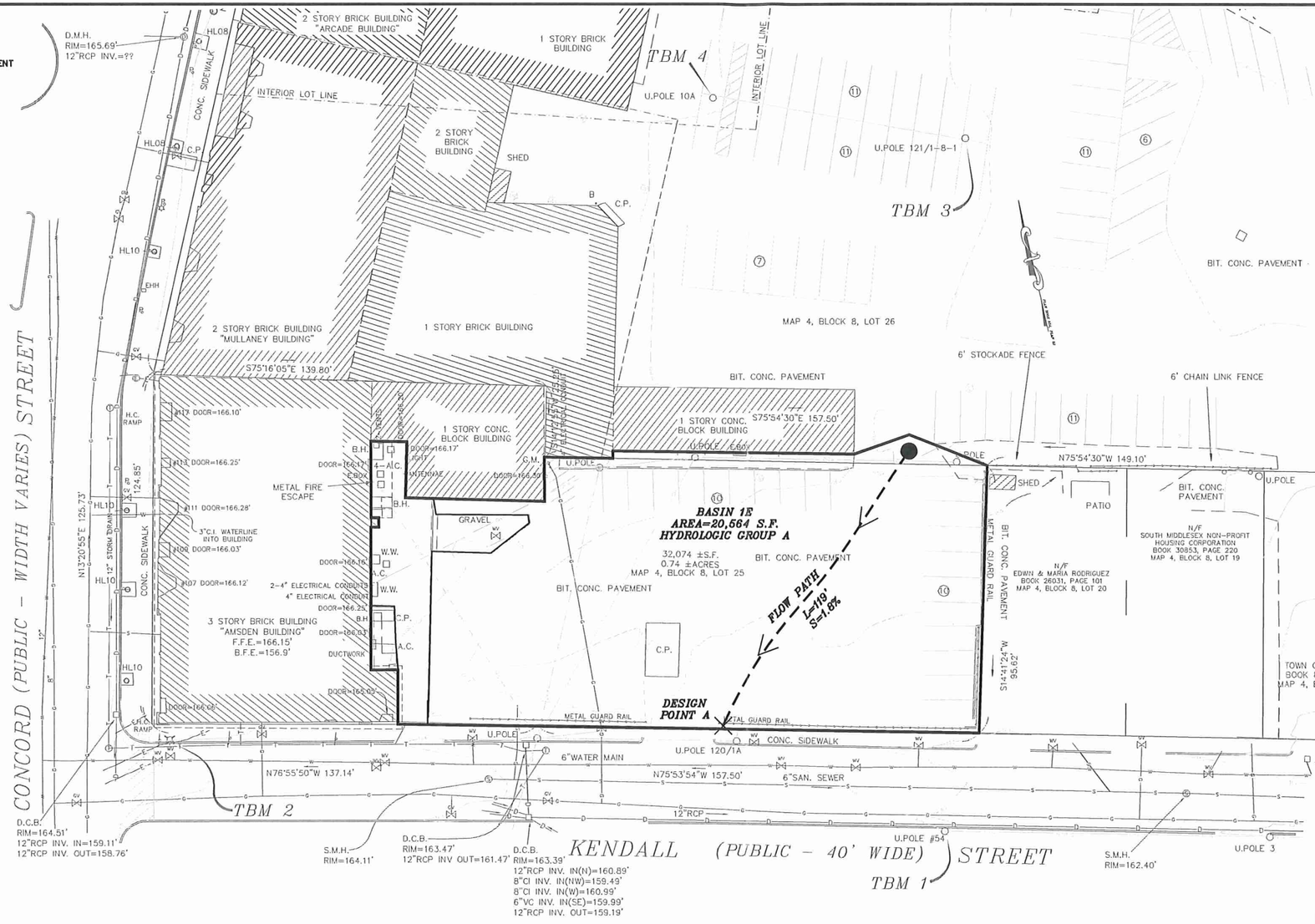
A.C.	AIR CONDITIONER UNIT
B.F.E.	BASEMENT FLOOR ELEVATION
	BERM
BIT. CONC.	BITUMINOUS CONCRETE PAVEMENT
B.W.	BRICK WALK
B.H.	BULKHEAD
CMP	CORRUGATED METAL PIPE
C.O.	CLEAN OUT
C.P.	CONCRETE PAD
C.S.	CONCRETE STEPS
	CURB
	DRAIN CATCH BASIN
-D-	DRAIN LINE
	DRAIN MANHOLE
	DRAIN OUTFALL
D.H.	DRILL HOLE
DI	DUCTILE IRON PIPE
EHH	ELECTRIC HAND HOLE
-E-	ELECTRIC LINE
E.T.	ELECTRIC TRANSFORMER
-o-o-	FENCE
F.F.E.	FIRST FLOOR ELEVATION
F.P.	FLAG POLE
F.M.	FORCE MAIN
(F)	FOUND
-G-	GAS LINE
	GAS GATE
G.M.	GAS METER
Bo	GUARD POST
	HANDICAP PARKING SPACE
	HYDRANT
IP	IRON PIPE
IR	IRON ROD
	LIGHTPOST
L.B.	LOADING BAY
MB	MAILBOX
NL	NAIL
(#)	NUMBER OF PARKING SPACES
	OBSERVATION WELL
-OHW-	OVERHEAD WIRES
PB	PARKING METER
	PAVEMENT EDGE
PIV	POST INDICATOR VALVE
(S)	SET
-S-	SEWER LINE
	SEWER MANHOLE
SIAM	SIAMESE CONNECTION (FIRE)
	SIGN
S.B.	STONE BOUND
T.B.D.	TO BE DETERMINED
	TELEPHONE MANHOLE
-T-	TELEPHONE LINE
	UTILITY MANHOLE
U.POLE	UTILITY POLE
	WATER GATE
-W-	WATER LINE
W.W.	WINDOW WELL
W/	WITH
VGC	VERTICAL GRANITE CURB
VBC	VERTICAL BITUMINOUS CURB
VCC	VERTICAL CONCRETE CURB

TREE LEGEND

⊠	TREE LOCATION
CODE	DESCRIPTION
AE#	AMERICAN ELM
ASH#	ASH
BC#	BLACK CHERRY
BE#	BOX ELDER
CAT#	CATALPA
CRAB#	CRAB APPLE
HL#	HONEY LOCUST
MUL#	MULLBERRY
NM#	NORWAY MAPLE
RM#	RED MAPLE
SE#	SIBERIAN ELM
SIM#	SILVER MAPLE
SM#	SUGAR MAPLE
WL#	WILLOW

DETAIL

TREE LOCATION ⊠ WP10 — TREE CODE — TREE SIZE



CONTRACTOR TO VERIFY ACTUAL LOCATION OF EXISTING UTILITY SERVICES IN THE FIELD PRIOR TO CONSTRUCTION (WATER, ELECTRICAL, ETC.) CALL DIG-SAFE BEFORE YOU DIG 811.

I, _____, CLERK OF THE TOWN OF FRAMINGHAM, RECEIVED AND RECORDED APPROVAL FROM THE PLANNING BOARD OF THIS PLAN ON _____ AND NO APPEAL WAS TAKEN FOR TWENTY (20) DAYS THEREAFTER, SAID TWENTY (20) DAY APPEAL PERIOD ENDED ON _____.

FRAMINGHAM PLANNING BOARD
SITE PLAN REVIEW UNDER SECTION IV. i. 2a

DATE:

THIS ENDORSEMENT OF THE PLANNING BOARD SHOULD NOT BE CONSTRUED TO BE DETERMINATION OF CONFORMANCE WITH ZONING REGULATIONS.

NOTES:

1. SUBJECT PARCEL IS SHOWN AS ASSESSORS SHEET 4, BLOCK 8, LOT 25. RECORD TITLE FROM BOOK 56299, PAGE 286.
2. THIS PLAN IS THE RESULT OF AN ON-GROUND SURVEY PERFORMED BY METROWEST ENGINEERING, INC. UTILITY LOCATIONS ARE BASED ON FIELD OBSERVATIONS, AVAILABLE RECORDS AND INFORMATION. METROWEST ENGINEERING, INC. DOES NOT WARRANT LOCATION, CHARACTER NOR ELEVATIONS OF ALL UNDERGROUND UTILITIES NOR THE LOCATION NOR CHARACTER OF SURFACE IMPROVEMENTS THE OBSERVATION OF WHICH WAS OBSCURED AT THE TIME OF THE SURVEY.
3. CONTRACTOR IS SOLELY RESPONSIBLE FOR ESTABLISHING EXISTING LOCATIONS OF ALL SUB-SURFACE UTILITIES AND REQUIREMENTS TO REPLACE, RELOCATE OR REPAIR EXISTING UTILITIES. MWE IS NOT RESPONSIBLE OR LIABLE FOR DELAYS OR COSTS ASSOCIATED WITH REMOVING/REPLACING/RELOCATING OF EXISTING UTILITIES.
4. THE PROPERTY DESCRIBED ON THIS SURVEY DOES NOT LIE WITHIN A SPECIAL FLOOD HAZARD AREA AS DEFINED BY THE FEDERAL EMERGENCY MANAGEMENT AGENCY; THE PROPERTY LIES WITHIN ZONE "X" OF THE FLOOD INSURANCE RATE MAP IDENTIFIED AS MAP NUMBER 25017C0518E, BEARING AN EFFECTIVE DATE OF JUNE 4, 2010.
5. VERTICAL DATUM IS NAVD88 - CONVERTED FROM NGVD29 TOWN BENCHES USING NGS VERTCON HEIGHT CONVERSION.
6. THE TOTAL NUMBER OF EXISTING PARKING SPACES STRIPED ON ASSESSORS SHEET 4, BLOCK 8, LOT 25 = 20.

ZONING TABLE

CENTRAL BUSINESS DISTRICT

	REQUIRED[1]	EXISTING
AREA	N/A	32,074± S.F.
FRONTAGE	N/A	124.85 FEET
SETBACKS:		
FRONT YARD	10 FEET	-0.3' FEET
SIDE YARD	10 FEET	0.0' FEET
REAR YARD	10 FEET	N/A
BUILDING HEIGHT	80 FEET/6 STORIES	40.7 FEET/3 STORIES
OPEN SPACE	5% MINIMUM	2.5%
LOT COVERAGE	60% MAXIMUM	36.6%
FLOOR AREA RATIO	2.0 MAXIMUM	1.25
**PARKING	77	20
**HANDICAP PARKING	2 SPACES	NONE

[1] THE DIMENSIONAL REQUIREMENTS LISTED ARE FOR PRINCIPAL USE OTHER THAN RESIDENTIAL OR MIXED USE WITHIN THE CENTRAL BUSINESS DISTRICT.

ELEVATION BENCHMARKS

NAVD88 DATUM

NAME	DESCRIPTION	ELEVATION
TBM 1	NAIL 1' UP IN UTILITY POLE #54 KENDALL STREET.	164.04'
TBM 2	SOUTH BONNET BOLT ON HYDRANT AT THE INTERSECTION OF KENDALL STREET AND CONCORD STREET.	167.56'
TBM 3	NAIL 1' UP IN UTILITY POLE #120/1-8-1 IN THE ARCADE PARKING LOT.	166.07'
TBM 4	NAIL 1' UP IN UTILITY POLE #10A IN THE ARCADE PARKING LOT.	167.09'

FOR METROWEST ENGINEERING, INC. DATE
ROBERT A. GEMMA, P.L.S. # 37046
P.E. # 31967 (CIVIL)

GRAPHIC SCALE
1 inch = 20 ft.
20 0 10 20 40 60 (FEET)
5 0 5 10 20 (METERS)

NO.	DATE	DESCRIPTION	BY

PRE-DEVELOPMENT BASIN 1E
(AMSDEN BUILDING)
IN
FRAMINGHAM, MASS
(MIDDLESEX COUNTY)

PREPARED FOR:
V.T.T. MANAGEMENT, INC.
100 CONCORD STREET, THIRD FLOOR
FRAMINGHAM, MA 01702

PROPERTY OF:
VTT FRAMINGHAM RENAISSANCE
100 CONCORD STREET
FRAMINGHAM, MA 01702

ENGINEERS & SURVEYORS:
MWE
METROWEST ENGINEERING, INC.
76 FRANKLIN STREET
FRAMINGHAM, MA 01702
TELE.: (508)628-0063

SHEET 1 OF 2		DATE: FEBRUARY 20, 2013
CALC'D BY: PHA/RAG	FIELD BK: 563, 567	CAD FILE: AMSDEN_PROP_SITE_PLANS.dwg
DRAFTER: JTC/PHA	PROJECT: FRM_FRED	DWG FILE:

FIGURE TWO

LEGEND

A.C.	AIR CONDITIONER UNIT
B.F.E.	BASEMENT FLOOR ELEVATION
	BERM
BIT. CONC.	BITUMINOUS CONCRETE PAVEMENT
B.W.	BRICK WALK
B.H.	BULKHEAD
CMP	CORRUGATED METAL PIPE
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C.S.	CONCRETE STEPS
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□	DRAIN CATCH BASIN
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Ⓓ	DRAIN MANHOLE
—◀	DRAIN OUTFALL
D.H.	DRILL HOLE
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F.M.	FORCE MAIN
(F)	FOUND
—G—	GAS LINE
⊠	GAS GATE
G.M.	GAS METER
B○	GUARD POST
♿	HANDICAP PARKING SPACE
	HYDRANT
IP	IRON PIPE
IR	IRON ROD
LSA	LANDSCAPED AREA
☼	LIGHTPOST
L.B.	LOADING BAY
MB	MAILBOX
NL	NAIL
(18)	NUMBER OF PARKING SPACES
⊙	OBSERVATION WELL
—OHW—	OVERHEAD WIRES
P$_B$	PARKING METER
	PAVEMENT EDGE
PIV	POST INDICATOR VALVE
(S)	SET
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W/	WITH
VGC	VERTICAL GRANITE CURB
VBC	VERTICAL BITUMINOUS CURB
VCC	VERTICAL CONCRETE CURB
(4)	PARKING SPACES–PROPOSED

TREE LEGEND

⊠	TREE LOCATION
CODE	DESCRIPTION
AE#	AMERICAN ELM
ASH#	ASH
BC#	BLACK CHERRY
BE#	BOX ELDER
CAT#	CATALPA
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RM#	RED MAPLE
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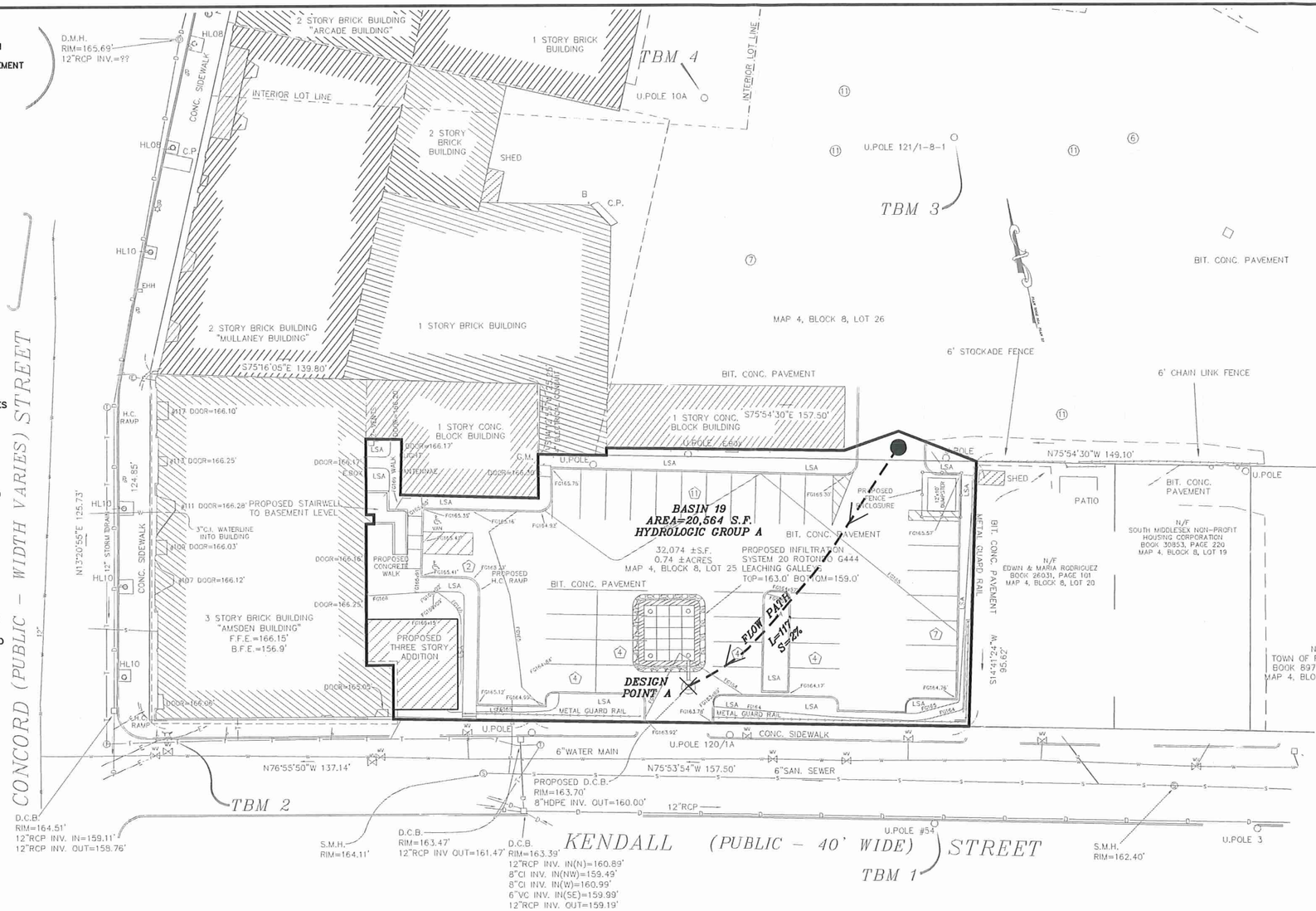
7. SEE ARCHITECTURAL DRAWINGS FOR BUILDING ADDITION DIMENSIONS AND ELEVATIONS.



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FRAMINGHAM PLANNING BOARD
SITE PLAN REVIEW UNDER SECTION IV. i. 2a

_____
_____
_____
_____
_____
_____
_____

DATE: _____

THIS ENDORSEMENT OF THE PLANNING BOARD SHOULD NOT BE CONSTRUED TO BE DETERMINATION OF CONFORMANCE WITH ZONING REGULATIONS.

FOR METROWEST ENGINEERING, INC. *DATE*
ROBERT A. GEMMA, P.L.S. # 37046
P.E. # 31967 (CIVIL)

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(FEET) 0 10 20 40 60
(METERS) 0 4 10 20 30

NO.	DATE	DESCRIPTION	BY

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NAVD88 DATUM

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POST–DEVELOPMENT BASIN 1P
(AMSDEN BUILDING)
IN
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PREPARED FOR:
V.T.T. MANAGEMENT, INC.
100 CONCORD STREET, THIRD FLOOR
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MWE
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TELE.: (508)626–0063

SHEET 2 OF 2		DATE: FEBRUARY 20, 2013
CALC'D BY: PHA/RAG	FIELD BK: 563, 567	CAD FILE: AMSDEN_PROP_SITE_PLANS.dwg
DRAFTER: JTC/PHA	PROJECT: FRM_FRED	DWG FILE:

FIGURE THREE

STORMWATER REPORT INDEX:

CHAPTER 1: HYDROLOGIC ANALYSIS

HYDROLOGIC ANALYSIS:

Proposed Renovations
Amsden Building
101 Concord Street
Framingham, MA

Prepared for: ***VTT Framingham Renaissance***
100 Concord Street
Framingham, MA

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April, 2013

Table of Contents

Hydrologic Analysis
Proposed Renovations
Amsden Building
101 Concord Street
Framingham, MA

Introduction

The Amsden Building is located on 101 Concord Street in Framingham, MA. The property is situated on the easterly sideline of Concord Street and at the intersection of the Kendall Street and Concord Street. The project site is shown in Figure One, entitled *Locus Map: 101 Concord Street, Framingham, MA*.

The parcel has a total area of approximately 0.74 acres and is located in a business district. It is presently improved with a three-story brick building and gravel areas near the rear exit locations of the building. The building is a mixed-use facility, with various businesses operating on the first floor. The second and third floors are presently vacant. A bituminous concrete parking is located at the rear of the building having access off of Kendall Street.

The parking and gravel areas primarily consist of level terrain. A high point exists along the northeast corner of the parking lot. The entire parking lot drains in the southwesterly direction onto Kendall Street. The building downspouts are located within the building and are presumably connected to the municipal drainage system along Concord Street.

According to the NRCS Soil Survey, soils on the site belong to the Urban Land complex (602B). These soil compositions fall under the A hydrologic soil group having an estimated infiltration rate of 8.27 inches/hour.

Existing Conditions

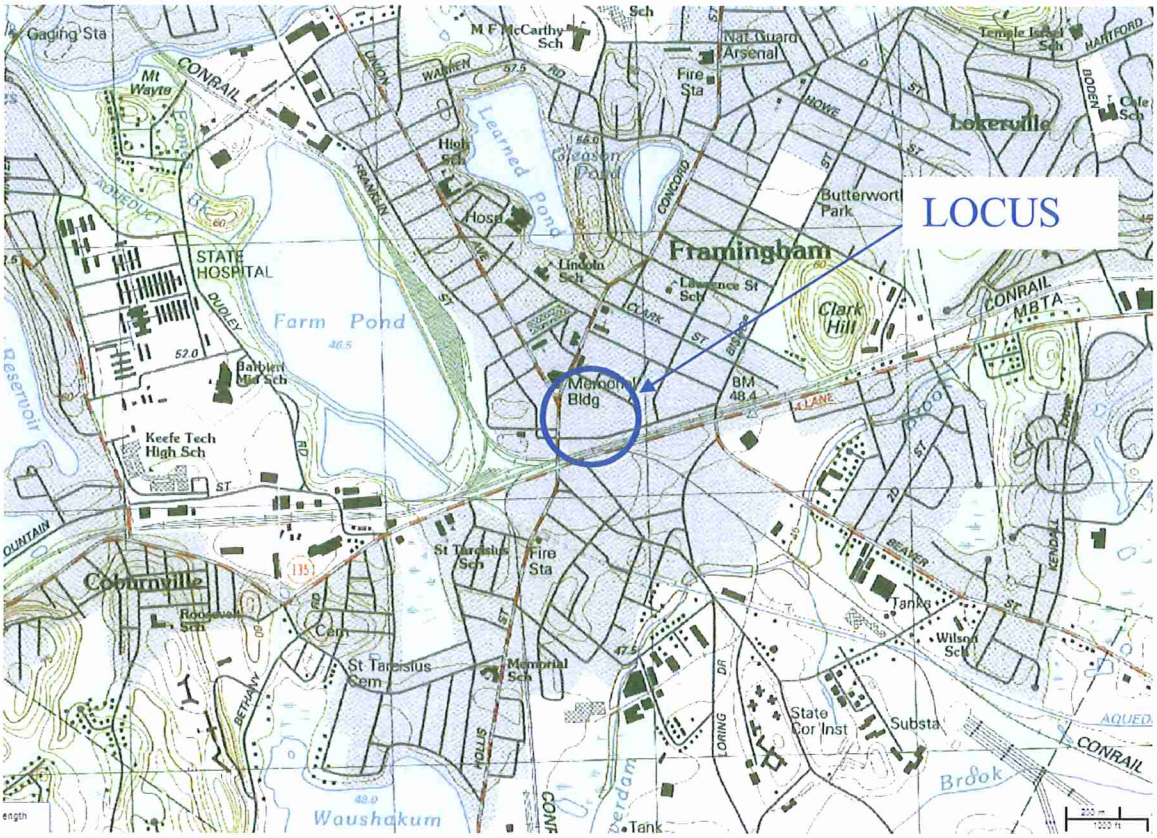
For the purpose of this Hydrologic Analysis, the existing building is being taken out of the model and only the existing rear parking and gravel areas are being analyzed. This area of the site contains approximately 20,564 square feet. As mentioned above, the site primarily drains in the southwesterly direction onto Kendall Street. There are presently no stormwater controls on the site; runoff is primarily in the form of sheet flow.

Existing gravel areas located along the rear exit locations of the building account for approximately 10-percent of the rear parking area. The remaining area consists of the bituminous parking having a total impervious surface area of approximately 18,396 square feet.

Proposed Redevelopment

The project involves the construction of a 966 s.f. addition to the rear of the building and reconstructing the existing parking area. The second and third floors of the building will be converted into 21, one-bedroom apartments and three two-bedroom apartments. A

FIGURE ONE:
LOCUS MAP:
101 Concord Street, Framingham, MA



total of 36 parking spaces will be added along with various landscaped areas. A catch basin and a sub-surface drainage infiltration system are also being proposed with the project. The proposed impervious surfaces will have an area of 16,072 square feet which is a decrease of 2,324 square feet over the existing conditions.

Drainage Approach

The stormwater management approach for the project is to utilize an infiltration system to recharge groundwater with runoff collected from the parking surface. The infiltration system consists of a series of pre-cast concrete chambers, each with nominal dimensions of four-feet wide by four-feet long by four-feet high. The system has been designed to fully infiltrate and store up to and including the 2-year storm event. Under the larger storm events, the system will overflow and runoff will be directed onto Kendall Street.

Hydrologic Analysis

A hydrologic analysis of the project has been performed to establish pre-development runoff response, assess post-development impacts and evaluate the effectiveness of the proposed drainage infiltration systems. The analysis employs an SCS TR-20 hydrologic computer model and analyzes design storms with return periods of 2, 10, 25, and 100-years. An SCS Type-3 24-hour storm distribution pattern is used for the theoretical design storm. Times of concentration values were computed by the LAG short method and manually entered at five minutes for watersheds containing small areas or hydraulic length to allow for the use of a three-minute time interval for all hydrograph computations. Longest flow path segment properties for both pre and post-development models are shown on Figures Two and Three respectively.

Existing Condition

The existing condition model consists of Sub-basin 1E. Basin 1E contains 0.47 acres with runoff directed overland in the southwesterly direction toward Design Point 1, at Kendall Street. The specific basin modeling parameters are as follows:

Sub-basin 1E

Area = 20,564 square feet (0.47 acres)
Gravel, Group A Soils = 2,087 square feet (CN=85)
Impervious Area = 18,396 square feet (CN=98)
Weighted CN = 96.6
Basin slope = 1.8%
Flow path = 119-feet
Time of concentration = 5.0 minutes (manually set)

The Pre-Development Basins 1E can be seen in Figure Two.

Proposed Condition

The proposed condition consists of Sub-Basin 1P. Basin 1P contains 0.47 acres with runoff directed overland in the southwesterly direction toward Design Point 1, the proposed catch-basin near Kendall Street entrance/exit. The specific basin modeling parameters are as follows:

Sub-basin 1P

Area = 20,564 square feet (0.47 acres)
Grass, Good Condition, Group A Soils = 4,492 square feet (CN=39)
Impervious Area = 16,072 square feet (CN=98)
Weighted CN = 85.1
Basin slope = 2.0%
Flow path = 117-feet
Time of concentration = 5.0 minutes (manually set)

Infiltration System

Impervious Area =16,072 S.F.
Infiltration rate = 8.27 inches per hour
Chambers: 20 pre-cast chambers, 4-ft long by 4-ft wide by 4-ft high
Bottom area = 320 square feet
Storage capacity = 320 CF per foot of height or 1,280 cubic feet total

The proposed condition model analyzes the infiltration systems using a reservoir-analysis method. Consistent with DEP stormwater management standards, a value of 8.27-inches per hour (sandy soils) was used as the design infiltration rate for the proposed infiltration system. Design infiltration rates are based on the Rawls table for soils with sand textures.

The Post-Development Basins 1P can be seen in Figure Three.

Model Results

The model result for peak runoff rates at the Design Point 1, at Kendall Street, is shown in Tables One. Table Two presents the model results for the total runoff volume at Design Point 1 under pre- and post-development conditions.

Table One: Comparison of Total Peak Runoff Rates for pre- and post-development conditions at Design Point 1, at Kendall Street.

Site Condition	2-year storm	10-year storm	25-year storm	100-year storm
Pre-Development	1.2 CFS	1.8 CFS	2.1 CFS	2.7 CFS
Post-Development	0.0 CFS	0.4 CFS	1.0 CFS	1.7 CFS

Table Two: Comparison of Total Runoff Volumes for pre- and post-development conditions at Design Point 1, at Kendall Street.

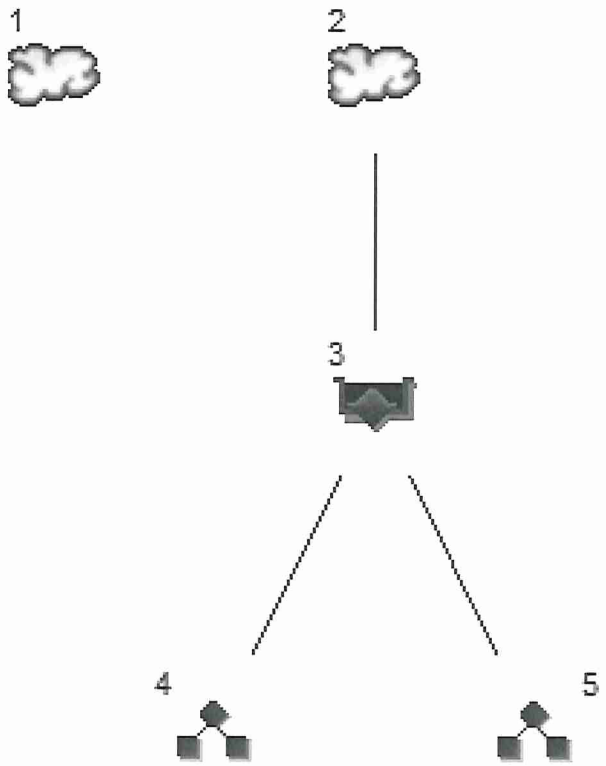
Site Condition	2-year storm	10-year storm	25-year storm	100-year storm
Pre-Development	4,500 CF	6,723 CF	7,996 CF	10,069 CF
Post-Development	0 CF	405 CF	968 CF	1,999 CF
Post-development reduction in runoff volume – increase in Recharge Volume.	4,500 CF	6,318 CF	7,028 CF	8,070 CF

Conclusion

The results provided in Tables One & Two demonstrate that the project will result in a net decrease in peak runoff rates as well as peak runoff volumes in the post-development condition than in the pre-development condition during the 2-year, 10-year, 25-year and 100-year storm events. The proposed development will effectively manage stormwater runoff and will not result in any adverse or negative impacts to receiving waters, abutters or down-gradient property owners.

Appendix A:
Hydrologic Assessment

Table of Contents



Legend

Hyd.	Origin	Description
1	SCS Runoff	Pre-Development Basin 1E
2	SCS Runoff	Post--Development Basin 1P
3	Reservoir	Galleys
4	Diversion1	Overflow
5	Diversion2	Infiltration

Hydrograph Return Period Recap

Hyd. No.	Hydrograph type (origin)	Inflow Hyd(s)	Peak Outflow (cfs)								Hydrograph description
			1-Yr	2-Yr	3-Yr	5-Yr	10-Yr	25-Yr	50-Yr	100-Yr	
1	SCS Runoff	-------	-------	1.24	-------	-------	1.81	2.13	-------	2.66	Pre-Development Basin 1E
2	SCS Runoff	-------	-------	0.70	-------	-------	1.19	1.47	-------	1.93	Post--Development Basin 1P
3	Reservoir	2	-------	0.10	-------	-------	0.50	1.12	-------	1.79	Galleys
4	Diversion1	3	-------	0.00	-------	-------	0.38	1.00	-------	1.67	Overflow
5	Diversion2	3	-------	0.10	-------	-------	0.12	0.12	-------	0.13	Infiltration

2-Year Storm, Pre and Post-Development

Hydrograph Summary Report

Hyd. No.	Hydrograph type (origin)	Peak flow (cfs)	Time interval (min)	Time to peak (min)	Volume (cuft)	Inflow hyd(s)	Maximum elevation (ft)	Maximum storage (cuft)	Hydrograph description
1	SCS Runoff	1.24	3	726	4,500	----	------	------	Pre-Development Basin 1E
2	SCS Runoff	0.70	3	726	2,343	----	------	------	Post--Development Basin 1P
3	Reservoir	0.10	3	762	2,342	2	161.73	875	Galleys
4	Diversion1	0.00	3	0	0	3	------	------	Overflow
5	Diversion2	0.10	3	762	2,342	3	------	------	Infiltration

Hydrograph Plot

Hydraflow Hydrographs by Intelisolve

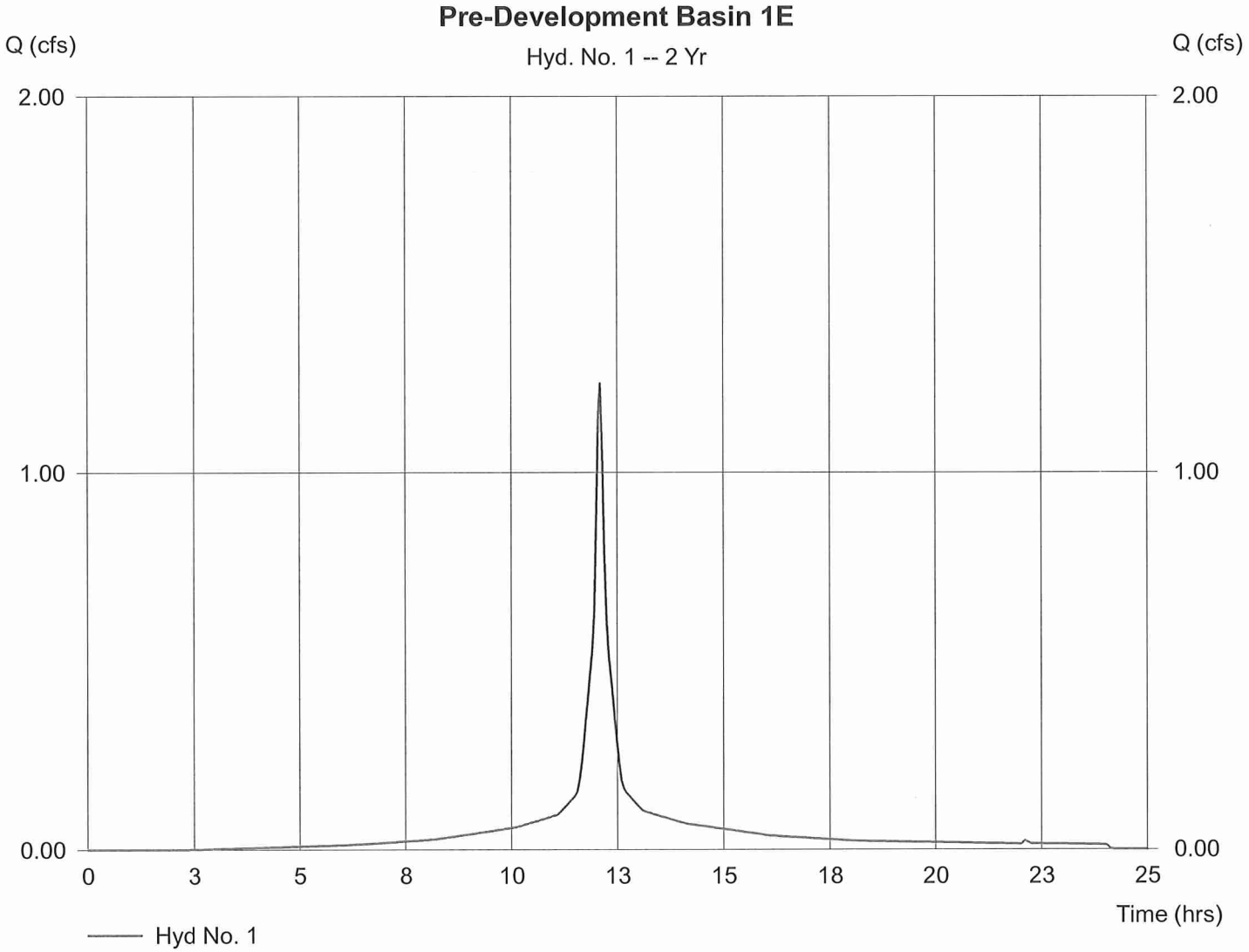
Wednesday, May 8 2013, 12:17 PM

Hyd. No. 1

Pre-Development Basin 1E

Hydrograph type	= SCS Runoff	Peak discharge	= 1.24 cfs
Storm frequency	= 2 yrs	Time interval	= 3 min
Drainage area	= 0.47 ac	Curve number	= 96.6
Basin Slope	= 1.8 %	Hydraulic length	= 119 ft
Tc method	= USER	Time of conc. (Tc)	= 5 min
Total precip.	= 3.20 in	Distribution	= Type III
Storm duration	= 24 hrs	Shape factor	= 484

Hydrograph Volume = 4,500 cuft



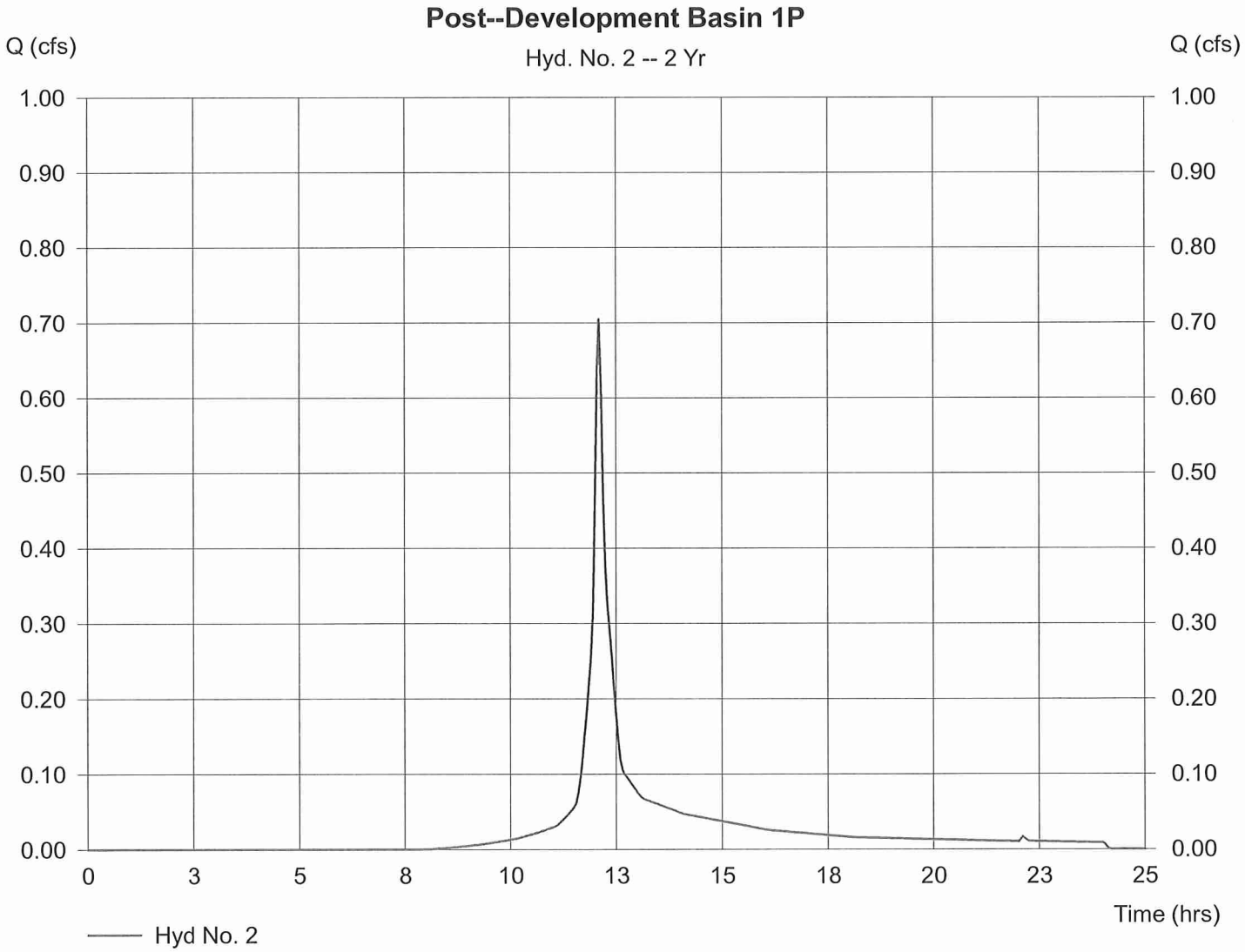
Hydrograph Plot

Hyd. No. 2

Post--Development Basin 1P

Hydrograph type	= SCS Runoff	Peak discharge	= 0.70 cfs
Storm frequency	= 2 yrs	Time interval	= 3 min
Drainage area	= 0.39 ac	Curve number	= 85.1
Basin Slope	= 2.0 %	Hydraulic length	= 117 ft
Tc method	= USER	Time of conc. (Tc)	= 5 min
Total precip.	= 3.20 in	Distribution	= Type III
Storm duration	= 24 hrs	Shape factor	= 484

Hydrograph Volume = 2,343 cuft



Hydrograph Plot

Hydraflow Hydrographs by Intelisolve

Wednesday, May 8 2013, 12:17 PM

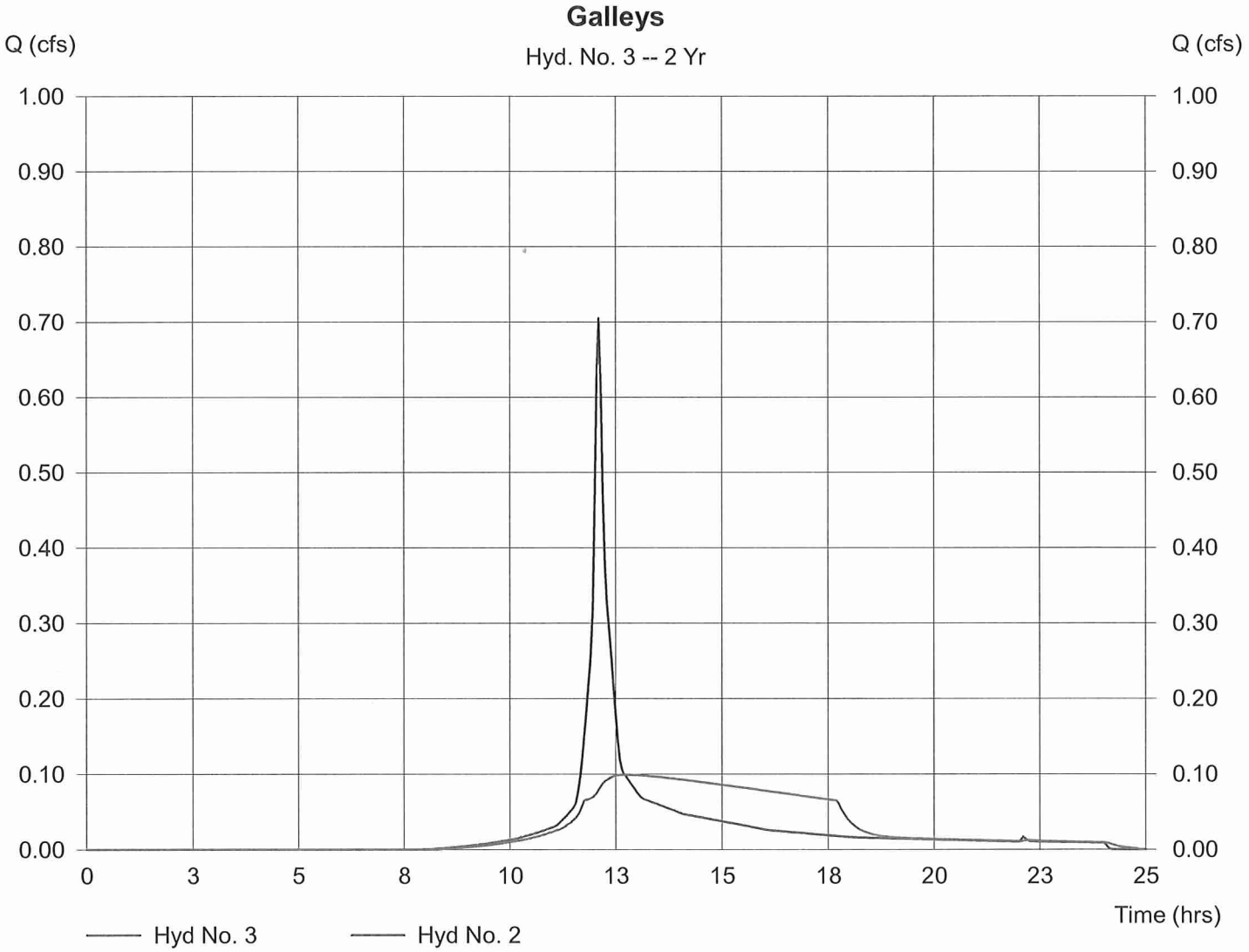
Hyd. No. 3

Galleys

Hydrograph type	= Reservoir	Peak discharge	= 0.10 cfs
Storm frequency	= 2 yrs	Time interval	= 3 min
Inflow hyd. No.	= 2	Max. Elevation	= 161.73 ft
Reservoir name	= Infiltration System	Max. Storage	= 875 cuft

Storage Indication method used.

Hydrograph Volume = 2,342 cuft



Pond Report

Pond No. 1 - Infiltration System

Pond Data

Bottom LxW = 20.0 x 16.0 ft Side slope = 0.0:1 Bottom elev. = 159.00 ft Depth = 5.00 ft

Stage / Storage Table

Stage (ft)	Elevation (ft)	Contour area (sqft)	Incr. Storage (cuft)	Total storage (cuft)
0.00	159.00	320	0	0
0.25	159.25	320	80	80
0.50	159.50	320	80	160
0.75	159.75	320	80	240
1.00	160.00	320	80	320
1.25	160.25	320	80	400
1.50	160.50	320	80	480
1.75	160.75	320	80	560
2.00	161.00	320	80	640
2.25	161.25	320	80	720
2.50	161.50	320	80	800
2.75	161.75	320	80	880
3.00	162.00	320	80	960
3.25	162.25	320	80	1,040
3.50	162.50	320	80	1,120
3.75	162.75	320	80	1,200
4.00	163.00	320	80	1,280
4.25	163.25	320	80	1,360
4.50	163.50	320	80	1,440
4.75	163.75	320	80	1,520
5.00	164.00	320	80	1,600

Culvert / Orifice Structures

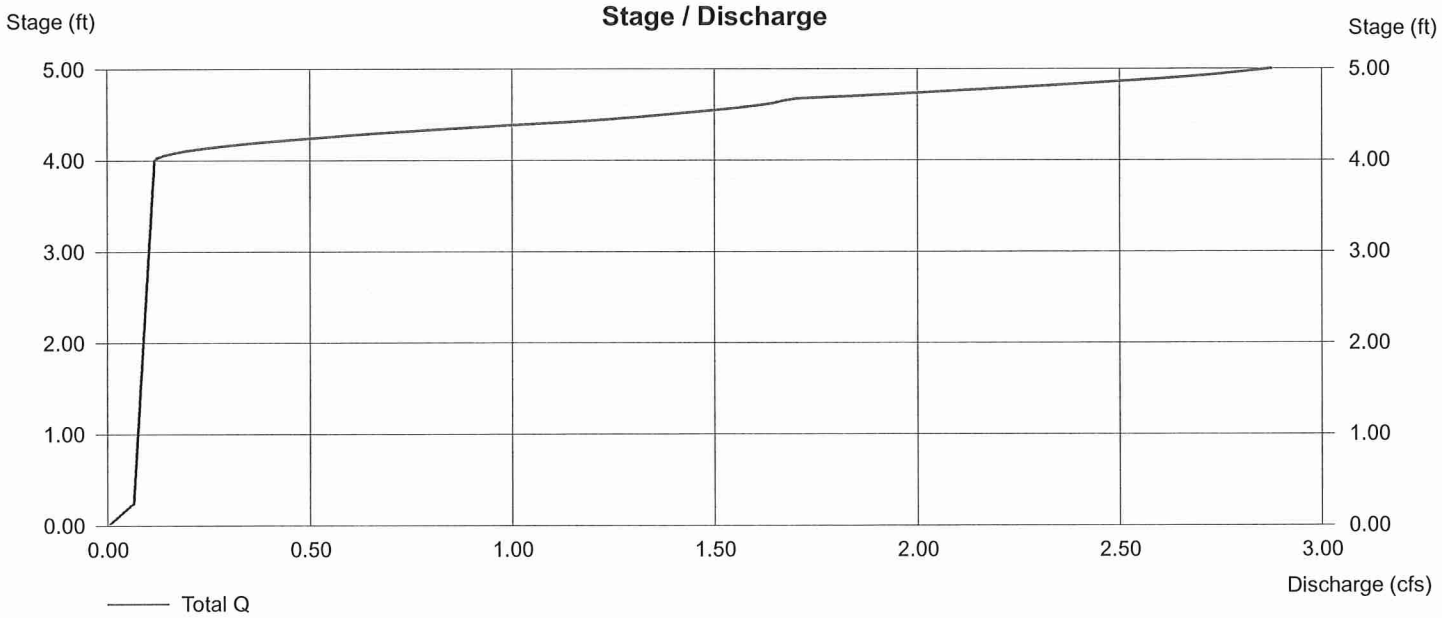
	[A]	[B]	[C]	[D]
Rise (in)	= 8.00	0.00	0.00	0.00
Span (in)	= 8.00	0.00	0.00	0.00
No. Barrels	= 2	0	0	0
Invert El. (ft)	= 163.00	0.00	0.00	0.00
Length (ft)	= 7.00	0.00	0.00	0.00
Slope (%)	= 2.00	0.00	0.00	0.00
N-Value	= .013	.000	.000	.000
Orif. Coeff.	= 0.60	0.00	0.00	0.00
Multi-Stage	= n/a	No	No	No

Weir Structures

	[A]	[B]	[C]	[D]
Crest Len (ft)	= 0.00	0.00	0.00	0.00
Crest El. (ft)	= 0.00	0.00	0.00	0.00
Weir Coeff.	= 0.00	0.00	0.00	0.00
Weir Type	= ---	---	---	---
Multi-Stage	= No	No	No	No

Exfiltration = 8.270 in/hr (Wet area) Tailwater Elev. = 0.00 ft

Note: Culvert/Orifice outflows have been analyzed under inlet and outlet control.



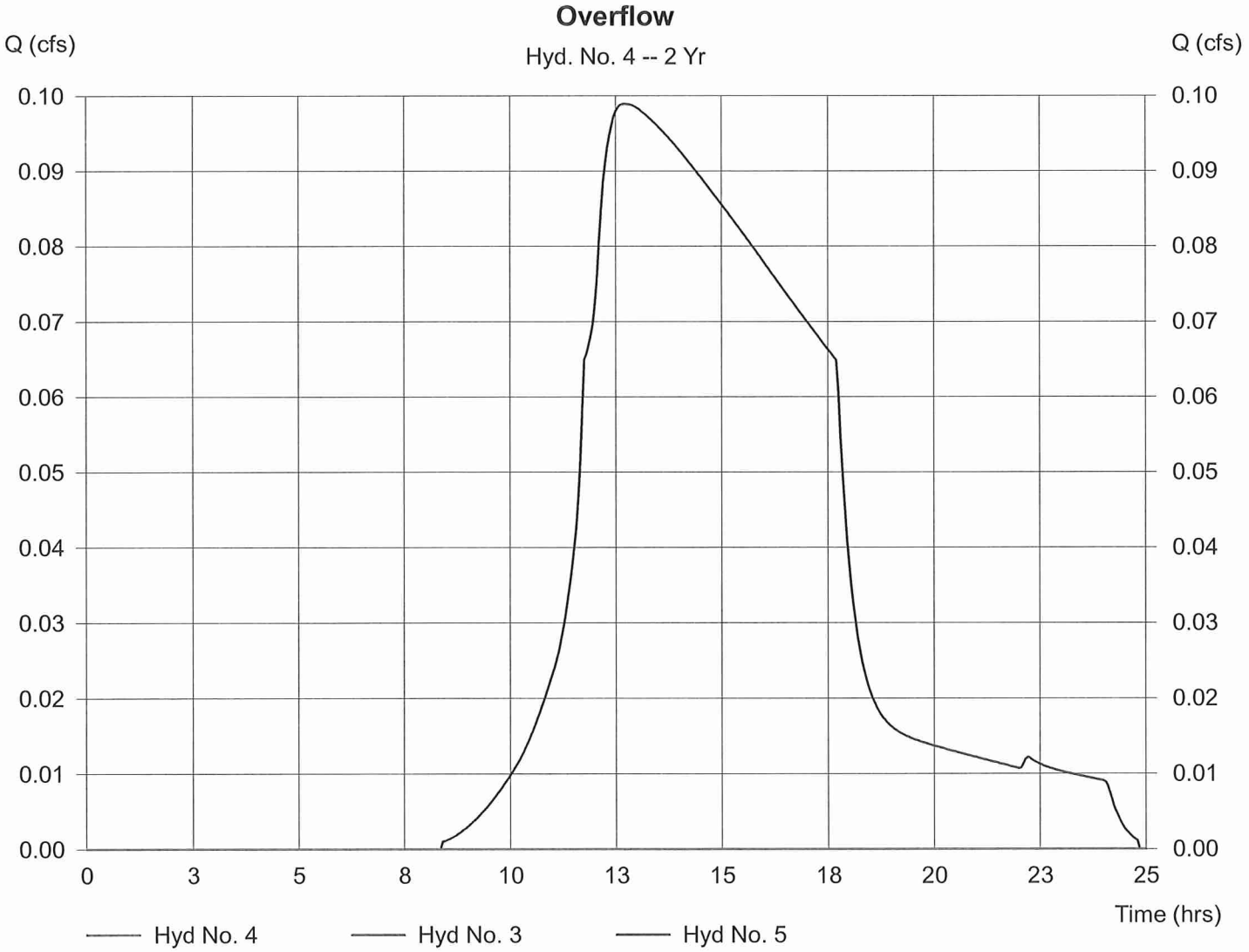
Hydrograph Plot

Hyd. No. 4

Overflow

Hydrograph type	= Diversion1	Peak discharge	= 0.00 cfs
Storm frequency	= 2 yrs	Time interval	= 3 min
Inflow hydrograph	= 3	2nd diverted hyd.	= 5
Diversion method	= Pond - Infiltration System	Pond structure	= Culv/Orf A

Hydrograph Volume = 0 cuft



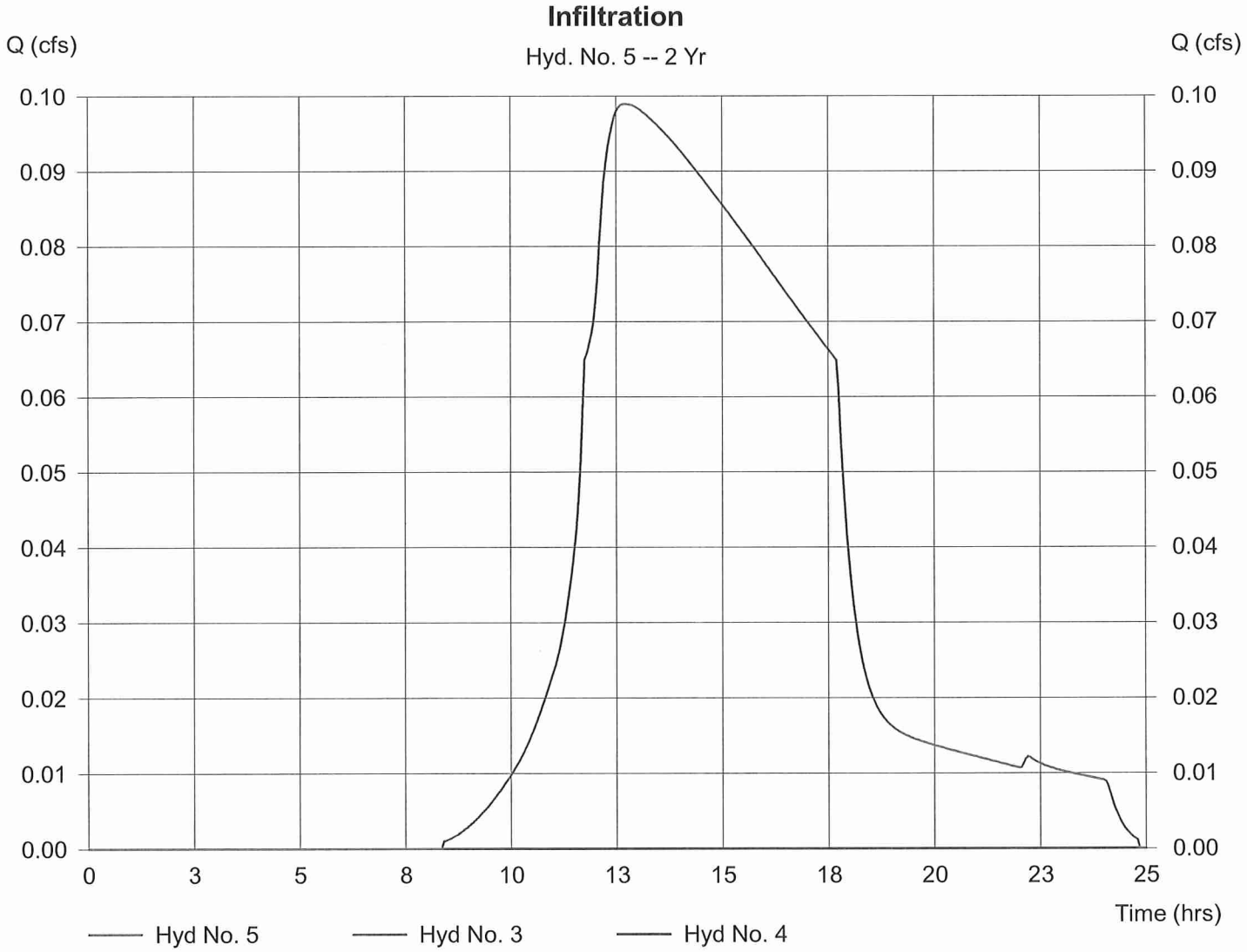
Hydrograph Plot

Hyd. No. 5

Infiltration

Hydrograph type	= Diversion2	Peak discharge	= 0.10 cfs
Storm frequency	= 2 yrs	Time interval	= 3 min
Inflow hydrograph	= 3	2nd diverted hyd.	= 4
Diversion method	= Pond - Infiltration System	Pond structure	= Culv/Orf A

Hydrograph Volume = 2,342 cuft



10-Year Storm, Pre and Post-Development

Hydrograph Summary Report

Hyd. No.	Hydrograph type (origin)	Peak flow (cfs)	Time interval (min)	Time to peak (min)	Volume (cuft)	Inflow hyd(s)	Maximum elevation (ft)	Maximum storage (cuft)	Hydrograph description
1	SCS Runoff	1.81	3	726	6,723	----	------	------	Pre-Development Basin 1E
2	SCS Runoff	1.19	3	726	3,995	----	------	------	Post--Development Basin 1P
3	Reservoir	0.50	3	741	3,993	2	163.24	1,357	Galleys
4	Diversion1	0.38	3	741	405	3	------	------	Overflow
5	Diversion2	0.12	3	741	3,589	3	------	------	Infiltration

Hydrograph Plot

Hydraflow Hydrographs by Intelisolve

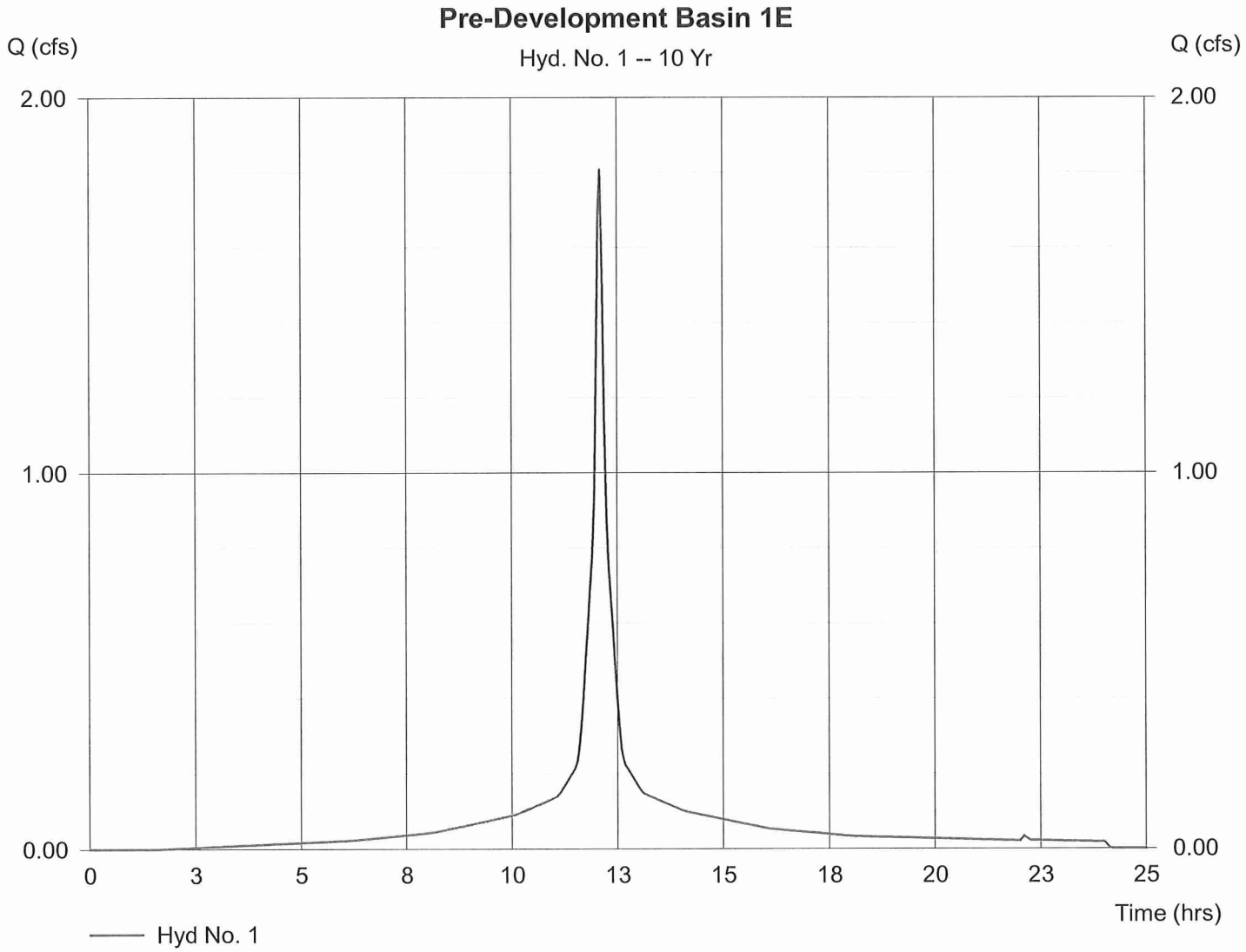
Wednesday, May 8 2013, 12:17 PM

Hyd. No. 1

Pre-Development Basin 1E

Hydrograph type	= SCS Runoff	Peak discharge	= 1.81 cfs
Storm frequency	= 10 yrs	Time interval	= 3 min
Drainage area	= 0.47 ac	Curve number	= 96.6
Basin Slope	= 1.8 %	Hydraulic length	= 119 ft
Tc method	= USER	Time of conc. (Tc)	= 5 min
Total precip.	= 4.60 in	Distribution	= Type III
Storm duration	= 24 hrs	Shape factor	= 484

Hydrograph Volume = 6,723 cuft



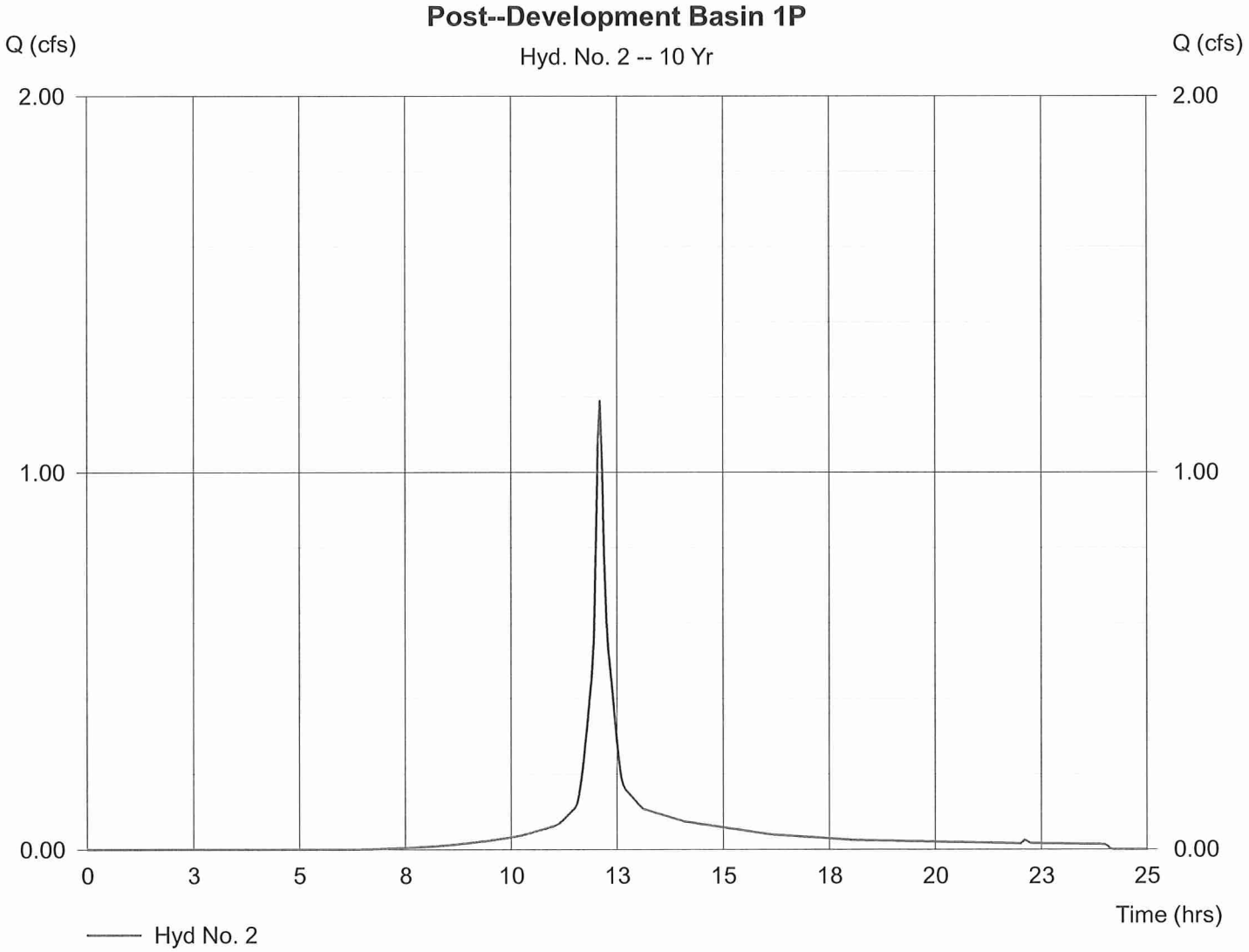
Hydrograph Plot

Hyd. No. 2

Post--Development Basin 1P

Hydrograph type	= SCS Runoff	Peak discharge	= 1.19 cfs
Storm frequency	= 10 yrs	Time interval	= 3 min
Drainage area	= 0.39 ac	Curve number	= 85.1
Basin Slope	= 2.0 %	Hydraulic length	= 117 ft
Tc method	= USER	Time of conc. (Tc)	= 5 min
Total precip.	= 4.60 in	Distribution	= Type III
Storm duration	= 24 hrs	Shape factor	= 484

Hydrograph Volume = 3,995 cuft



Hydrograph Plot

Hydraflow Hydrographs by Intelisolve

Wednesday, May 8 2013, 12:17 PM

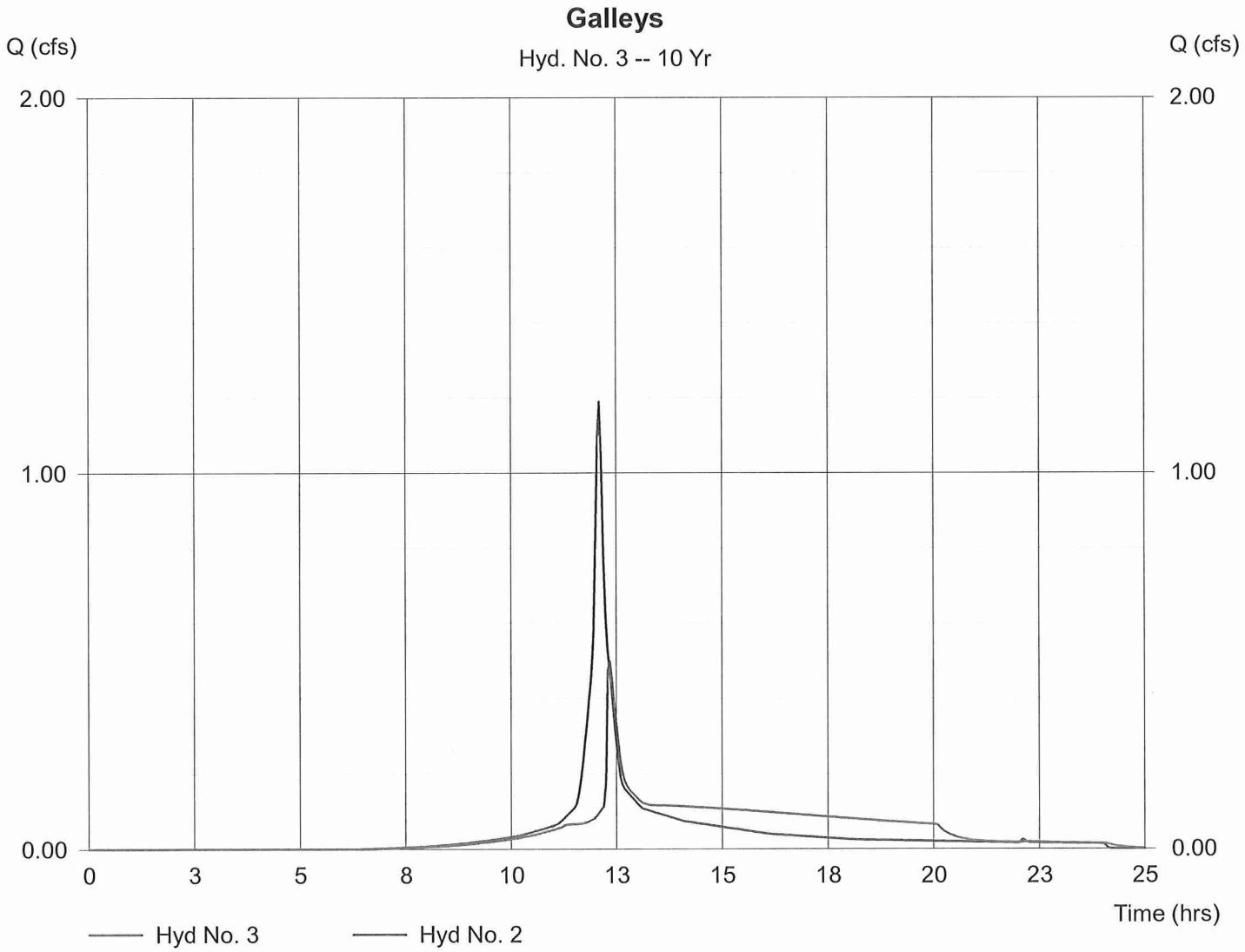
Hyd. No. 3

Galleys

Hydrograph type	= Reservoir	Peak discharge	= 0.50 cfs
Storm frequency	= 10 yrs	Time interval	= 3 min
Inflow hyd. No.	= 2	Max. Elevation	= 163.24 ft
Reservoir name	= Infiltration System	Max. Storage	= 1,357 cuft

Storage Indication method used.

Hydrograph Volume = 3,993 cuft



Pond Report

Pond No. 1 - Infiltration System

Pond Data

Bottom LxW = 20.0 x 16.0 ft Side slope = 0.0:1 Bottom elev. = 159.00 ft Depth = 5.00 ft

Stage / Storage Table

Stage (ft)	Elevation (ft)	Contour area (sqft)	Incr. Storage (cuft)	Total storage (cuft)
0.00	159.00	320	0	0
0.25	159.25	320	80	80
0.50	159.50	320	80	160
0.75	159.75	320	80	240
1.00	160.00	320	80	320
1.25	160.25	320	80	400
1.50	160.50	320	80	480
1.75	160.75	320	80	560
2.00	161.00	320	80	640
2.25	161.25	320	80	720
2.50	161.50	320	80	800
2.75	161.75	320	80	880
3.00	162.00	320	80	960
3.25	162.25	320	80	1,040
3.50	162.50	320	80	1,120
3.75	162.75	320	80	1,200
4.00	163.00	320	80	1,280
4.25	163.25	320	80	1,360
4.50	163.50	320	80	1,440
4.75	163.75	320	80	1,520
5.00	164.00	320	80	1,600

Culvert / Orifice Structures

	[A]	[B]	[C]	[D]
Rise (in)	= 8.00	0.00	0.00	0.00
Span (in)	= 8.00	0.00	0.00	0.00
No. Barrels	= 2	0	0	0
Invert El. (ft)	= 163.00	0.00	0.00	0.00
Length (ft)	= 7.00	0.00	0.00	0.00
Slope (%)	= 2.00	0.00	0.00	0.00
N-Value	= .013	.000	.000	.000
Orif. Coeff.	= 0.60	0.00	0.00	0.00
Multi-Stage	= n/a	No	No	No

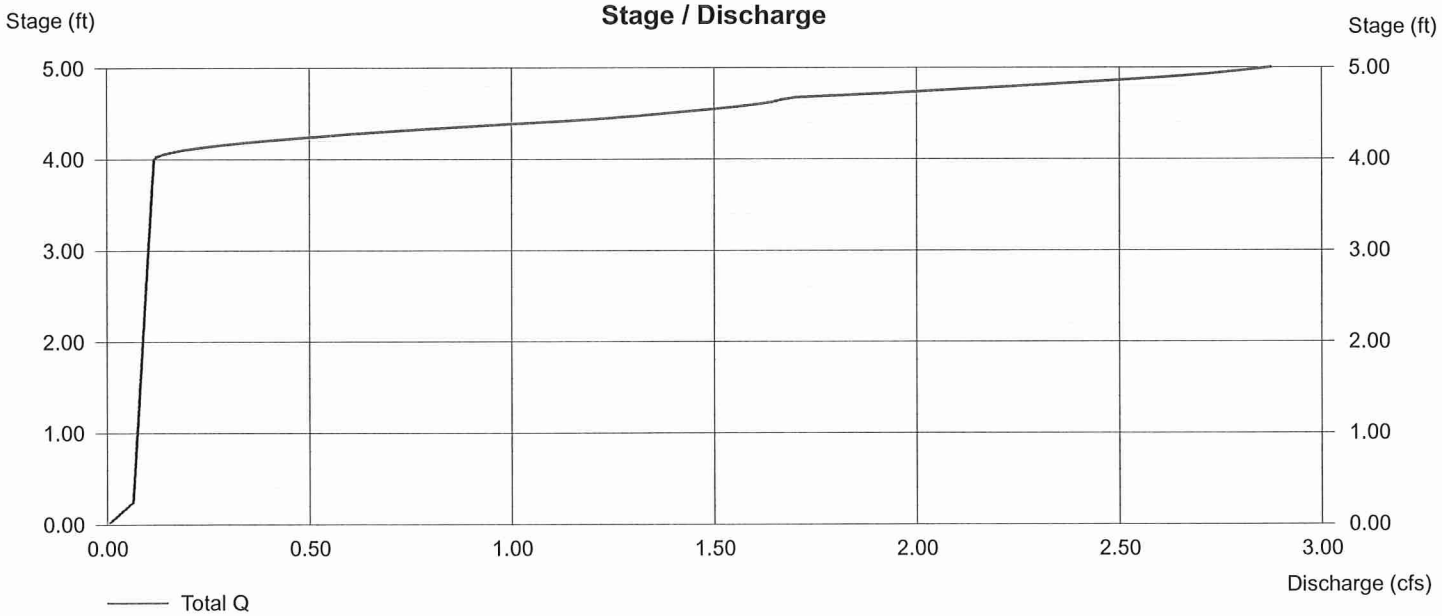
Weir Structures

	[A]	[B]	[C]	[D]
Crest Len (ft)	= 0.00	0.00	0.00	0.00
Crest El. (ft)	= 0.00	0.00	0.00	0.00
Weir Coeff.	= 0.00	0.00	0.00	0.00
Weir Type	= ---	---	---	---
Multi-Stage	= No	No	No	No

Exfiltration = 8.270 in/hr (Wet area) Tailwater Elev. = 0.00 ft

Note: Culvert/Orifice outflows have been analyzed under inlet and outlet control.

Stage / Discharge



Hydrograph Plot

Hydraflow Hydrographs by Intelisolve

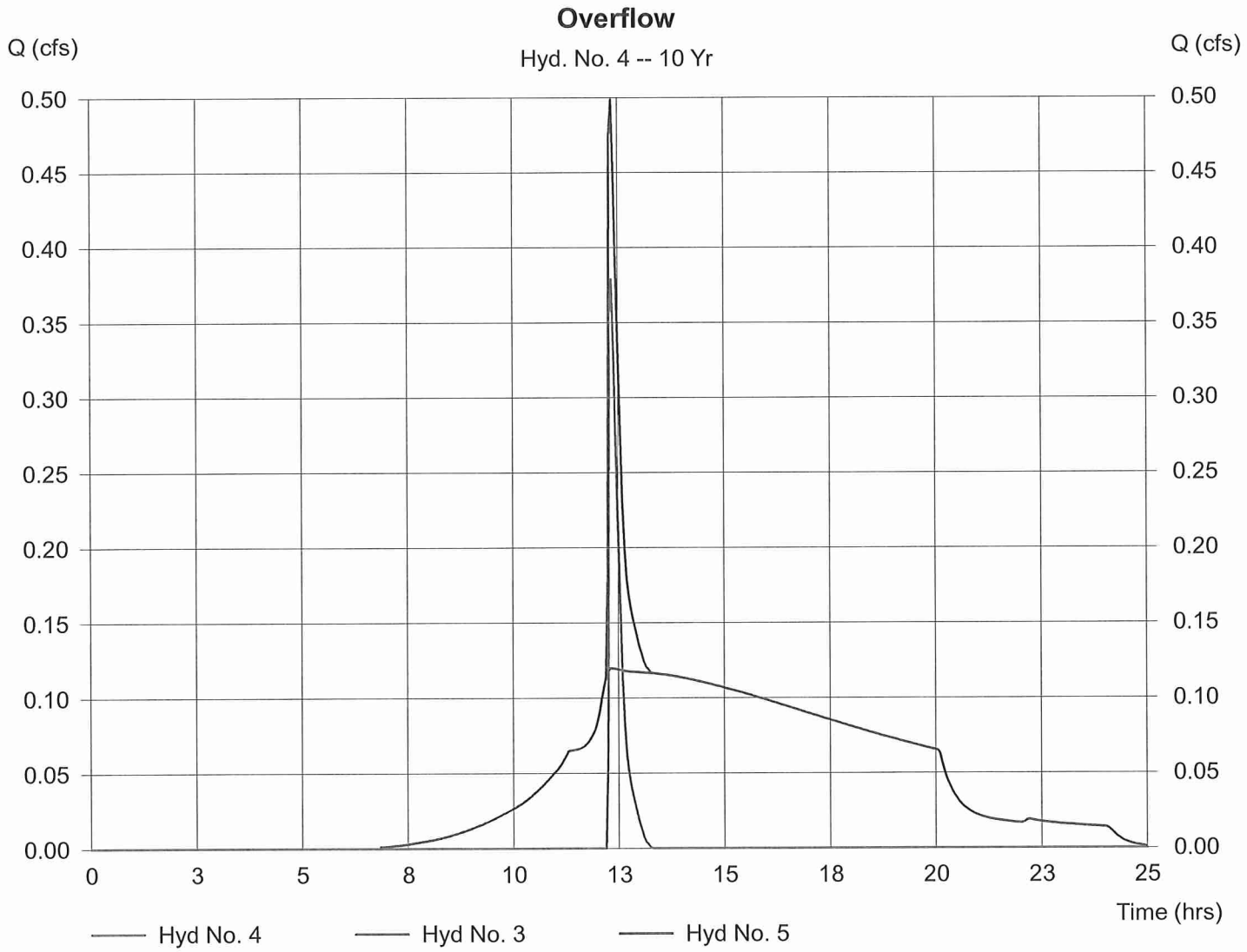
Wednesday, May 8 2013, 12:17 PM

Hyd. No. 4

Overflow

Hydrograph type	= Diversion1	Peak discharge	= 0.38 cfs
Storm frequency	= 10 yrs	Time interval	= 3 min
Inflow hydrograph	= 3	2nd diverted hyd.	= 5
Diversion method	= Pond - Infiltration System	Pond structure	= Culv/Orf A

Hydrograph Volume = 405 cuft



Hydrograph Plot

Hydraflow Hydrographs by Intelisolve

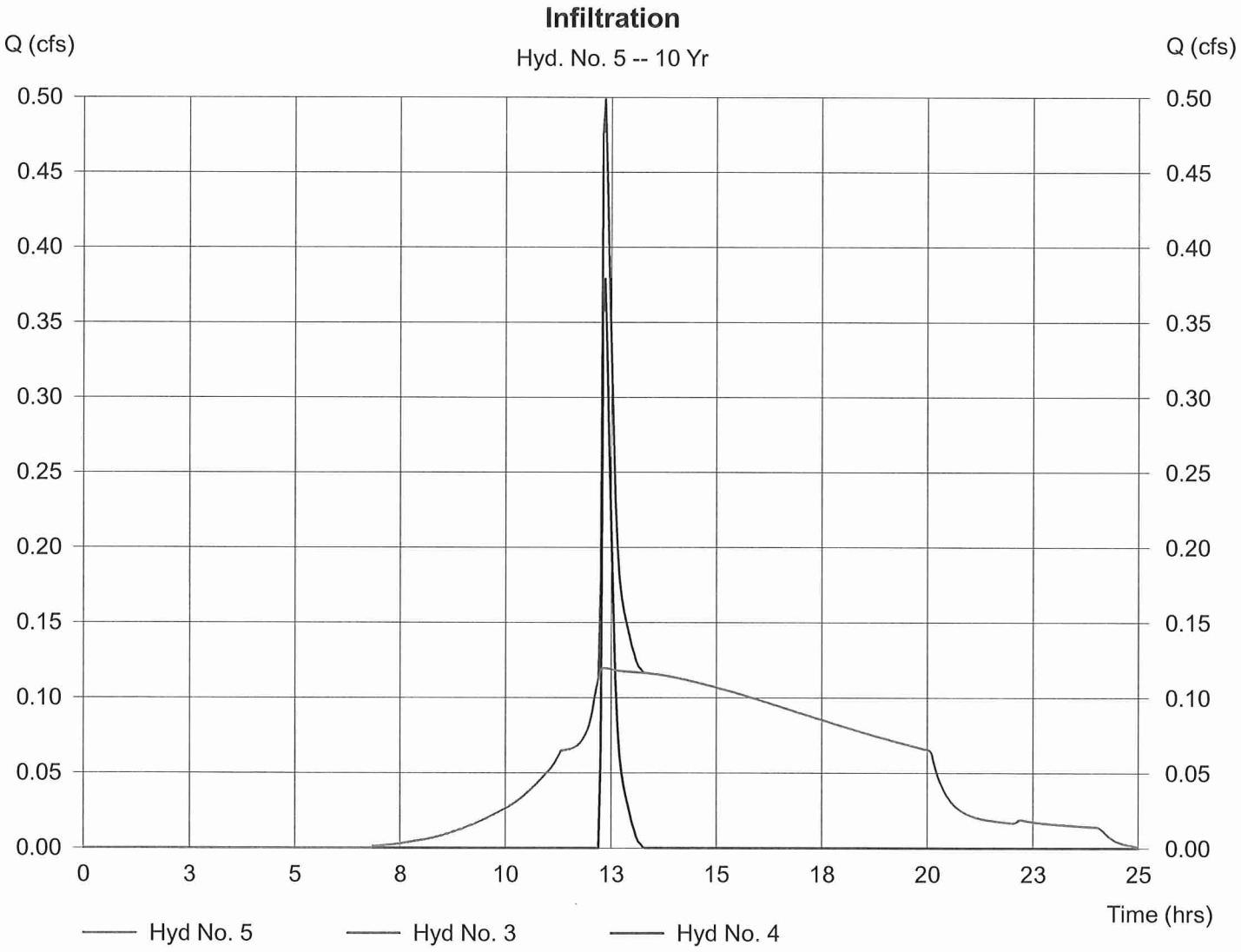
Wednesday, May 8 2013, 12:17 PM

Hyd. No. 5

Infiltration

Hydrograph type	= Diversion2	Peak discharge	= 0.12 cfs
Storm frequency	= 10 yrs	Time interval	= 3 min
Inflow hydrograph	= 3	2nd diverted hyd.	= 4
Diversion method	= Pond - Infiltration System	Pond structure	= Culv/Orf A

Hydrograph Volume = 3,589 cuft



25-Year Storm, Pre and Post-Development

Hydrograph Summary Report

Hyd. No.	Hydrograph type (origin)	Peak flow (cfs)	Time interval (min)	Time to peak (min)	Volume (cuft)	Inflow hyd(s)	Maximum elevation (ft)	Maximum storage (cuft)	Hydrograph description
1	SCS Runoff	2.13	3	726	7,996	----	------	------	Pre-Development Basin 1E
2	SCS Runoff	1.47	3	726	4,977	----	------	------	Post--Development Basin 1P
3	Reservoir	1.12	3	732	4,976	2	163.41	1,412	Galleys
4	Diversion1	1.00	3	732	968	3	------	------	Overflow
5	Diversion2	0.12	3	732	4,007	3	------	------	Infiltration

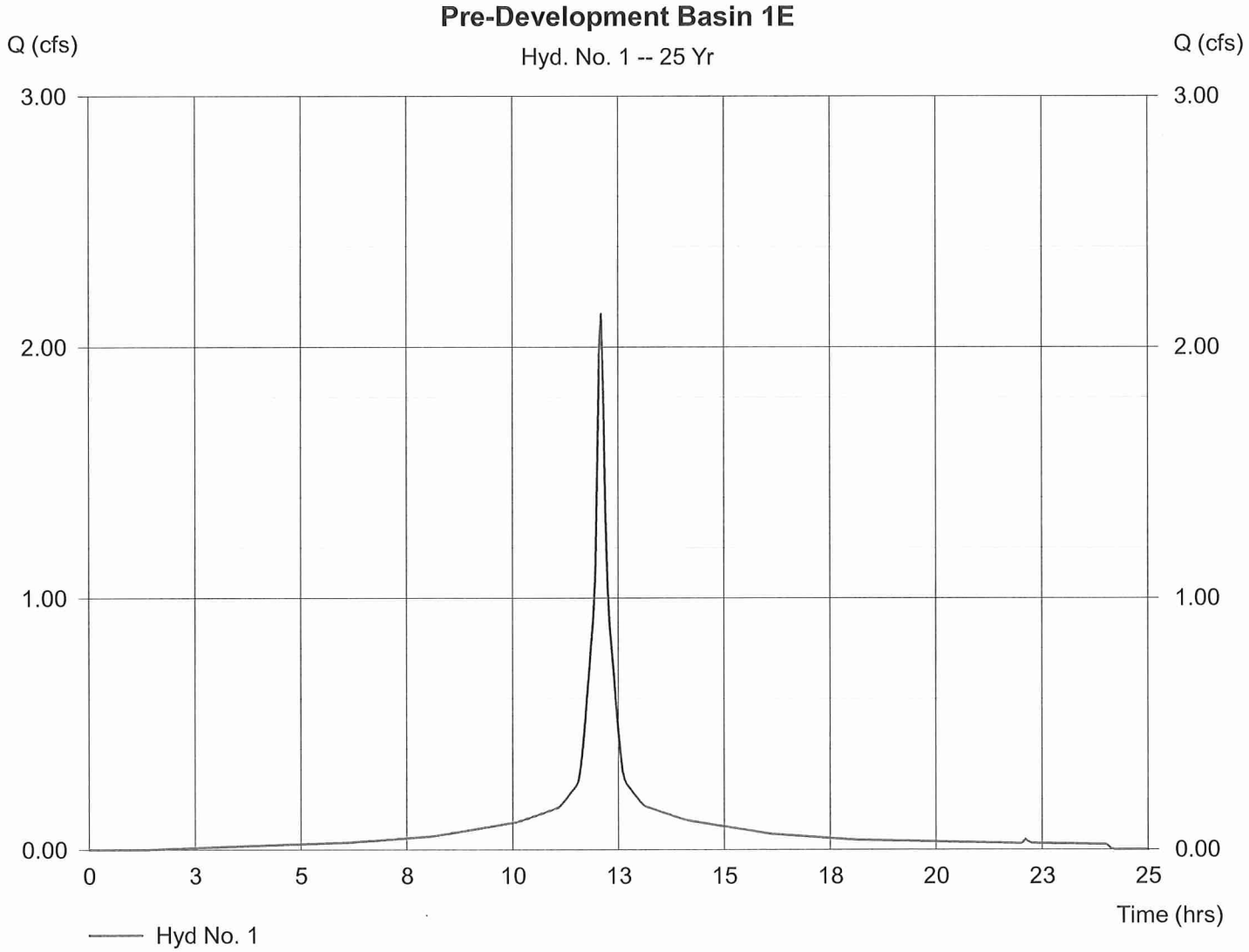
Hydrograph Plot

Hyd. No. 1

Pre-Development Basin 1E

Hydrograph type	= SCS Runoff	Peak discharge	= 2.13 cfs
Storm frequency	= 25 yrs	Time interval	= 3 min
Drainage area	= 0.47 ac	Curve number	= 96.6
Basin Slope	= 1.8 %	Hydraulic length	= 119 ft
Tc method	= USER	Time of conc. (Tc)	= 5 min
Total precip.	= 5.40 in	Distribution	= Type III
Storm duration	= 24 hrs	Shape factor	= 484

Hydrograph Volume = 7,996 cuft



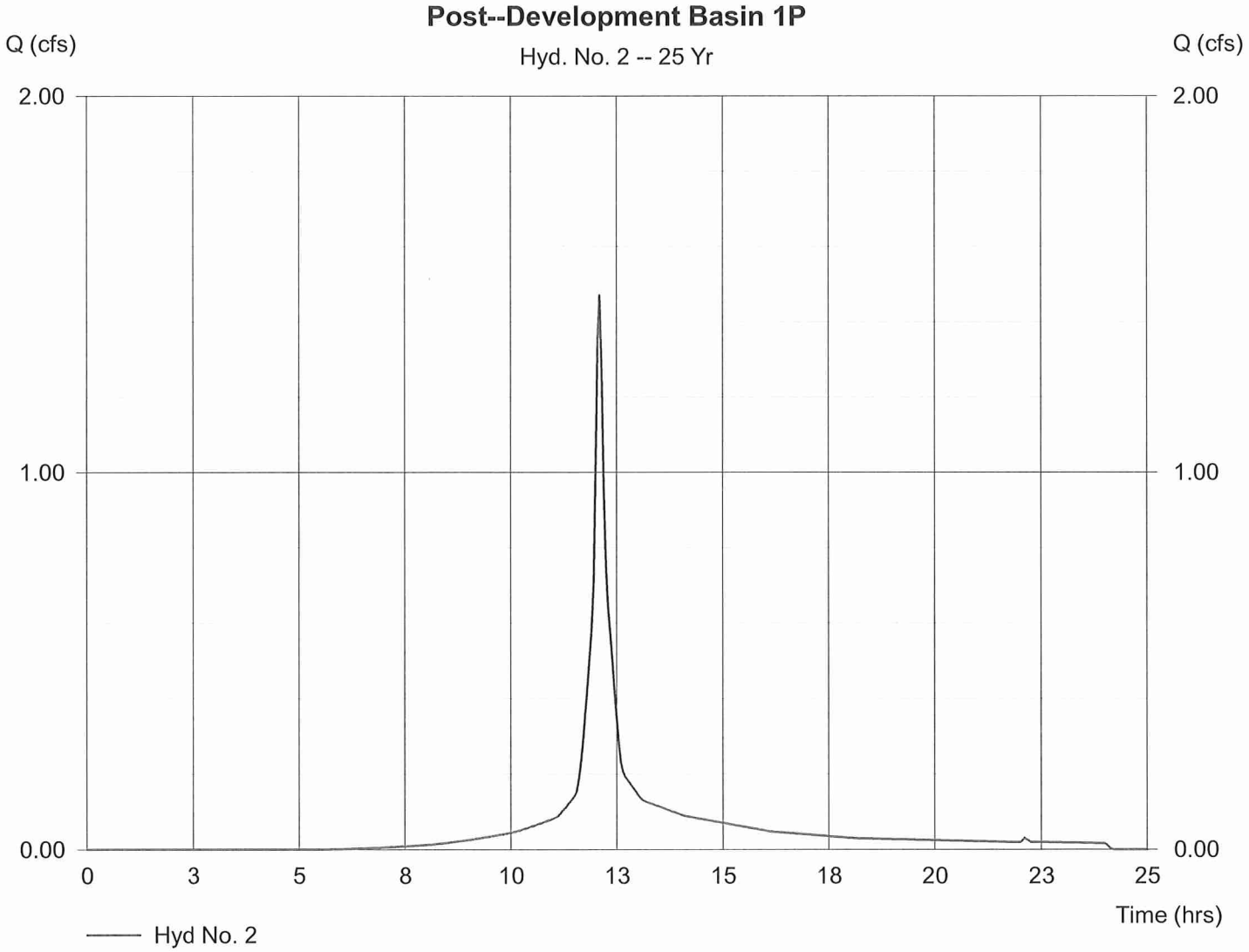
Hydrograph Plot

Hyd. No. 2

Post--Development Basin 1P

Hydrograph type	= SCS Runoff	Peak discharge	= 1.47 cfs
Storm frequency	= 25 yrs	Time interval	= 3 min
Drainage area	= 0.39 ac	Curve number	= 85.1
Basin Slope	= 2.0 %	Hydraulic length	= 117 ft
Tc method	= USER	Time of conc. (Tc)	= 5 min
Total precip.	= 5.40 in	Distribution	= Type III
Storm duration	= 24 hrs	Shape factor	= 484

Hydrograph Volume = 4,977 cuft



Hydrograph Plot

Hydraflow Hydrographs by Intelisolve

Wednesday, May 8 2013, 12:17 PM

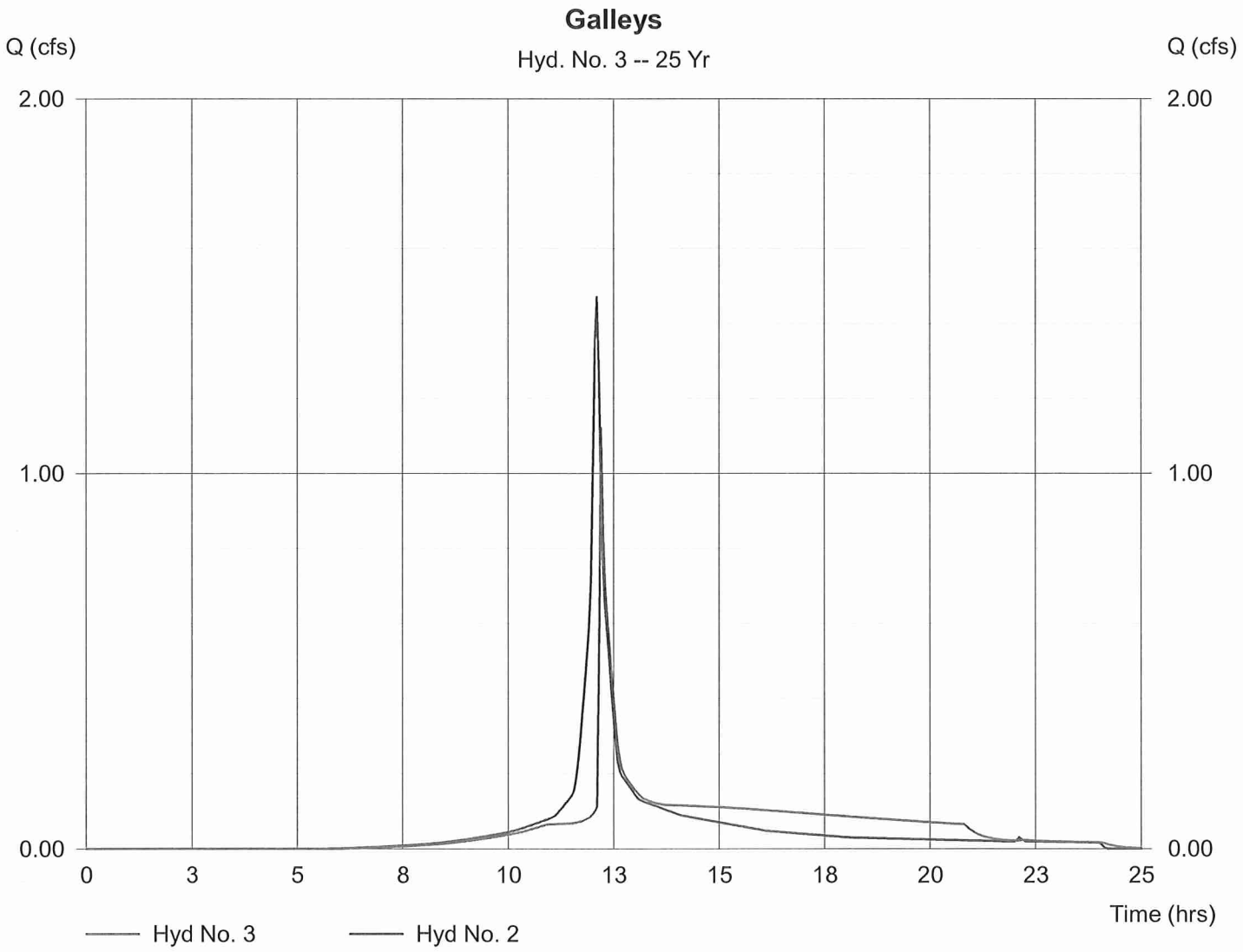
Hyd. No. 3

Galleys

Hydrograph type	= Reservoir	Peak discharge	= 1.12 cfs
Storm frequency	= 25 yrs	Time interval	= 3 min
Inflow hyd. No.	= 2	Max. Elevation	= 163.41 ft
Reservoir name	= Infiltration System	Max. Storage	= 1,412 cuft

Storage Indication method used.

Hydrograph Volume = 4,976 cuft



Pond Report

Pond No. 1 - Infiltration System

Pond Data

Bottom LxW = 20.0 x 16.0 ft Side slope = 0.0:1 Bottom elev. = 159.00 ft Depth = 5.00 ft

Stage / Storage Table

Stage (ft)	Elevation (ft)	Contour area (sqft)	Incr. Storage (cuft)	Total storage (cuft)
0.00	159.00	320	0	0
0.25	159.25	320	80	80
0.50	159.50	320	80	160
0.75	159.75	320	80	240
1.00	160.00	320	80	320
1.25	160.25	320	80	400
1.50	160.50	320	80	480
1.75	160.75	320	80	560
2.00	161.00	320	80	640
2.25	161.25	320	80	720
2.50	161.50	320	80	800
2.75	161.75	320	80	880
3.00	162.00	320	80	960
3.25	162.25	320	80	1,040
3.50	162.50	320	80	1,120
3.75	162.75	320	80	1,200
4.00	163.00	320	80	1,280
4.25	163.25	320	80	1,360
4.50	163.50	320	80	1,440
4.75	163.75	320	80	1,520
5.00	164.00	320	80	1,600

Culvert / Orifice Structures

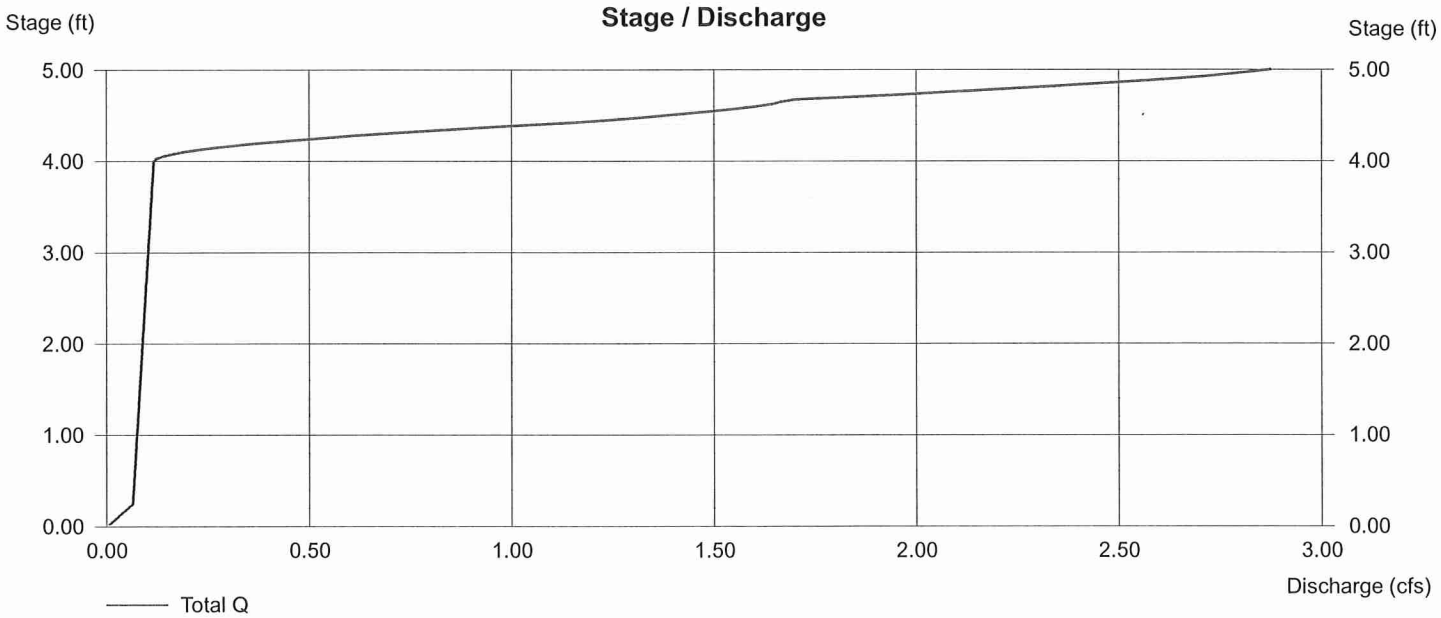
	[A]	[B]	[C]	[D]
Rise (in)	= 8.00	0.00	0.00	0.00
Span (in)	= 8.00	0.00	0.00	0.00
No. Barrels	= 2	0	0	0
Invert El. (ft)	= 163.00	0.00	0.00	0.00
Length (ft)	= 7.00	0.00	0.00	0.00
Slope (%)	= 2.00	0.00	0.00	0.00
N-Value	= .013	.000	.000	.000
Orif. Coeff.	= 0.60	0.00	0.00	0.00
Multi-Stage	= n/a	No	No	No

Weir Structures

	[A]	[B]	[C]	[D]
Crest Len (ft)	= 0.00	0.00	0.00	0.00
Crest El. (ft)	= 0.00	0.00	0.00	0.00
Weir Coeff.	= 0.00	0.00	0.00	0.00
Weir Type	= ---	---	---	---
Multi-Stage	= No	No	No	No

Exfiltration = 8.270 in/hr (Wet area) Tailwater Elev. = 0.00 ft

Note: Culvert/Orifice outflows have been analyzed under inlet and outlet control.



Hydrograph Plot

Hydraflow Hydrographs by Intelisolve

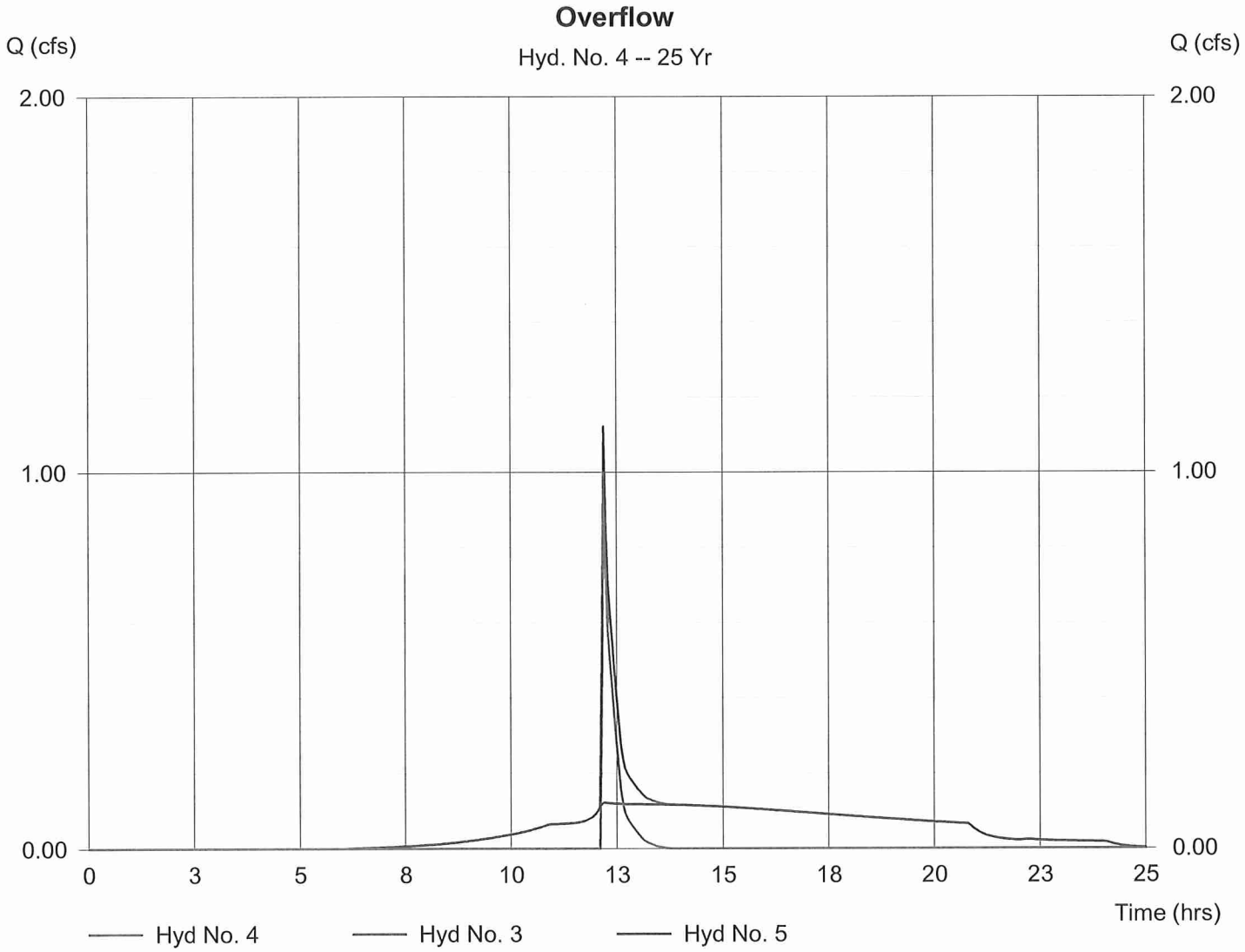
Wednesday, May 8 2013, 12:17 PM

Hyd. No. 4

Overflow

Hydrograph type	= Diversion1	Peak discharge	= 1.00 cfs
Storm frequency	= 25 yrs	Time interval	= 3 min
Inflow hydrograph	= 3	2nd diverted hyd.	= 5
Diversion method	= Pond - Infiltration System	Pond structure	= Culv/Orf A

Hydrograph Volume = 968 cuft



Hydrograph Plot

Hydraflow Hydrographs by Intelisolve

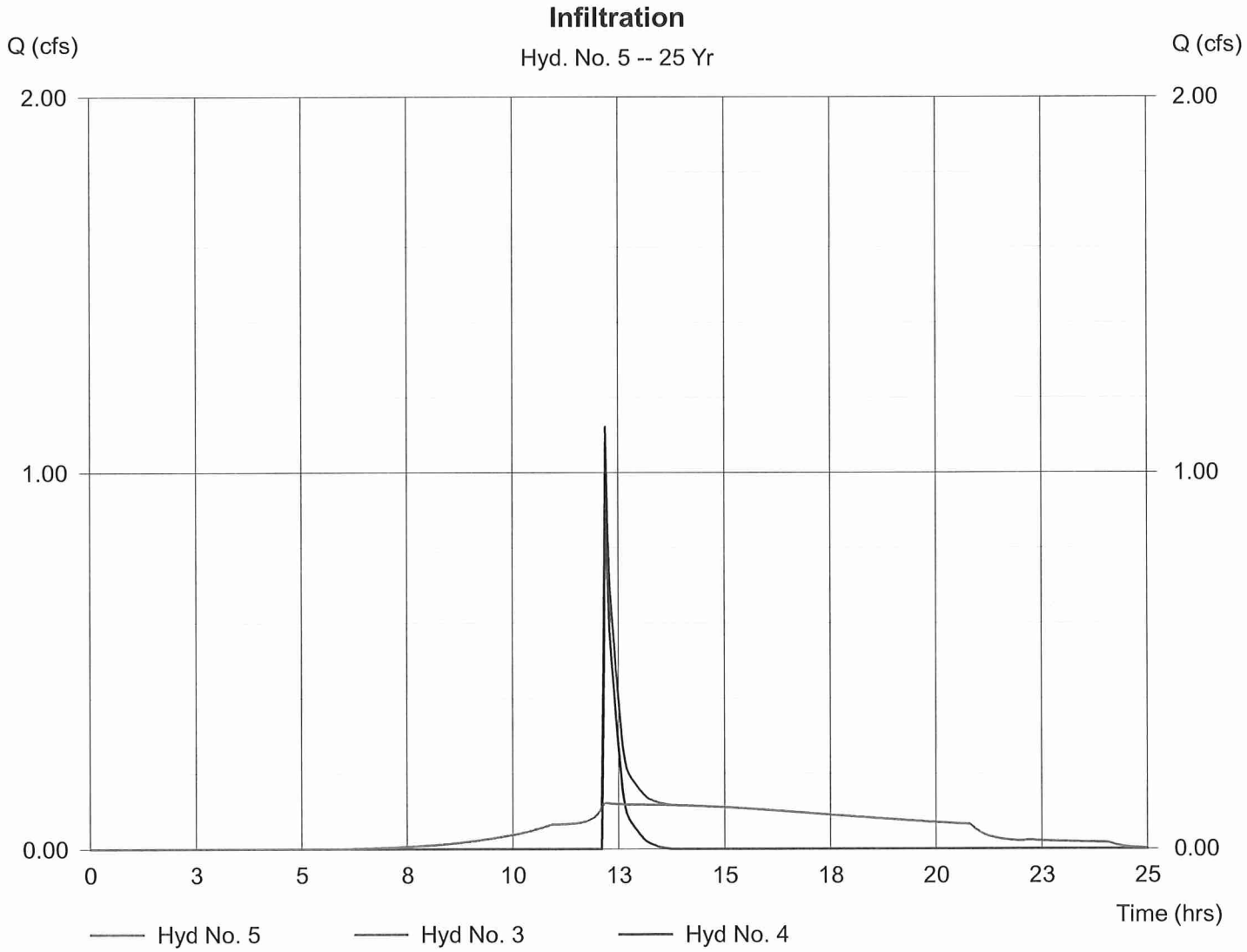
Wednesday, May 8 2013, 12:17 PM

Hyd. No. 5

Infiltration

Hydrograph type	= Diversion2	Peak discharge	= 0.12 cfs
Storm frequency	= 25 yrs	Time interval	= 3 min
Inflow hydrograph	= 3	2nd diverted hyd.	= 4
Diversion method	= Pond - Infiltration System	Pond structure	= Culv/Orf A

Hydrograph Volume = 4,007 cuft



100-Year Storm, Pre and Post-Development

Hydrograph Summary Report

Hyd. No.	Hydrograph type (origin)	Peak flow (cfs)	Time interval (min)	Time to peak (min)	Volume (cuft)	Inflow hyd(s)	Maximum elevation (ft)	Maximum storage (cuft)	Hydrograph description
1	SCS Runoff	2.66	3	726	10,069	----	------	------	Pre-Development Basin 1E
2	SCS Runoff	1.93	3	726	6,606	----	------	------	Post--Development Basin 1P
3	Reservoir	1.79	3	729	6,605	2	163.69	1,502	Galleys
4	Diversion1	1.67	3	729	1,999	3	------	------	Overflow
5	Diversion2	0.13	3	729	4,606	3	------	------	Infiltration

Hydrograph Plot

Hydraflow Hydrographs by Intelisolve

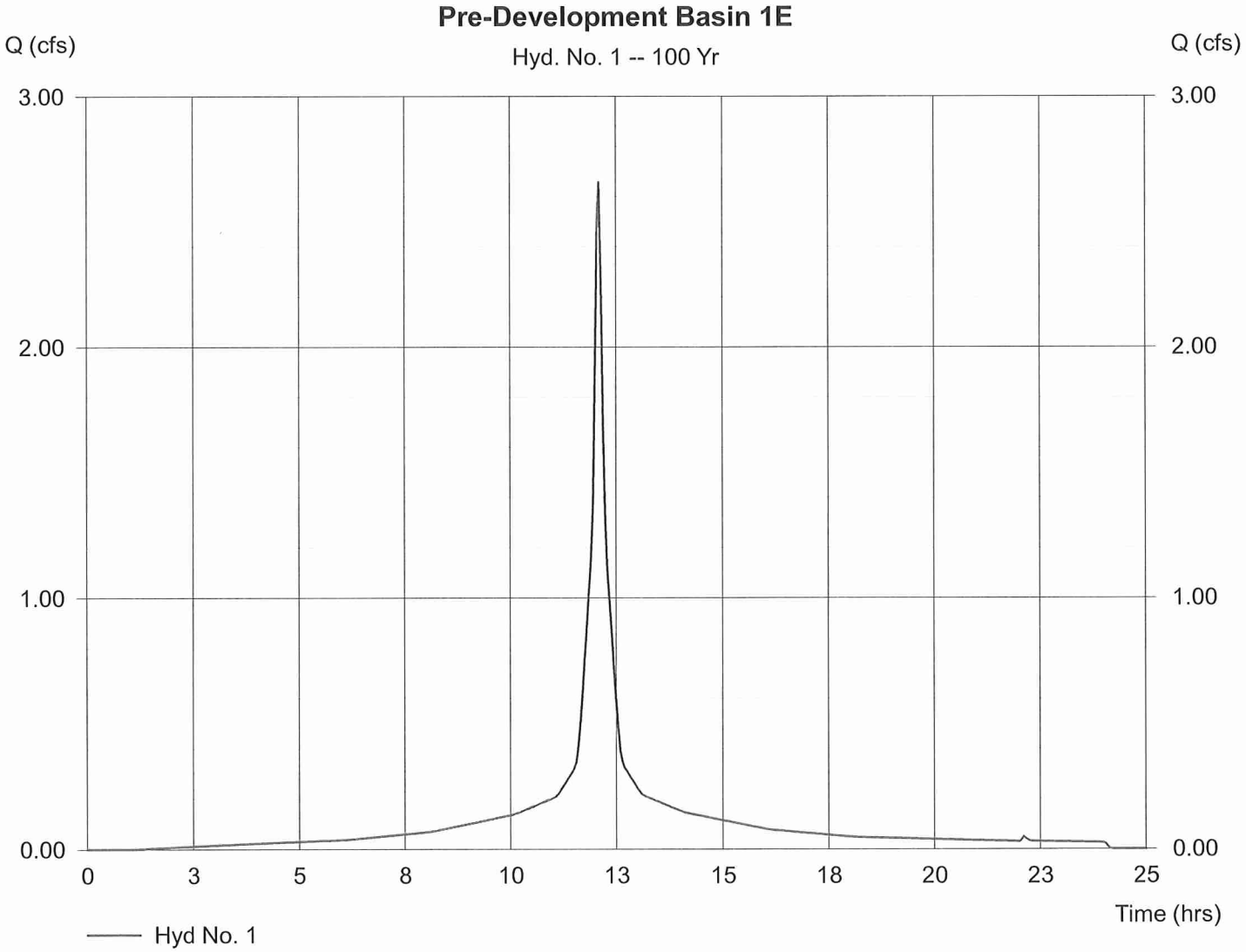
Wednesday, May 8 2013, 12:17 PM

Hyd. No. 1

Pre-Development Basin 1E

Hydrograph type	= SCS Runoff	Peak discharge	= 2.66 cfs
Storm frequency	= 100 yrs	Time interval	= 3 min
Drainage area	= 0.47 ac	Curve number	= 96.6
Basin Slope	= 1.8 %	Hydraulic length	= 119 ft
Tc method	= USER	Time of conc. (Tc)	= 5 min
Total precip.	= 6.70 in	Distribution	= Type III
Storm duration	= 24 hrs	Shape factor	= 484

Hydrograph Volume = 10,069 cuft



Hydrograph Plot

Hydraflow Hydrographs by Intelisolve

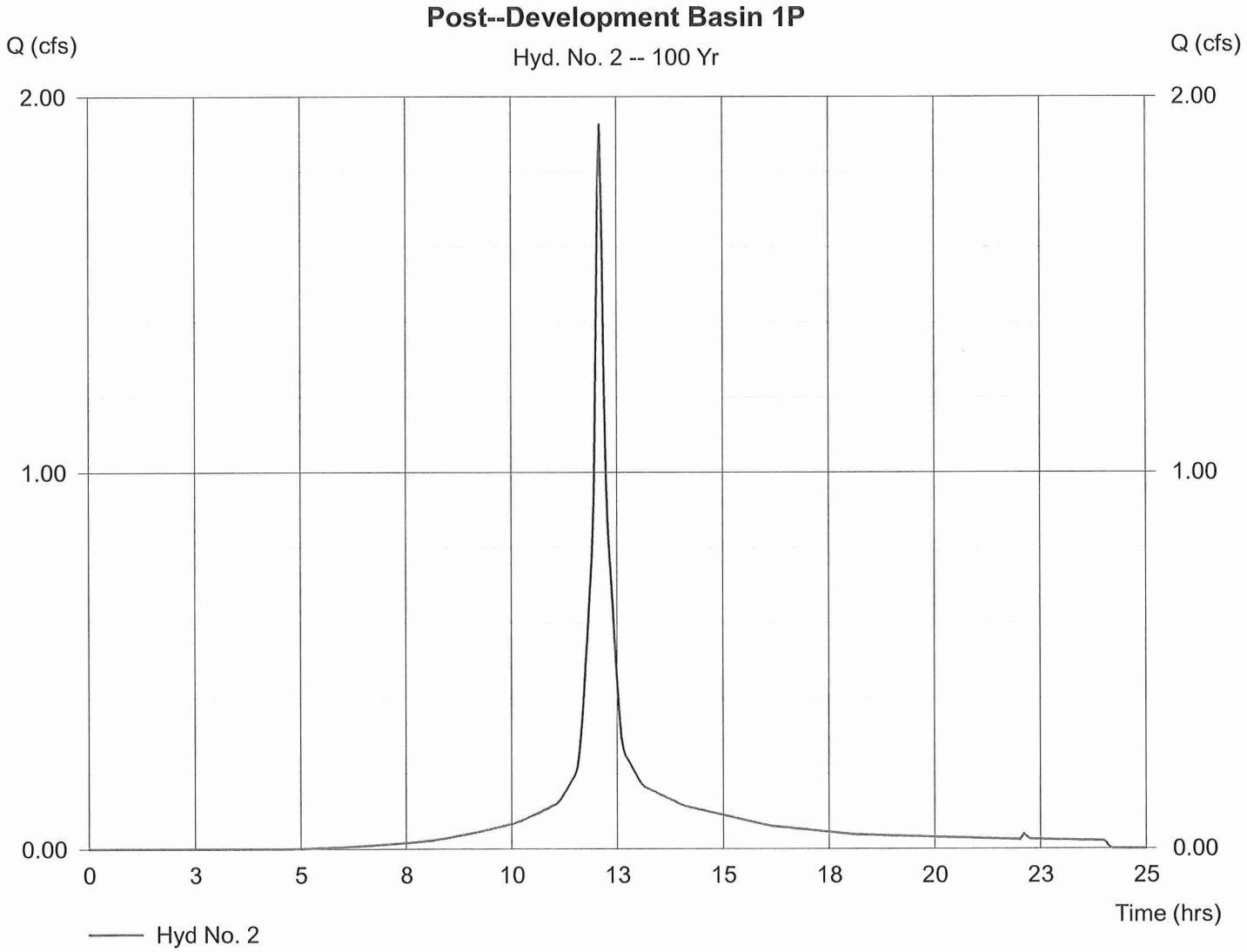
Wednesday, May 8 2013, 12:17 PM

Hyd. No. 2

Post--Development Basin 1P

Hydrograph type	= SCS Runoff	Peak discharge	= 1.93 cfs
Storm frequency	= 100 yrs	Time interval	= 3 min
Drainage area	= 0.39 ac	Curve number	= 85.1
Basin Slope	= 2.0 %	Hydraulic length	= 117 ft
Tc method	= USER	Time of conc. (Tc)	= 5 min
Total precip.	= 6.70 in	Distribution	= Type III
Storm duration	= 24 hrs	Shape factor	= 484

Hydrograph Volume = 6,606 cuft



Hydrograph Plot

Hydraflow Hydrographs by Intelisolve

Wednesday, May 8 2013, 12:17 PM

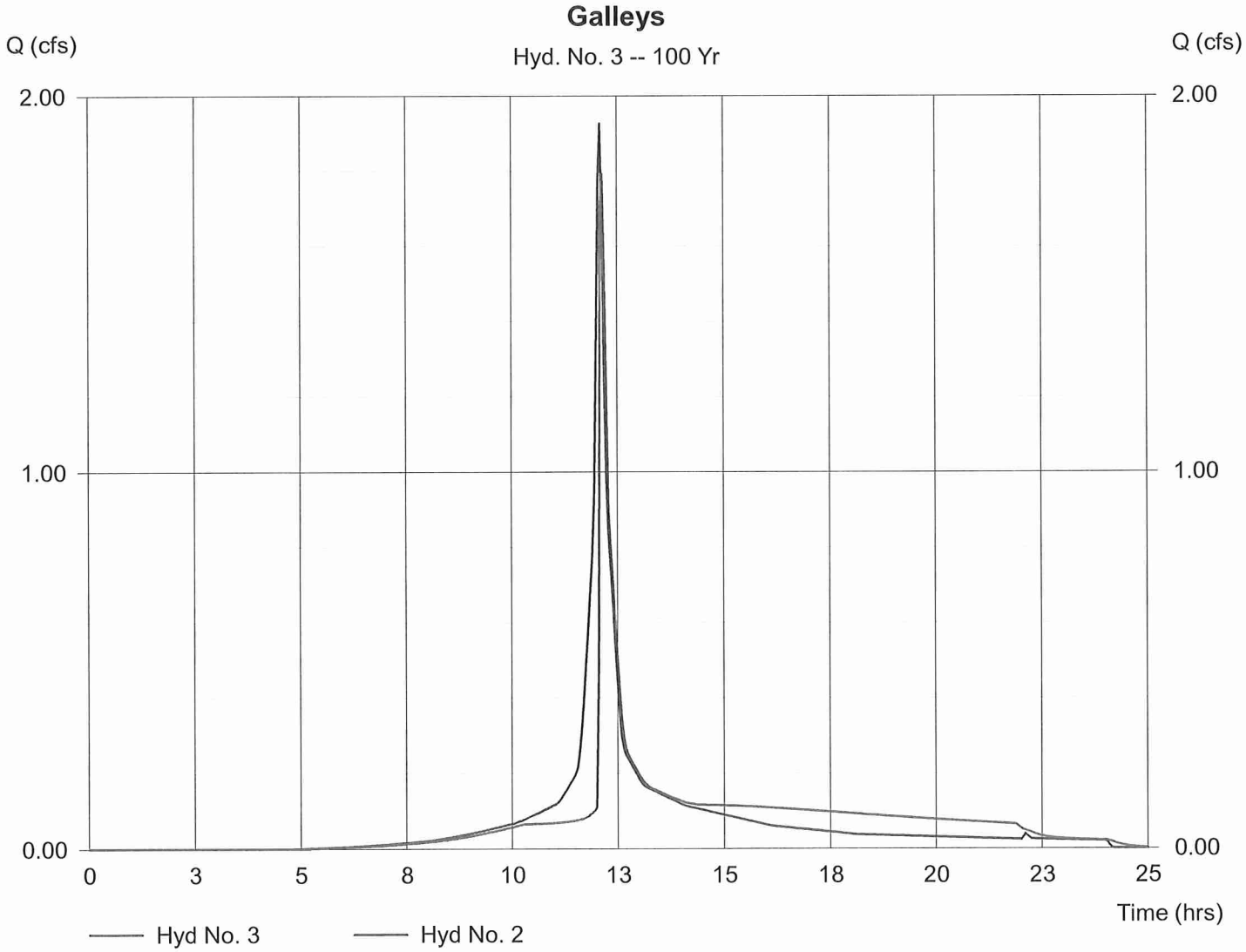
Hyd. No. 3

Galleys

Hydrograph type	= Reservoir	Peak discharge	= 1.79 cfs
Storm frequency	= 100 yrs	Time interval	= 3 min
Inflow hyd. No.	= 2	Max. Elevation	= 163.69 ft
Reservoir name	= Infiltration System	Max. Storage	= 1,502 cuft

Storage Indication method used.

Hydrograph Volume = 6,605 cuft



Pond Report

Pond No. 1 - Infiltration System

Pond Data

Bottom LxW = 20.0 x 16.0 ft Side slope = 0.0:1 Bottom elev. = 159.00 ft Depth = 5.00 ft

Stage / Storage Table

Stage (ft)	Elevation (ft)	Contour area (sqft)	Incr. Storage (cuft)	Total storage (cuft)
0.00	159.00	320	0	0
0.25	159.25	320	80	80
0.50	159.50	320	80	160
0.75	159.75	320	80	240
1.00	160.00	320	80	320
1.25	160.25	320	80	400
1.50	160.50	320	80	480
1.75	160.75	320	80	560
2.00	161.00	320	80	640
2.25	161.25	320	80	720
2.50	161.50	320	80	800
2.75	161.75	320	80	880
3.00	162.00	320	80	960
3.25	162.25	320	80	1,040
3.50	162.50	320	80	1,120
3.75	162.75	320	80	1,200
4.00	163.00	320	80	1,280
4.25	163.25	320	80	1,360
4.50	163.50	320	80	1,440
4.75	163.75	320	80	1,520
5.00	164.00	320	80	1,600

Culvert / Orifice Structures

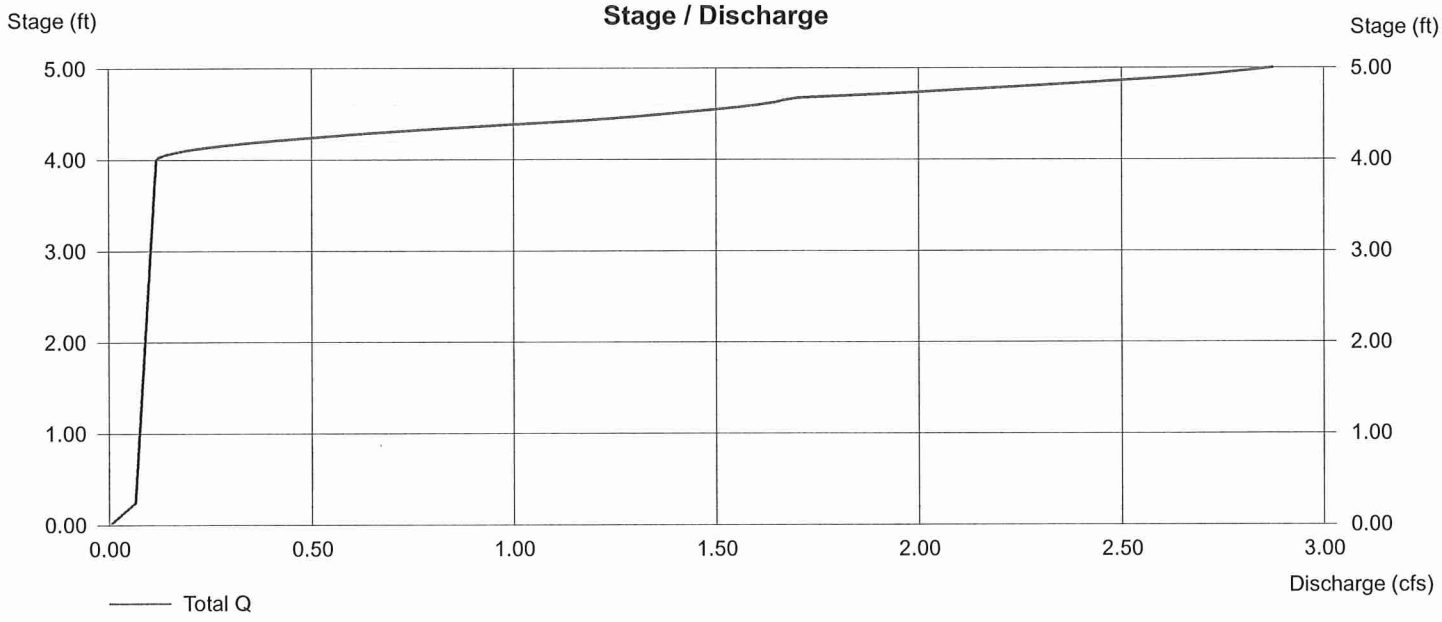
	[A]	[B]	[C]	[D]
Rise (in)	= 8.00	0.00	0.00	0.00
Span (in)	= 8.00	0.00	0.00	0.00
No. Barrels	= 2	0	0	0
Invert El. (ft)	= 163.00	0.00	0.00	0.00
Length (ft)	= 7.00	0.00	0.00	0.00
Slope (%)	= 2.00	0.00	0.00	0.00
N-Value	= .013	.000	.000	.000
Orif. Coeff.	= 0.60	0.00	0.00	0.00
Multi-Stage	= n/a	No	No	No

Weir Structures

	[A]	[B]	[C]	[D]
Crest Len (ft)	= 0.00	0.00	0.00	0.00
Crest El. (ft)	= 0.00	0.00	0.00	0.00
Weir Coeff.	= 0.00	0.00	0.00	0.00
Weir Type	= ---	---	---	---
Multi-Stage	= No	No	No	No

Exfiltration = 8.270 in/hr (Wet area) Tailwater Elev. = 0.00 ft

Note: Culvert/Orifice outflows have been analyzed under inlet and outlet control.



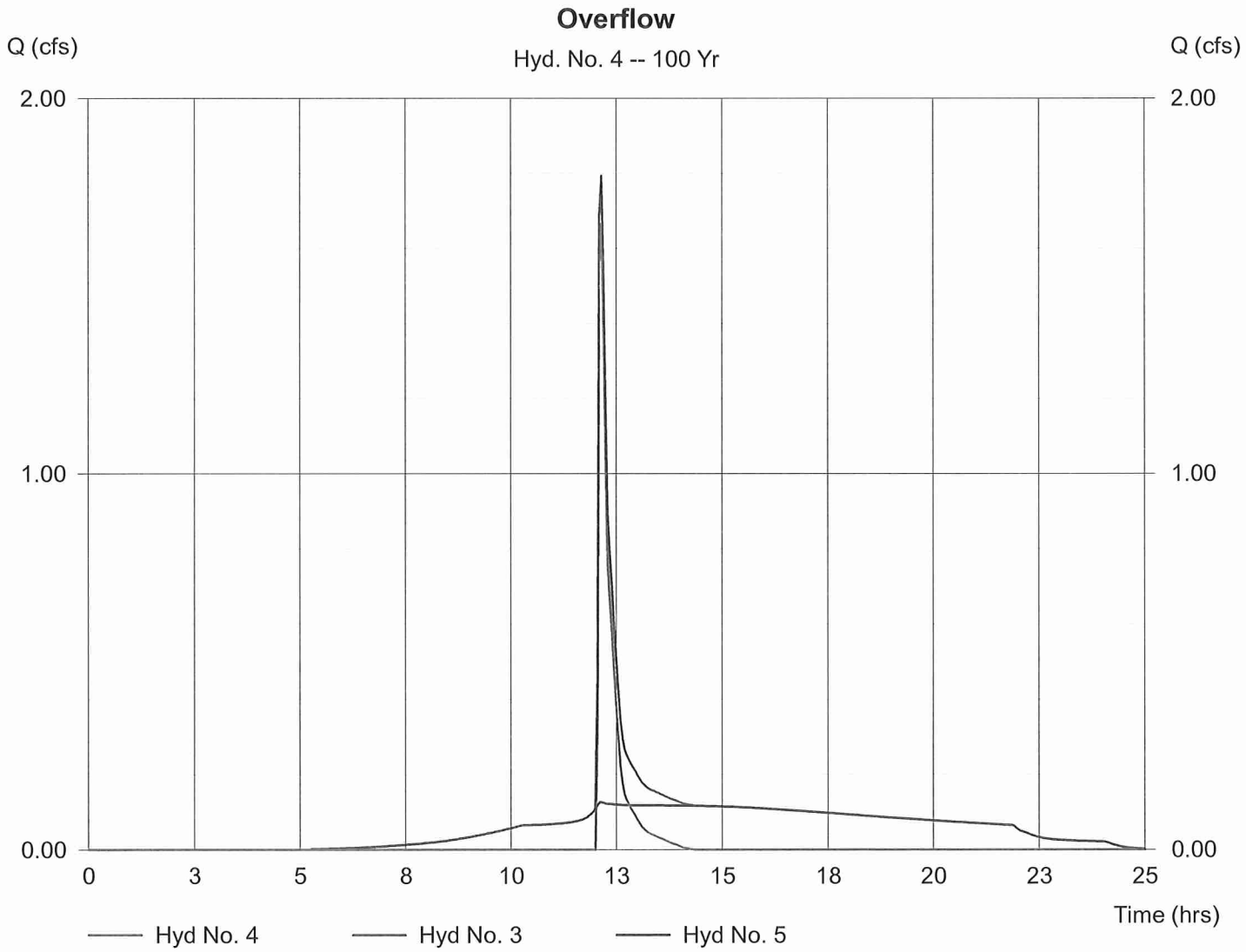
Hydrograph Plot

Hyd. No. 4

Overflow

Hydrograph type	= Diversion1	Peak discharge	= 1.67 cfs
Storm frequency	= 100 yrs	Time interval	= 3 min
Inflow hydrograph	= 3	2nd diverted hyd.	= 5
Diversion method	= Pond - Infiltration System	Pond structure	= Culv/Orf A

Hydrograph Volume = 1,999 cuft



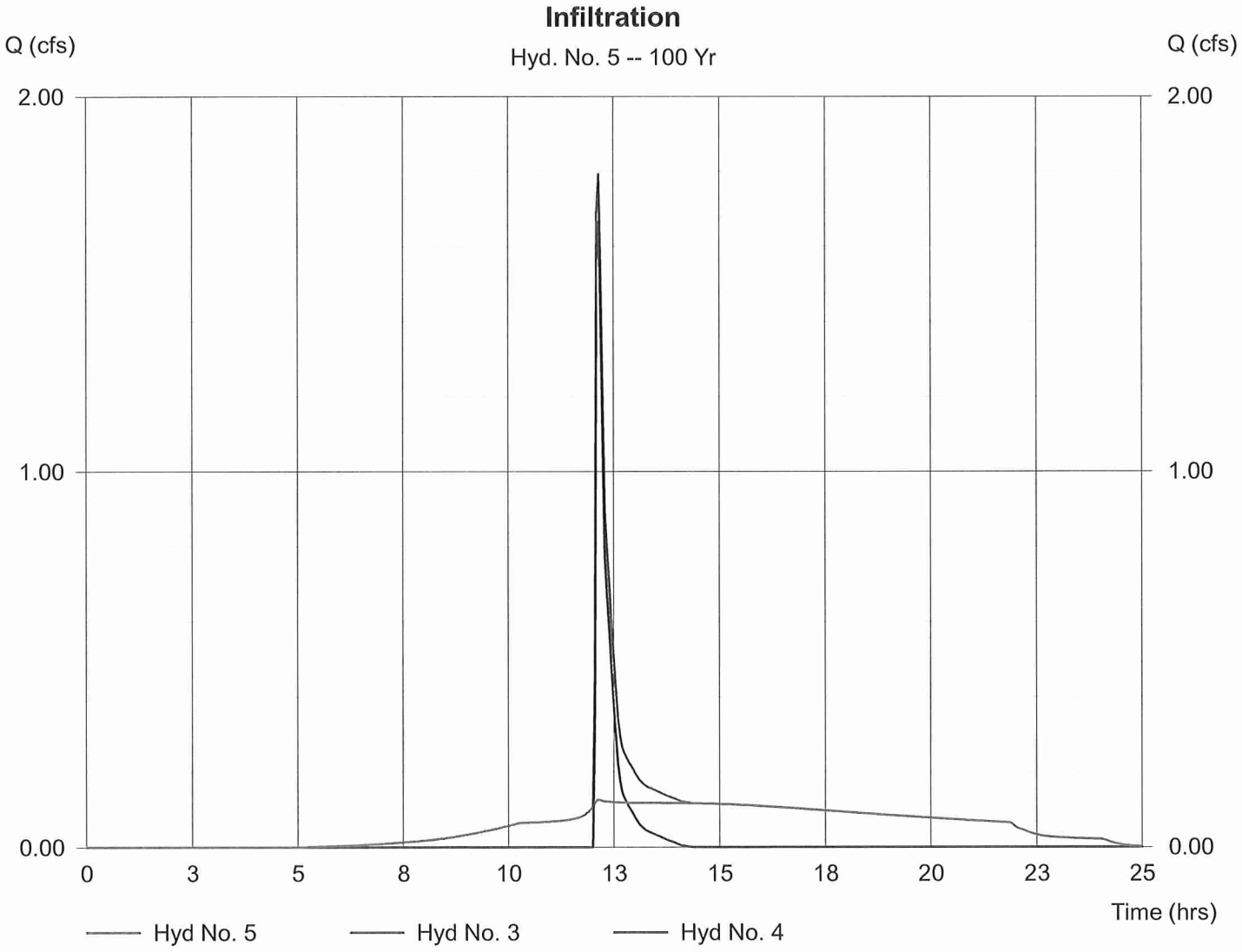
Hydrograph Plot

Hyd. No. 5

Infiltration

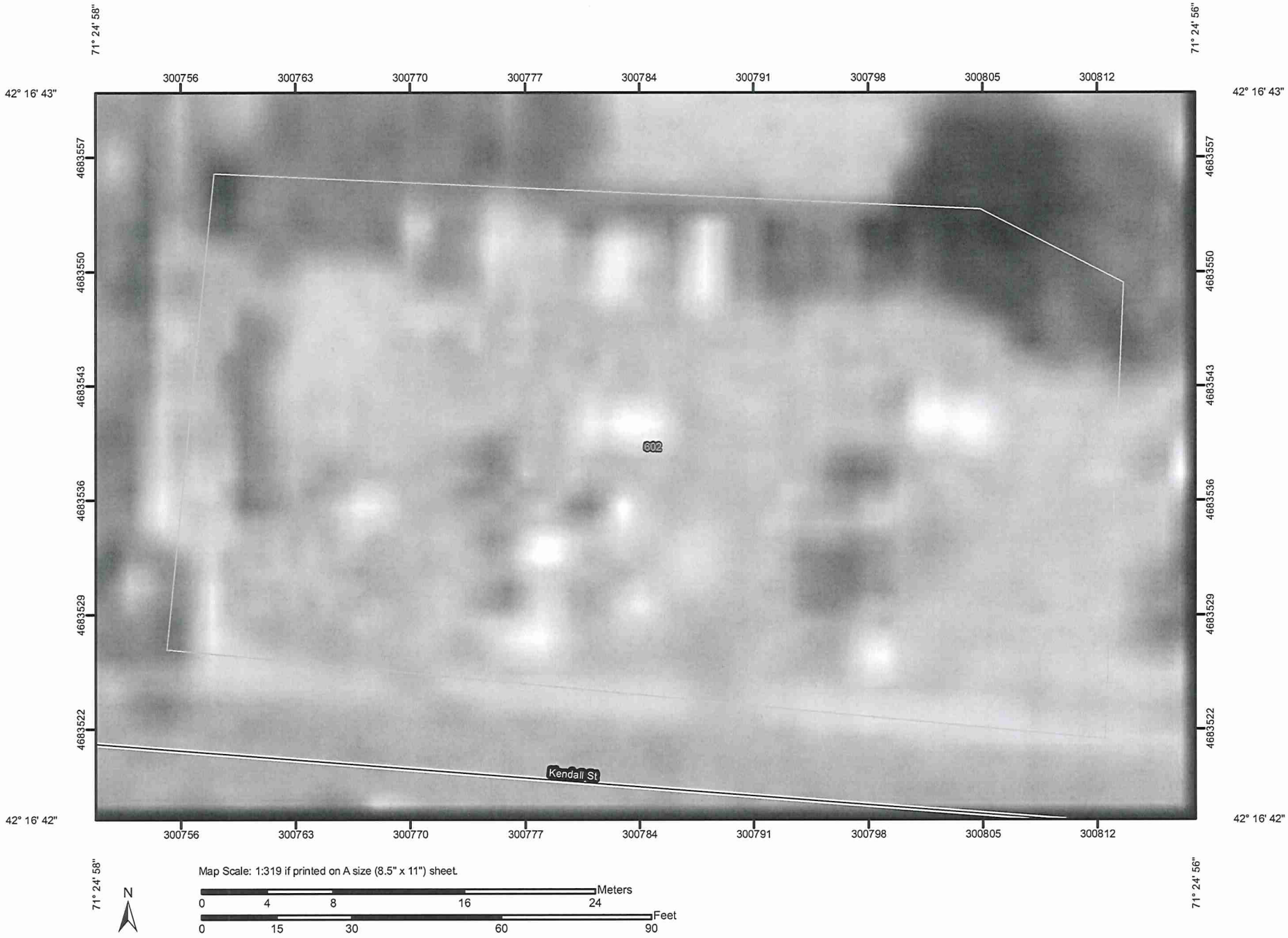
Hydrograph type	= Diversion2	Peak discharge	= 0.13 cfs
Storm frequency	= 100 yrs	Time interval	= 3 min
Inflow hydrograph	= 3	2nd diverted hyd.	= 4
Diversion method	= Pond - Infiltration System	Pond structure	= Culv/Orf A

Hydrograph Volume = 4,606 cuft



Appendix B:
Middlesex County Soil Survey

Soil Map—Middlesex County, Massachusetts



MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils
- Soil Map Units

Special Point Features
- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh or swamp
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other

Special Line Features
- Gully
- Short Steep Slope
- Other

Political Features
- Cities

Water Features
- Streams and Canals

Transportation
- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

MAP INFORMATION

Map Scale: 1:319 if printed on A size (8.5" × 11") sheet.

The soil surveys that comprise your AOI were mapped at 1:25,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for accurate map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL: http://websoilsurvey.nrcs.usda.gov
Coordinate System: UTM Zone 19N NAD83

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Middlesex County, Massachusetts
Survey Area Data: Version 12, Feb 26, 2010

Date(s) aerial images were photographed: 7/10/2003

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Middlesex County, Massachusetts (MA017)			
Map Unit Symbol	**Map Unit Name**	**Acres in AOI**	**Percent of AOI**
602	Urban land	0.4	100.0%
Totals for Area of Interest		**0.4**	**100.0%**

Appendix C:
Stormwater Operation and Maintenance Plan

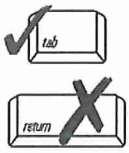
CHAPTER 3: CHECKLIST FOR STORMWATER REPORT

Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Wetlands Program

Checklist for Stormwater Report

A. Introduction

Important: When filling out forms on the computer, use only the tab key to move your cursor - do not use the return key.



A Stormwater Report must be submitted with the Notice of Intent permit application to document compliance with the Stormwater Management Standards. The following checklist is NOT a substitute for the Stormwater Report (which should provide more substantive and detailed information) but is offered here as a tool to help the applicant organize their Stormwater Management documentation for their Report and for the reviewer to assess this information in a consistent format. As noted in the Checklist, the Stormwater Report must contain the engineering computations and supporting information set forth in Volume 3 of the Massachusetts Stormwater Handbook. The Stormwater Report must be prepared and certified by a Registered Professional Engineer (RPE) licensed in the Commonwealth.

The Stormwater Report must include:

- The Stormwater Checklist completed and stamped by a Registered Professional Engineer (see page 2) that certifies that the Stormwater Report contains all required submittals.[1] This Checklist is to be used as the cover for the completed Stormwater Report.
- Applicant/Project Name
- Project Address
- Name of Firm and Registered Professional Engineer that prepared the Report
- Long-Term Pollution Prevention Plan required by Standards 4-6
- Construction Period Pollution Prevention and Erosion and Sedimentation Control Plan required by Standard 8[2]
- Operation and Maintenance Plan required by Standard 9

In addition to all plans and supporting information, the Stormwater Report must include a brief narrative describing stormwater management practices, including environmentally sensitive site design and LID techniques, along with a diagram depicting runoff through the proposed BMP treatment train. Plans are required to show existing and proposed conditions, identify all wetland resource areas, NRCS soil types, critical areas, Land Uses with Higher Potential Pollutant Loads (LUHPPL), and any areas on the site where infiltration rate is greater than 2.4 inches per hour. The Plans shall identify the drainage areas for both existing and proposed conditions at a scale that enables verification of supporting calculations.

As noted in the Checklist, the Stormwater Management Report shall document compliance with each of the Stormwater Management Standards as provided in the Massachusetts Stormwater Handbook. The soils evaluation and calculations shall be done using the methodologies set forth in Volume 3 of the Massachusetts Stormwater Handbook.

To ensure that the Stormwater Report is complete, applicants are required to fill in the Stormwater Report Checklist by checking the box to indicate that the specified information has been included in the Stormwater Report. If any of the information specified in the checklist has not been submitted, the applicant must provide an explanation. The completed Stormwater Report Checklist and Certification must be submitted with the Stormwater Report.

[1] The Stormwater Report may also include the Illicit Discharge Compliance Statement required by Standard 10. If not included in the Stormwater Report, the Illicit Discharge Compliance Statement must be submitted prior to the discharge of stormwater runoff to the post-construction best management practices.

[2] For some complex projects, it may not be possible to include the Construction Period Erosion and Sedimentation Control Plan in the Stormwater Report. In that event, the issuing authority has the discretion to issue an Order of Conditions that approves the project and includes a condition requiring the proponent to submit the Construction Period Erosion and Sedimentation Control Plan before commencing any land disturbance activity on the site.

Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Wetlands Program

Checklist for Stormwater Report

B. Stormwater Checklist and Certification

The following checklist is intended to serve as a guide for applicants as to the elements that ordinarily need to be addressed in a complete Stormwater Report. The checklist is also intended to provide conservation commissions and other reviewing authorities with a summary of the components necessary for a comprehensive Stormwater Report that addresses the ten Stormwater Standards.

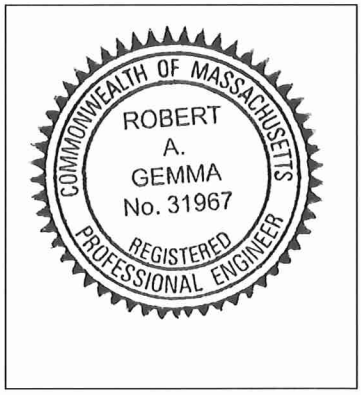
Note: Because stormwater requirements vary from project to project, it is possible that a complete Stormwater Report may not include information on some of the subjects specified in the Checklist. If it is determined that a specific item does not apply to the project under review, please note that the item is not applicable (N.A.) and provide the reasons for that determination.

A complete checklist must include the Certification set forth below signed by the Registered Professional Engineer who prepared the Stormwater Report.

Registered Professional Engineer's Certification

I have reviewed the Stormwater Report, including the soil evaluation, computations, Long-term Pollution Prevention Plan, the Construction Period Erosion and Sedimentation Control Plan (if included), the Long-term Post-Construction Operation and Maintenance Plan, the Illicit Discharge Compliance Statement (if included) and the plans showing the stormwater management system, and have determined that they have been prepared in accordance with the requirements of the Stormwater Management Standards as further elaborated by the Massachusetts Stormwater Handbook. I have also determined that the information presented in the Stormwater Checklist is accurate and that the information presented in the Stormwater Report accurately reflects conditions at the site as of the date of this permit application.

Registered Professional Engineer Block and Signature



3/27/13
Signature and Date

Checklist

Project Type: Is the application for new development, redevelopment, or a mix of new and redevelopment?

☐ New development

☒ Redevelopment

☐ Mix of New Development and Redevelopment

Checklist for Stormwater Report

Checklist (continued)

LID Measures: Stormwater Standards require LID measures to be considered. Document what environmentally sensitive design and LID Techniques were considered during the planning and design of the project:

- ☒ No disturbance to any Wetland Resource Areas
- ☐ Site Design Practices (e.g. clustered development, reduced frontage setbacks)
- ☐ Reduced Impervious Area (Redevelopment Only)
- ☐ Minimizing disturbance to existing trees and shrubs
- ☐ LID Site Design Credit Requested:
  - ☐ Credit 1
  - ☐ Credit 2
  - ☐ Credit 3
- ☐ Use of "country drainage" versus curb and gutter conveyance and pipe
- ☐ Bioretention Cells (includes Rain Gardens)
- ☐ Constructed Stormwater Wetlands (includes Gravel Wetlands designs)
- ☐ Treebox Filter
- ☐ Water Quality Swale
- ☐ Grass Channel
- ☐ Green Roof
- ☒ Other (describe): infiltration system

Standard 1: No New Untreated Discharges

- ☒ No new untreated discharges
- ☒ Outlets have been designed so there is no erosion or scour to wetlands and waters of the Commonwealth
- ☒ Supporting calculations specified in Volume 3 of the Massachusetts Stormwater Handbook included.

Checklist for Stormwater Report

Checklist (continued)

Standard 2: Peak Rate Attenuation

☐ Standard 2 waiver requested because the project is located in land subject to coastal storm flowage and stormwater discharge is to a wetland subject to coastal flooding.

☒ Evaluation provided to determine whether off-site flooding increases during the 100-year 24-hour storm.

☒ Calculations provided to show that post-development peak discharge rates do not exceed pre-development rates for the 2-year and 10-year 24-hour storms. If evaluation shows that off-site flooding increases during the 100-year 24-hour storm, calculations are also provided to show that post-development peak discharge rates do not exceed pre-development rates for the 100-year 24-hour storm.

Standard 3: Recharge

☐ Soil Analysis provided.

☒ Required Recharge Volume calculation provided.

☐ Required Recharge volume reduced through use of the LID site Design Credits.

☒ Sizing the infiltration, BMPs is based on the following method: Check the method used.

☒ Static ☐ Simple Dynamic ☐ Dynamic Field[1]

☐ Runoff from all impervious areas at the site discharging to the infiltration BMP.

☒ Runoff from all impervious areas at the site is *not* discharging to the infiltration BMP and calculations are provided showing that the drainage area contributing runoff to the infiltration BMPs is sufficient to generate the required recharge volume.

☒ Recharge BMPs have been sized to infiltrate the Required Recharge Volume.

☐ Recharge BMPs have been sized to infiltrate the Required Recharge Volume *only* to the maximum extent practicable for the following reason:

- ☐ Site is comprised solely of C and D soils and/or bedrock at the land surface
- ☐ M.G.L. c. 21E sites pursuant to 310 CMR 40.0000
- ☐ Solid Waste Landfill pursuant to 310 CMR 19.000
- ☐ Project is otherwise subject to Stormwater Management Standards only to the maximum extent practicable.

☒ Calculations showing that the infiltration BMPs will drain in 72 hours are provided.

☐ Property includes a M.G.L. c. 21E site or a solid waste landfill and a mounding analysis is included.

[1] 80% TSS removal is required prior to discharge to infiltration BMP if Dynamic Field method is used.

Checklist for Stormwater Report

Checklist (continued)

Standard 3: Recharge (continued)

☒ The infiltration BMP is used to attenuate peak flows during storms greater than or equal to the 10-year 24-hour storm and separation to seasonal high groundwater is less than 4 feet and a mounding analysis is provided.

☒ Documentation is provided showing that infiltration BMPs do not adversely impact nearby wetland resource areas.

Standard 4: Water Quality

The Long-Term Pollution Prevention Plan typically includes the following:

- Good housekeeping practices;
- Provisions for storing materials and waste products inside or under cover;
- Vehicle washing controls;
- Requirements for routine inspections and maintenance of stormwater BMPs;
- Spill prevention and response plans;
- Provisions for maintenance of lawns, gardens, and other landscaped areas;
- Requirements for storage and use of fertilizers, herbicides, and pesticides;
- Pet waste management provisions;
- Provisions for operation and management of septic systems;
- Provisions for solid waste management;
- Snow disposal and plowing plans relative to Wetland Resource Areas;
- Winter Road Salt and/or Sand Use and Storage restrictions;
- Street sweeping schedules;
- Provisions for prevention of illicit discharges to the stormwater management system;
- Documentation that Stormwater BMPs are designed to provide for shutdown and containment in the event of a spill or discharges to or near critical areas or from LUHPPL;
- Training for staff or personnel involved with implementing Long-Term Pollution Prevention Plan;
- List of Emergency contacts for implementing Long-Term Pollution Prevention Plan.

☒ A Long-Term Pollution Prevention Plan is attached to Stormwater Report and is included as an attachment to the Wetlands Notice of Intent.

☐ Treatment BMPs subject to the 44% TSS removal pretreatment requirement and the one inch rule for calculating the water quality volume are included, and discharge:

- ☐ is within the Zone II or Interim Wellhead Protection Area
- ☐ is near or to other critical areas
- ☐ is within soils with a rapid infiltration rate (greater than 2.4 inches per hour)
- ☐ involves runoff from land uses with higher potential pollutant loads.

☐ The Required Water Quality Volume is reduced through use of the LID site Design Credits.

☒ Calculations documenting that the treatment train meets the 80% TSS removal requirement and, if applicable, the 44% TSS removal pretreatment requirement, are provided.

Checklist for Stormwater Report

Checklist (continued)

Standard 4: Water Quality (continued)

☒ The BMP is sized (and calculations provided) based on:

- ☒ The ½" or 1" Water Quality Volume or
- ☐ The equivalent flow rate associated with the Water Quality Volume and documentation is provided showing that the BMP treats the required water quality volume.

☒ The applicant proposes to use proprietary BMPs, and documentation supporting use of proprietary BMP and proposed TSS removal rate is provided. This documentation may be in the form of the propriety BMP checklist found in Volume 2, Chapter 4 of the Massachusetts Stormwater Handbook and submitting copies of the TARP Report, STEP Report, and/or other third party studies verifying performance of the proprietary BMPs.

☐ A TMDL exists that indicates a need to reduce pollutants other than TSS and documentation showing that the BMPs selected are consistent with the TMDL is provided.

Standard 5: Land Uses With Higher Potential Pollutant Loads (LUHPPLs)

☐ The NPDES Multi-Sector General Permit covers the land use and the Stormwater Pollution Prevention Plan (SWPPP) has been included with the Stormwater Report.

☐ The NPDES Multi-Sector General Permit covers the land use and the SWPPP will be submitted ***prior to*** the discharge of stormwater to the post-construction stormwater BMPs.

☒ The NPDES Multi-Sector General Permit does ***not*** cover the land use.

☐ LUHPPLs are located at the site and industry specific source control and pollution prevention measures have been proposed to reduce or eliminate the exposure of LUHPPLs to rain, snow, snow melt and runoff, and been included in the long term Pollution Prevention Plan.

☐ All exposure has been eliminated.

☐ All exposure has ***not*** been eliminated and all BMPs selected are on MassDEP LUHPPL list.

☐ The LUHPPL has the potential to generate runoff with moderate to higher concentrations of oil and grease (e.g. all parking lots with >1000 vehicle trips per day) and the treatment train includes an oil grit separator, a filtering bioretention area, a sand filter or equivalent.

Standard 6: Critical Areas

☐ The discharge is near or to a critical area and the treatment train includes only BMPs that MassDEP has approved for stormwater discharges to or near that particular class of critical area.

☐ Critical areas and BMPs are identified in the Stormwater Report.

Checklist for Stormwater Report

Checklist (continued)

Standard 7: Redevelopments and Other Projects Subject to the Standards only to the maximum extent practicable

☒ The project is subject to the Stormwater Management Standards only to the maximum Extent Practicable as a:

- ☐ Limited Project
- ☐ Small Residential Projects: 5-9 single family houses or 5-9 units in a multi-family development provided there is no discharge that may potentially affect a critical area.
- ☐ Small Residential Projects: 2-4 single family houses or 2-4 units in a multi-family development with a discharge to a critical area
- ☐ Marina and/or boatyard provided the hull painting, service and maintenance areas are protected from exposure to rain, snow, snow melt and runoff
- ☐ Bike Path and/or Foot Path
- ☐ Redevelopment Project
- ☒ Redevelopment portion of mix of new and redevelopment.

☐ Certain standards are not fully met (Standard No. 1, 8, 9, and 10 must always be fully met) and an explanation of why these standards are not met is contained in the Stormwater Report.

☐ The project involves redevelopment and a description of all measures that have been taken to improve existing conditions is provided in the Stormwater Report. The redevelopment checklist found in Volume 2 Chapter 3 of the Massachusetts Stormwater Handbook may be used to document that the proposed stormwater management system (a) complies with Standards 2, 3 and the pretreatment and structural BMP requirements of Standards 4-6 to the maximum extent practicable and (b) improves existing conditions.

Standard 8: Construction Period Pollution Prevention and Erosion and Sedimentation Control

A Construction Period Pollution Prevention and Erosion and Sedimentation Control Plan must include the following information:

- Narrative;
- Construction Period Operation and Maintenance Plan;
- Names of Persons or Entity Responsible for Plan Compliance;
- Construction Period Pollution Prevention Measures;
- Erosion and Sedimentation Control Plan Drawings;
- Detail drawings and specifications for erosion control BMPs, including sizing calculations;
- Vegetation Planning;
- Site Development Plan;
- Construction Sequencing Plan;
- Sequencing of Erosion and Sedimentation Controls;
- Operation and Maintenance of Erosion and Sedimentation Controls;
- Inspection Schedule;
- Maintenance Schedule;
- Inspection and Maintenance Log Form.

☒ A Construction Period Pollution Prevention and Erosion and Sedimentation Control Plan containing the information set forth above has been included in the Stormwater Report.

Checklist for Stormwater Report

Checklist (continued)

Standard 8: Construction Period Pollution Prevention and Erosion and Sedimentation Control (continued)

☐ The project is highly complex and information is included in the Stormwater Report that explains why it is not possible to submit the Construction Period Pollution Prevention and Erosion and Sedimentation Control Plan with the application. A Construction Period Pollution Prevention and Erosion and Sedimentation Control has ***not*** been included in the Stormwater Report but will be submitted ***before*** land disturbance begins.

☒ The project is ***not*** covered by a NPDES Construction General Permit.

☐ The project is covered by a NPDES Construction General Permit and a copy of the SWPPP is in the Stormwater Report.

☐ The project is covered by a NPDES Construction General Permit but no SWPPP been submitted. The SWPPP will be submitted BEFORE land disturbance begins.

Standard 9: Operation and Maintenance Plan

☒ The Post Construction Operation and Maintenance Plan is included in the Stormwater Report and includes the following information:

- ☒ Name of the stormwater management system owners;
- ☒ Party responsible for operation and maintenance;
- ☒ Schedule for implementation of routine and non-routine maintenance tasks;
- ☒ Plan showing the location of all stormwater BMPs maintenance access areas;
- ☒ Description and delineation of public safety features;
- ☐ Estimated operation and maintenance budget; and
- ☒ Operation and Maintenance Log Form.

☐ The responsible party is ***not*** the owner of the parcel where the BMP is located and the Stormwater Report includes the following submissions:

- ☐ A copy of the legal instrument (deed, homeowner's association, utility trust or other legal entity) that establishes the terms of and legal responsibility for the operation and maintenance of the project site stormwater BMPs;
- ☐ A plan and easement deed that allows site access for the legal entity to operate and maintain BMP functions.

Standard 10: Prohibition of Illicit Discharges

☒ The Long-Term Pollution Prevention Plan includes measures to prevent illicit discharges;

☒ An Illicit Discharge Compliance Statement is attached;

☐ NO Illicit Discharge Compliance Statement is attached but will be submitted ***prior to*** the discharge of any stormwater to post-construction BMPs.

CHAPTER 4: LID MEASURES

Chapter 4:

The proposed redevelopment project will be utilizing low impact development (LID) approaches to minimize environmental impacts and these LID measures include stormwater management aspects of the project. Stormwater from the project will be managed by two primary techniques:

1. Treatment of stormwater runoff using current design best management practices.
2. Stormwater will be managed by the extensive use of infiltration measures

Subsurface Infiltration System

A proposed subsurface infiltration system has been designed for the project. The subsurface infiltration system is located in the rear parking area and will infiltrate a portion of the runoff generated by the parking surface. This system is designed to store and infiltrate rain events up to and including the 2-year storm.

CHAPTER 5: STORMWATER MANAGEMENT STANDARDS 1 & 2

Chapter 5:

Standard 1: No New Untreated Discharges

- No New Untreated Discharges will occur in the post-development condition.
- All discharges to resource areas will be treated through the use of non-structural Best Management Practices (infiltration basins, deep-sump catch basins etc) to remove TSS and other pollutants.
- The proposed impervious areas will be collected and recharged using subsurface infiltration systems, thereby decreasing discharge rate and volume from pre-development conditions.
- Supporting calculations specified in Volume 3 are attached with the Hydrologic Analysis, Chapter 1.

Standard 2: Peak Rate Attenuation

- The Hydrologic Analysis provided in Chapter 1 demonstrates that no off-site flooding will be increased in the post-development state during the 100-year storm event.

- The Hydrologic Analysis provided in Chapter 1 demonstrate that the peak runoff rates will be equal to or reduced in the post development state during the 100-year storm event.

Comparison of Total Peak Runoff Rates for pre- and post-development conditions at design point 1, at Winter Street.

Site Condition	2-year storm	10-year storm	25-year storm	100-year storm
Pre-Development	1.2 CFS	1.8 CFS	2.1 CFS	2.7 CFS
Post-Development	0.0 CFS	0.4 CFS	1.0 CFS	1.7 CFS

CHAPTER 6: STORMWATER MANAGEMENT STANDARD 3

Chapter 6:

Standard 3: Recharge

- **The required recharge volume calculations:**
  The required Recharge Volume is based on sandy loam with a NRCS Hydrologic Group rating of A and a Target Depth Factor (F) of 0.6-inch. Below is the calculation for the required recharge volume for the entire site:

Net Change in Impervious Area = -2,324 square feet therefore no recharge required under Standard 3.

- The sizing of the infiltration BMP's is based on a "Static Method."
- Runoff from a portion of the proposed parking and roof surfaces on the site are being discharged into the infiltration BMP's.
- The recharge BMP's have been sized to infiltrate the required Recharge Volume:

  Infiltration System

  Impervious Area =16,072 S.F.
  Infiltration rate = 8.27 inches per hour
  Chambers: 20 pre-cast chambers, 4-ft long by 4-ft wide by 4-ft high
  Bottom area = 320 square feet
  Storage capacity = 320 CF per foot of height or 1,280 cubic feet total
  Bottom Exfiltration Capacity:0.116 CFS

- **Recharge Volumes from Hydrologic Analysis, Chapter 1.**

Site Condition	2-year storm	10-year storm	25-year storm	100-year storm
Pre-Development	4,500 CF	6,723 CF	7,996 CF	10,069 CF
Post-Development	0 CF	913 CF	1,534 CF	2,630 CF
Post-development **reduction** in runoff volume – increase in Recharge Volume.	4,500 CF	5,810 CF	6,462 CF	7,439 CF

- A more detailed analysis of the storage and infiltration capacities for both infiltration systems can be found in the Hydrologic Analysis, Chapter 1.

- Below are the calculations showing that the Infiltration BMP's will drain in 72 hours:

$$Time_{drawdown} = \frac{(Rv)}{(K) \times (\text{Bottom Area})}$$

Note: Since there is no infiltration required for the project, the Required Recharge Volume will be the Total Storage within the infiltration system.

Infiltration System

$$Time_{drawdown} = \frac{(1{,}280 \text{ cubic feet})}{(8.27 \text{ inches/hour})(1 \text{ foot}/ 12 \text{ inches}) \times (320 \text{ square feet})}$$

$Time_{drawdown}$ = **6 hours < 72 hours**

- The bottom of the *Infiltration Systems* have a separation to the water table of 4-feet; therefore no mounding analysis is needed.

- Below are the calculations showing that the Infiltration BMP's will drain in 72 hours:

$$Time_{drawdown} = \frac{(Rv)}{(K) \times (Bottom\ Area)}$$

Note: Since there is no infiltration required for the project, the Required Recharge Volume will be the Total Storage within the infiltration system.

Infiltration System

$$Time_{drawdown} = \frac{(1{,}280\ cubic\ feet)}{(8.27\ inches/hour)(1\ foot/\ 12\ inches) \times (320\ square\ feet)}$$

$Time_{drawdown}$ = **6 hours < 72 hours**

- The bottom of the *Infiltration Systems* have a separation to the water table of 4-feet; therefore no mounding analysis is needed.

CHAPTER 7: LONG-TERM POLLUTION PREVENTION PLAN STORMWATER MANAGEMENT STANDARDS 4-6

Chapter 7:

Long Term Pollution Prevention Plan:

- The Stormwater Pollution Prevention Plan from Chapter 8 and the Operation and Maintenance Plan from Chapter 11 address all necessary aspects of the Long Term Pollution Prevention Plan

Standard 4: Water Quality

- Approximately **71%** TSS Removal will be achieved prior to discharging to an infiltration BMP.
- Stormwater Runoff to be treated for Water Quality is based on 1/2-inch of runoff due to the post-development site discharging toward a critical area, bordering vegetated wetlands.
    - Requirement for Proposed Improvements
      Amount of Runoff to be treated = (0.5 inch) x (impervious area)
      = (0.5 inch)(1/12) x (4,484 square feet)
      = **186 cubic feet**
- Below is a sample TSS Removal calculation for a single sub basin on the post-development site:

  Driveway and parking lot sweeping - **5% (BMP1)**
  Deep Sump Catch Basin - **25% (BMP2)**
  Infiltration Basins - **80% (BMP3)**

  Parking Lot Sweeping:
  Average Annual Load (1.00) * BMP1 Removal Rate (0.05) = **0.05**
  (0.95 of the TSS load remains)

  Stormceptor:
  TSS load remaining (0.95) * BMP2 Removal Rate (0.25) = **0.24**
  (0.71 of the TSS load remains)

  Infiltration Basin removal:
  TSS load remaining (0.71) * BMP3 Removal Rate (0.80) = **0.57**
  (0.14 of the TSS load remains)

  Final TSS Removal Rate: 1.00 - 0.14 = 0. **(86% TSS Removal)**

Chapter 7: (continued)

Standard 5: Land Use with Higher Potential Pollutant Loads

- The project does not include land uses with Higher Potential Pollutant Loads.

Standard 6: Critical Areas

- The project does not affect a critical area as defined by the MADEP Stormwater Handbook.

CHAPTER 8: CONSTRUCTION PERIOD POLLUTION PREVENTION AND EROSION AND SEDIMENTATION CONTROL PLAN (SWPPP)

CONSTRUCTION PERIOD POLLUTION AND EROSION AND SEDEMENTATION CONTROL PLAN

for

Proposed Renovations
Amsden Building
101 Concord Street
Framingham, MA

Prepared for: **VTT Framingham Renaissance LLC**
100 Concord Street
Framingham, MA

Prepared by: **MetroWest Engineering, Inc.**
75 Franklin Street
Framingham, MA 01702
(508) 626-0063

April, 2013

Table of Contents

A. Project Name and Location

Name:	Ansden Building
Street:	101 Concord Street in Framingham.
Latitude:	42° - 17' - 13"
Longitude:	71° -'25' - 58"

B. Project Owner and Operator

VTT Framingham Renaissance LLC
100 Concord Street
Framingham, MA 01702

C. Project Engineer

MetroWest Engineering, Inc.
75 Franklin Street
Framingham, MA 01702
(508)-626-0063
Attn: Robert A. Gemma

D. Environmental Consultant

MetroWest Engineering, Inc.
75 Franklin Street
Framingham, MA 01702
(508)-626-0063
Attn: Robert A. Gemma

E. General Contractor

To be determined.

F. CERTIFICATION OF STORMWATER POLLUTION PREVENTION PLAN

Project: 100 Concord Street, Framingham, MA

This certification must be completed by an authorized signatory of each operator (generally the owner and the General Contractor) before the effective date of the Plan.

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Signed: _____

Name: VTT Framingham Renaissance LLC

Title: Owner

Company: _____

Address: 100 Concord Street, Framingham, MA

Telephone: 508-820-4961

Date: March 21, 2013

G. CONTRACTOR/SUB-CONTRACTOR CERTIFICATION

Project: 101 Concord Street, Framingham, MA

This Certification is to be completed by the General Contractor and each Sub-Contractor involved in any on-site activities related to the construction.

I certify under penalty of law that I understand the terms and conditions of the general National Pollutant Discharge Elimination System (NPDES) permit that authorizes the stormwater discharges associated with industrial activity from the construction site identified as part of this certification.

Signed: _____

Name: VTT Framingham Renaissance LLC

Title: Owner

Company: _____

Address: 100 Concord Street, Framingham, MA

Telephone: 508-820-4961

Date: March 21, 2013

H. SUB-CONTRACTOR NAMES AND ADDRESSES

The following list includes all subcontractors working on the project site at any time. The general contractor and all subcontractors must sign the certification included in Section G., page 3.

Subcontractor:_____
_____
_____
_____

Subcontractor:_____
_____
_____
_____

Subcontractor:_____
_____
_____
_____

Subcontractor:_____
_____
_____
_____

Subcontractor:_____
_____
_____
_____

I. Project Description

The proposed renovations to the Amsden Building located on 101 Concord Street in Framingham, MA features a stormwater collection, treatment and management system. The system has been designed in full compliance with Massachusetts Department of Protection (MADEP) Stormwater Management Policy. The system includes structural measures and Best Management Practices (BMPs) to enhance the quality of stormwater quality prior to release.

The existing site does not contain any stormwater controls within the parking area. Runoff is primarily in the form of sheet flow and directed offsite onto Kendall Street.

The project involves the construction of a 966 s.f. addition to the rear of the building and reconstructing the existing parking area. A total of 36 parking spaces will be added along with various landscaped areas. A catch basin and a sub-surface drainage infiltration system are also being proposed with the project. The proposed impervious surfaces will have an area of 16,072 square feet which is a decrease of 2,324 square feet over the existing conditions.

The stormwater collection and management system has been design to fully collect, treat, store and infiltrate all runoff from storms with return periods up to the 2-year, 24-hour storm event.

All aspects of the stormwater management system have been designed in full compliance with all local, state and federal regulations, including but not limited to the following:

- Massachusetts Department of Environmental Protection Stormwater Management Policy
- USEPA Clean Water Act and NPDES Permit Regulations

Sedimentation barriers and similar control measures will be in place to capture and control sediment runoff during construction. Other measured will include, but not be limited to:

1. Vehicle washing stations
2. Temporary decanting basins
3. Phased construction schedule
4. Dust control system
5. On-site environmental monitor
6. Other measures as may be appropriate

J. Total Site Area and Disturbed Area

Total site area is 0.74 acres.
Total disturbed area is approximately 0.47 acres.

K. Surrounding Developments

The project is surrounded by business's and residential housing.

L. Soil Description

According to the NRCS Soil Survey, soils on the site belong to the Urban Land complex (602B). These soil compositions fall under the A hydrologic soil group having an estimated infiltration rate of 8.27 inches/hour.

M. Runoff Coefficient

Existing soils have high permeability rates therefore runoff will be generated from all storm events. The pre-development runoff coefficient for the site is 0.96 and the post-development runoff coefficient will be 0.93.

N. Site Map and Plans

Complete project site plans are attached to this report.

O. Receiving Water

No direct discharge will occur into any near by body of water.

P. Extent of Wetlands

There is no wetland located on or off-site within 100-feet of the locus. No direct discharge will occur to a wetland area.

Q. Sequence of Major Activities

1. The project is scheduled to begin in July 2013.
2. The proposed addition will be completed in October 2013.
3. The proposed drainage installation will begin on April 2014.
4. All construction will be completed by December 2014.

R. Construction Sequence

1. **Erosion Control**
   An erosion control device, filter mitts, will be places at the limit of work around the parcel as needed and in any sensitive areas.

2. **Site Access**
   Site access, for construction equipment, will be made from Kendall Street. An erosion control barrier at the entrance and exit of Kendall Street shall be removed at the start of each workday and replaced at the end of each workday. The erosion control barriers will be in place during periods of inclement weather when so directed by the Environmental Consultant. The barriers will remain in place during all non-work periods until the site has been deemed to be stable by the Environmental Consultant.

3. **Construction Staging**
   A construction staging area will be established on the site in the approximate center of the work. All construction materials, supplies, trailers and offices, portable toilets, and equipment shall be stored within the limits of the staging area. Silt fence or other erosion control measures shall demarcate the limits of the staging area.

4. **Site Work**
   Site work, including excavation and grading of the yard area, excavation for drainage systems, as well as other utilities may commence only when the site is stable from erosion and all required control measures are in place and functional. Site work during wet periods should be avoided if possible and limited to only those areas that will not have adverse impacts on wetland resource areas.

S. Pollution Prevention Measures

1. Before, during and after construction, functional erosion and sedimentation controls shall be implemented to prevent the silting of abutting, and down-gradient properties. Siltation fencing and other controls shall be properly maintained and are not to be removed until so approved by the Environmental Engineer. Other controls shall be added as warranted during construction to protect the environmentally sensitive areas. Sufficient extra materials (e.g. siltation fencing and other control materials) shall be stored on site for emergencies.

2. Casting of excavated materials shall be stored away from any sensitive land areas.

3. Any stockpiling of loose materials shall be properly stabilized to prevent erosion and siltation. Preventive controls such as hay bales or jute covering shall be implemented to prevent such an occurrence.

4. There shall be no flooding, ponding, or flood related damage caused by the project or surface run-off emanating from the project on lands of an abutter, nearby or down-gradient properties.

5. All surface discharge shall meet the water quality standards for the Mass. Division of Water Pollution Control for Class "B" Water.

6. Proper landscaping of embankments and run-off areas (that is, the use of grass, vegetation, shrubbery, and crushed stone) shall be implemented before the project is completed.

7. Finish grades shall be no steeper than a slope of 3 horizontal to 1 vertical (33%).

8. There shall be no contaminant migration caused by the project to nearby and down-gradient properties, nearby aquifers, wetlands and nearby wells.

9. The use of salt and sand on paved surfaces shall be kept to an absolute minimum during the winter months.

10. The applicant shall make sufficient provisions to control any unexpected drainage and erosion conditions that may rise during construction that may create damage on abutting properties and wetland areas. Said control measures are to be implemented at once and the Environmental Engineer shall be notified in writing.

11. During construction flood prevention, erosion, and sedimentation controls shall be in place before the natural ground cover is disturbed. Said controls shall be in place prior to other construction work and shall be monitored and approved by the Environmental Engineer before other work is commenced. They shall be properly maintained and are not to be removed until so approved by the Environmental Engineer.

12. The applicant shall designate a person or persons to inspect and supervise the drainage and erosion controls for the project and the Environmental Engineer shall be notified as to the means to contact said individual or individuals on a 24 hour basis on all working and non-working days of the project. Said means of contact shall include the telephone number of said designated person or persons.

13. There shall be periodic inspection of the fabric fencing and other controls by the applicant's designee to assure their continued effectiveness.

14. Any changes in the construction plans must be submitted in writing in advance for approval by the Engineer.

15. Upon completion of this project, the project engineer shall certify that the work completed conforms to the plans as submitted. Certification must include registered engineers stamp. In addition, an as-built plan shall be submitted to the Planning Board for approval prior to the issuance of a Certificate of Compliance.

16. Upon completion of the project, the permanent functional erosion, sedimentation, and flood control measures that are installed according to the presented plans and specifications submitted and revised shall be maintained in perpetuity.

17. Upon completion of the project, the contractor shall clean all deep sump catch basins, the Stormceptor treatment tank, and the detention pond to remove all silt and sediment.

T. Other Control Measures

Off-site Vehicle Tracking. A stabilized construction entrance will be provided to help reduce vehicle tracking of sediments. The paved streets adjacent to the site will be swept or scraped weekly to remove any excess mud, dirt, or rock tracked from the construction area. A source of fresh water for washing sediment from trucks, especially during periods of wet weather, may be provided in order to minimize the amount of street sweeping and scraping required. Any wash water resulting from this operation will be directed into a sediment trap.

Waste Materials. All trash and construction debris from the site will be hauled to an approved landfill. No construction waste material will be buried on the site. All personnel will receive instructions regarding the correct procedure for waste disposal. Notices describing these practices will be posted in the construction office. The site superintendent will be responsible for seeing that these procedures are followed. Employee waste and other loose materials will be collected so as to prevent the release of floatables during runoff events.

Hazardous Waste. No hazardous waste is expected to be generated or encountered in this project. In the event that hazardous waste is encountered, all hazardous waste materials will be disposed of in the manner specified by local or state regulation or by the manufacturer. The site superintendent will be responsible for seeing that these practices are followed.

Sanitary Waste. Portable sanitary units will be provided for use by all workers throughout the life of the project. A licensed sanitary waste management contractor will regularly collect all sanitary waste from the portable units.

U. Maintenance

To maintain the erosion and sediment controls, the following procedures will be performed:

- **Sediment Capture Devices:** Sediment will be removed from the upstream or upslope side of the filter fabric fences, straw bale barriers, siltation ponds, diversion trenches, or other devices, when the depth of accumulated sediment reaches about one-third the height of the structure or device.

- **Storm Sewer Inlets:** Any sediment in the storm sewer inlets will be removed and disposed of properly.

- **Temporary Controls:** All temporary controls will be maintained until final site stabilization and landscaping is complete, and the Environmental Engineer approves removal.

Sediment that is removed from structural barriers; either will be hauled off the site and disposed of properly or will be used as backfill. Sediment temporarily stockpiled on site will be placed in such areas and in such manner as to minimize erosion of sediments back into the local drainage system. Berms, filter fabric fencing, straw bale barriers, and polyethylene or polypropylene covers are measures that may be utilized in minimizing erosion of stockpiled sediment.

V. Inspection Procedures

Inspections will be conducted by the responsible person(s) at least once every 7 calendar days and within 24 hrs after each storm event producing 0.5 inch of rainfall or greater. Areas that have been reseeded will be inspected regularly after seed germination to ensure complete coverage of exposed areas.

The contractor will designate a qualified person or persons to perform the following inspections:

- **Stabilization Measures:** Disturbed areas and other areas used for storage of materials that are exposed to precipitation will be inspected for evidence of, or the potential for, pollutants entering the drainage system. After a portion of the site is finally stabilized, inspections will be conducted at least once every month throughout the life of the project. Form 1 shows the inspection form to be used for stabilization measures.

- **Structural Controls:** Filter fabric fences, straw bale barriers, and all other erosion and sediment control measures identified in the plan will be inspected regularly for proper positioning, anchoring, and effectiveness in trapping sediments. Sediment will be removed from the upstream or upslope side of the filter fabric. Form 2 shows the inspection form to be used for stabilization measures.

- **Discharge Points:** Discharge points or locations will be inspected to determine whether erosion control measures are effective in preventing significant amounts of pollutants from entering receiving waters.

- **Construction Entrances:** Locations where vehicles enter or exit the site will be inspected for evidence of off-site sediment tracking.

Form 1 - **INSPECTION REPORT FORM FOR STABILIZATION MEASURES**

INSPECTOR: _____ DATE: _____

Days since last rainfall: _____ Amount of Last Rainfall: _____inches

Area	Date last disturbed	Date of next Disturbance	Stabilized?	Stabilized With	Condition

Stabilization Required:

_____
_____
_____
_____
_____
_____
_____
_____

To be performed by:_____ **On or Before:** _____

Form 2 - **INSPECTION FORM FOR STRUCTURAL CONTROLS**

INSPECTOR: _____ DATE: _____

Days since last rainfall: _____ Amount of Last Rainfall: _____inches

Location of Control	In place?	Condition	Sediment Depth	Washed out or overtopped?

Maintenance Required:

_____
_____
_____
_____
_____
_____
_____
_____

To be performed by:_____ **On or Before:** _____

W. Revisions to the SWPPP

Based on the results of the inspection, the site description and control measures of this pollution prevention plan will be revised as appropriate, but in no case later than 7 calendar days following the inspection. Form 3 shows the form to be used to record necessary changes to the SWPPP.

X. Inspection Report Summary

A report summarizing the scope of each inspection, name(s) and qualifications of personnel making the inspection, date(s) of the inspection, major observations relating to the implementation of the SWPPP, and actions taken to revise the plan will be completed and retained as part of the SWPPP for at least 3 years from the date that the site is finally stabilized. Form 4 shows the form to be used for certification of the inspection report. The report will be signed by one of the following persons:

Owner of the property.

A duly authorized representative of the property owner.

Y. Non-Storm-Water Discharges

It is expected that the following non-storm-water discharges will occur at the site during the construction period:

- **Dewatering discharges:** Water pumped from the construction area during dewatering operations (this may or may not be storm water).
- **Pressure test water:** Water used to pressure-test the potable water system.
- **Disinfectant water:** Water used to disinfect the potable water system.

Dewatering discharges will be done in such a manner as to avoid erosion problems and will pass through a portable sediment tank or temporary siltation pond. No direct discharge to surface waters or wetlands will be permitted.

Form 3 - **REPORT FORM FOR CHANGES IN POLLUTION PREVENTION PLAN**

INSPECTOR:_____ DATE: _____

SUMMARY OF REQUIRED CHANGES:

_____
_____
_____
_____
_____
_____
_____
_____
_____

REASON(S) FOR CHANGES:

_____
_____
_____
_____
_____
_____
_____
_____
_____

INSPECTOR'S SIGNATURE:_____ **DATE:**_____

Form 4 - **INSPECTION CERTIFICATION FORM**

Project: 101 Concord Street, Framingham, MA

This certification must be completed after each inspection to signify that the inspection has been properly completed and the site has been found to be in compliance with the Storm Water Pollution Prevention Plan.

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Signed: _____

Name: VTT Framingham Renaissance LLC

Title: Owner

Company: _____

Address: 100 Concord Street, Framingham, MA

Telephone: 508-820-4961

Date: March 21, 2013

Z. Significant-Materials Inventory

Significant materials expected to be found at the construction site include:

- Lime (trucked onto the site for soil stabilization purposes)
- Concrete mix (trucked onto the site for roadway construction)
- Steel reinforcing bars and related materials
- Lumber
- Diesel and Gasoline fuel and lubricating oils
- Reinforced-concrete pipe
- Ductile iron pipe
- Steel pipe
- Paints
- Fertilizers
- Plastic pipe
- Earth materials, stone and aggregate
- Asphalt
- Cements and adhesives
- Waterproofing tar
- Block, brick and masonry materials
- Fiberglass and foam insulation
- Propane fuel for space heaters
- Acetylene fuel for welding
- Lead pipe for natural gas service

This list of significant materials may be reduced or expanded once a contractor has been chosen and the materials to be used have been specified. If fewer or additional materials are required, the SWPPP will be amended to reflect these changes.

AA. Spill Prevention and Response Procedures

Spill prevention and response include good housekeeping as well as specific practices for certain products and established procedures for responding to spills.

Good Housekeeping

The following good housekeeping practices will be followed onsite during the construction project.

- **Minimize materials:** An effort will be made to store only enough material required to do the job.

- **Storage:** All materials stored onsite will be stored in a neat, orderly manner in their appropriate containers in a covered area. If storage in a covered area is not possible, the materials will be covered with polyethylene or polypropylene sheeting to protect them from the elements.

- **Labeling:** Products will be kept in their original containers with the original manufacturer's label affixed to each container.

- **Mixing:** Substances will not be mixed with one another unless this is recommended by the manufacturer.

- **Disposal:** Whenever possible, all of a product will be used prior to disposal of the container. Manufacturer's recommendations for proper use and disposal will be followed.

- **Inspections:** The site superintendent will inspect the site daily to ensure proper use and disposal of materials onsite.

- **Spoil materials:** Any excavated earth that will not be used for fill material and all demolished pavement will be hauled off site immediately and will be disposed of properly.

Product-Specific Practices

- **Petroleum Products.** All on-site vehicles will be monitored for leaks and will receive regular preventive maintenance to reduce the chance of leakage. If petroleum products will be present at the site, they will be stored in tightly sealed containers that are clearly labeled. Any asphalt substances used on site will be applied according to the manufacturer's recommendations.

- **Concrete Trucks.** Concrete trucks will not be allowed to wash out or discharge surplus concrete or drum wash water at the site.

- **Paints.** All containers will be tightly sealed and stored when not required for use. Excess paint will not be poured into the storm sewer system but will be properly disposed of according to manufacturers' instructions or state and local regulations.

- **Fertilizers.** Fertilizers will be applied only in the minimum amounts recommended by the manufacturer. Once applied, fertilizer will be worked into the soil to limit exposure to storm water. The fertilizer will be stored in a covered area, and any partially used bags will be transferred to a sealable plastic bin to avoid spills.

Spill Control and Response Practices

A spill prevention and response team will be designated by the owner or the site superintendent. In addition, the following practices will be followed for spill cleanup:

- **Information:** Manufacturers' recommended methods for spill cleanup will be clearly posted, and site personnel will be made aware of the procedures and location of the information and cleanup supplies.

- **Equipment:** Materials and equipment necessary for spill cleanup will be present on the site at all times. Equipment and materials will include but not be limited to brooms, shovels, rags, gloves, goggles, absorbent materials (sand, sawdust, etc.) and plastic or metal trash containers specifically designed for this purpose. The materials and equipment necessary for spill cleanup will be dependent upon the nature and quantity of the material stored on site.

- **Response:** All spills will be cleaned up immediately upon discovery.

- **Safety:** The spill area will be kept well ventilated, and personnel will wear appropriate protective clothing to prevent injury from contact with hazardous substances.

- **Reporting:** Spills of toxic of hazardous material (if present on site) will be reported to the appropriate state or local government agency, regardless of the spills size.

- **Record Keeping:** The spill prevention plan will be modified to include measures to prevent this type of spill from recurring as well as improved methods for cleaning up any future spills. A description of each spill, what caused it, and the cleanup measures used will be kept with the plan.

BB. Plan Location and Public Access

The SWPPP is not submitted to the EPA for review unless requested. The SWPPP must be available at the construction site from the date of project initiation to the date of final stabilization. The SWPPP and all reports required by the permit must be retained for at least 3 years front he date on which the site is finally stabilized.

Despite the fact that the SWPPP and associated reports are not necessarily required to be submitted with the Notice of Intent, these documents are considered to be reports according to section 308(b) of the Clean Water Act and therefore are available to the public. The permittee, however, may claim certain parts of the SWPPP as confidential according to regulations in 40 CFR part 2. These regulations state that records that contain trade secrets may be claimed as confidential.

The SWPPP shall also be at the offices of the Environmental Consultant, MetroWest Engineering, Inc (75 Franklin Street, Framingham, MA 01702).

APPENDIX A: EMERGENCY & INSPECTION INFORMATION

Emergency Contact Sheet

Form 1. Emergency Contact Numbers

Framingham Fire Department	
Emergency	911
Business	508-532-5930
Framingham Police Department	
Emergency	911
Business	508-532-5926
Massachusetts Department of Environmental Protection	
Northeast Regional Office	671-654-6500
Framingham Conservation Commission	508-532-5460
Framingham Board of Health	508-532-5470
National Response Center	1-800-424-8802
US EPA	1-888-372-7341

CHAPTER 9: STORMWATER MANAGEMENT STANDARD 7

Chapter 9:

Standard 7: Redevelopments and Other Projects Subject to the Standards only to the maximum extent practicable

- The project will result in a decrease of impervious area and, therefore, is considered a redevelopment.
- The project will comply with Stormwater Management Policy to the maximum extent practicable.

CHAPTER 10: STORMWATER MANAGEMENT STANDARD 8

Chapter 10:

Standard 8: Construction Period Pollution and Erosion and Sedimentation Control

- The Stormwater Pollution Prevention Plan is included in Chapter 8 of this Stormwater Report.
- The project is not covered by a NPDES general construction permit as the project will result in less than an acre of disturbance.

CHAPTER 11: OPERATION AND MAINTENANCE PLAN STORMWATER MANAGEMENT STANDARD 9

STORMWATER MANAGEMENT SYSTEM OPERATION AND MAINTENANCE PLAN

PROPOSED RENOVATONS
AMSDEN BUILDING
101 CONCORD STREET
FRAMINGHAM, MA

Prepared for: ***VTT Framingham Renaissance LLC***
100 Concord Street
Framingham, MA

Prepared by: ***MetroWest Engineering, Inc.***
75 Franklin Street
Framingham, MA 01702
(508) 626-0063

April, 2013

STORMWATER MANAGEMENT SYSTEM
100 CONCORD STREET
FRAMINGHAM, MA

OPERATION AND MAINTENANCE PLAN

Introduction

The proposed renovations to the Amsden Building located on 100 Kendall Street in Framingham, MA feature a stormwater collection, treatment and management system. The system has been designed in full compliance with Massachusetts Department of Protection (MADEP) Stormwater Management Policy. The system includes structural measures and Best Management Practices (BMPs) to enhance the quality of stormwater quality prior to release.

Drainage Approach

An addition to the rear of the building is being proposed along with modifying the layout of the current parking area. A deep-sump catch basin equipped with an MDC oil/gas hood will be added and all runoff associated with parking lot will be directed to it. The deep-sump catch basin will provide pre-treatment for removal of oil, grease and sediment. After treatment, the flow is directed to the sub-surface drainage infiltration system.

The stormwater collection and management system has been design to fully collect, treat, store and infiltrate all runoff from storms with return periods up to the 2-year, 24-hour storm event.

All aspects of the stormwater management system have been designed in full compliance with all local, state and federal regulations, including but not limited to the following:

- Massachusetts Department of Environmental Protection Stormwater Management Policy
- USEPA Clean Water Act and NPDES Permit Regulations

Maintenance Requirements

General

The project's stormwater collection and treatment system is designed to collect and treat stormwater so that all discharges from the system are in compliance with all local, state and federal environmental regulations. Periodic routine inspection and maintenance of the system is critical if the system is to continue to meet required performance standards.

Responsible Party

The area of proposed construction will be owned and operated by the VTT Framingham Renaissance. They are individually responsible for system maintenance and coordination of primary maintenance activities. This plan shall be transferred from the current owner/operator to any subsequent successor(s) in title.

The owner/operator shall be responsible for all maintenance and repair activities within and around the proposed building and the proposed parking area relating to the pavement surface, stormwater collection system and subsurface infiltration systems

Personnel

VTT Framingham Renaissance shall engage one or more maintenance firms to inspect the property, the drainage system and to initiate maintenance and repair activities when required. Maintenance activities required at regularly scheduled intervals by this plan will be performed by a stormwater drainage system maintenance contractor. A landscaping contractor will perform routine weekly cleaning activities. Annual inspections shall be performed by a Professional Engineer with specific experience with stormwater management systems.

Record Keeping

The owner shall maintain records of all inspection and maintenance activities. These records shall include the following:

1. Parking Lot sweeping and cleaning
2. Catch Basin and Infiltration System Cleaning
3. Annual Engineer's Report

Maintenance Activities

The following maintenance activities will be performed at the intervals stated herein:

Parking Areas

Parking areas shall be vacuum-swept four times per year to remove sediments. Cleanings shall be performed as needed during January, February, March and April. All sediment removed shall be disposed of in accordance with DEP policy and requirements for the disposal of road sediments. A road-cleaning contractor assigned by the property owner shall perform this activity. A record of all pavement vacuum sweeping shall be maintained at the offices of the Amsden Building.

In addition to quarterly pavement vacuum sweeping operations, the parking lot will be inspected and cleaned weekly by a landscaping contractor. The weekly cleaning operation will include removal of litter and other trash and surface cleaning with a leaf blower.

Deep-sump catch basin

The Deep sump catch basin shall be inspected twice within the first year of operation. After the first year, the unit shall be cleaned a minimum of once per year. Additionally, the depth of sediment in the sumps of the units shall be measured quarterly. Sediment shall be removed from the sumps and disposed of in accordance with applicable MADEP disposal policy. The inspections shall also examine the condition of the MDC oil/gas separator unit. Should the unit be damaged, it shall be repaired as necessary.

Infiltration Systems

The infiltration systems system shall be inspected twice within the first year of operation. It shall then be inspected once per year to evaluate sediment accumulation and once per year and once per year during a storm event. Routine inspection for sediment accumulation shall consist of the inspection of each chamber where an inlet is located. An inspection port cover is located at each point. Any sediment that has entered into the system at the inlet locations shall be removed and disposed of in accordance with MADEP policy.

The system shall also be observed at least once per year during a major storm event. A major storm event shall be defined for this Operation and Maintenance Plan as one in which the 24-hour rainfall volume exceeds one-inch. The inspection shall include removal of an inspection port cover to measure the water depth inside the system, and an inspection of the overflow outlet to ascertain whether an overflow discharge has occurred. The inspection should take place after at least one inch of rainfall has fallen and prior to the end of storm. Following the inspection, the precipitation volume, based upon the nearest reporting weather station, should be recorded in the inspection log book.

The inspection of the infiltration system will be performed by Professional Engineer with experience in stormwater management.

Grounds

All landscaped and parking areas shall be cleaned weekly to remove trash and other debris. All slopes shall be inspected and any exposed areas or other locations susceptible to erosion shall be stabilized with mulch, sod, seed, stone or other suitable measures. All grass clippings, leaves, brush and other natural materials will be transported to an approved composting facility. No clippings or leaves shall be deposited in wooded areas.

Information Resources

The following agencies, individuals or firms may be contacted for information concerning this specific drainage system, maintenance requirements or permitting obligations.

Design Engineer

Metrowest Engineering, Inc.
75 Franklin Street
Framingham, MA 01702
(508) 626-0063

Framingham Department of Public Works

100 Western Ave
Framingham, MA 01702
(508) 532-6030

Massachusetts Department of Environmental Protection

DEP, NERO – Wetlands Division
205B Lowell Street
Wilmington, MA 01887
(617) 654-6500

Operation and Maintenance Plan Contact Information

Facility Operator & Owner

VTT Framingham Renaissance LLC
100 Concord Street
Framingham, MA 01702

Facility Stormwater Management Consultant

MetroWest Engineering, Inc.
75 Franklin Street
Framingham, MA 01702
(508) 626-0063

Attention: Robert Gemma, P.E.

Form 1 - *INSPECTION REPORT FORM FOR STABILIZATION MEASURES* **(for use during construction phase)**

INSPECTOR: _____

DATE:_____

Days since last rainfall: _____ Amount of Last Rainfall: _____inches

Area	Date last disturbed	Date of next Disturbance	Stabilized?	Stabilized With	Condition

Stabilization Required:

_____
_____
_____
_____
_____
_____
_____
_____
_____

To be performed by:_____ **On or Before:** _____

Form 2 - *INSPECTION FORM FOR STRUCTURAL CONTROLS* **(for use during construction phase)**

INSPECTOR: _____

DATE: _____

Days since last rainfall: _____

Amount of Last Rainfall: _____inches

Location of Control	In place?	Condition	Sediment Depth	Washed out or overtopped?

Maintenance Required:

_____
_____
_____
_____
_____
_____
_____
_____
_____

To be performed by:_____ **On or Before:** _____

Form 3 - INSPECTION FORM FOR DCB (DEEP-SUMP CATCH BASIN)

INSPECTOR: _____

DATE: _____

Days since last rainfall: _____

Amount of Last Rainfall: _____inches

Location of Control	In place?	Condition	Sediment Depth	Washed out or overtopped?

Maintenance Required:

_____
_____
_____
_____
_____
_____
_____
_____
_____

To be performed by:_____ **On or Before:** _____

Form 4 - *INSPECTION FORM FOR INFILTRATION SYSTEM*

Infiltration Galleys - Ongoing Maintenance
(20 Galley System Located on the southerly side of the parking lot)

INSPECTOR: _____

DATE: _____

Days since last rainfall: _____

Amount of Last Rainfall: _____inches

Rim Location	Rim Elev.	Sediment Depth	Condition	Date and Description of Cleaning

Maintenance Required:

_____
_____
_____
_____
_____
_____
_____
_____
_____

To be performed by:_____ **On or Before:**_____

CHAPTER 12: STORMWATER MANAGEMENT STANDARD 10

Chapter 12:

Standard 10: Prohibition of Illicit Discharges

- The Long Term Pollution Prevention Plan includes the required measures to prevent the illicit discharges.
- All Catch basins and drain inlets shall be labeled with signage to prohibit the release of any illicit substance into the drainage system.
- No floor drains will be connected to the drainage system.
- No washing of vehicles shall be permitted
- All operations and managers of the facility will be provided with training and education concerning the danger of illicit discharges into the drainage system.

Illicit Discharge Certification

I have read Standard 10 of the Massachusetts Stormwater Management Policy regarding Illicit Discharges. I have also studied the Proposed Site Plans and Stormwater Operation and Maintenance Plan and am aware of the components of the Stormwater Management System proposed at 101 Concord Street, Framingham, Massachusetts. I hereby certify that there will be no illicit discharges, as defined by the Policy, from the site through any part of the Stormwater Management System.

_____
Signature

_____
Name and Title Date