

FLAHERTY & STEFANI, INC.

ENGINEERS AND SURVEYORS
67 SAMOSET STREET
PLYMOUTH, MASSACHUSETTS 02360
(508) 747-2425
FAX (508) 747-3991

April 8, 2022

Mr. Bruce Maki, Chairman
Carver Planning Board
108 Main Street
Carver, MA 02330

Attn: Ms. Michele Bremer

Re: Preliminary Subdivision Plan Submission-Residences at Johnson Bogs for
Owner/Applicant Johnson Cranberries Limited Partnership and Johnson Brothers
Cranberries LLC, Francis V. Johnson, General Partner and Manager
Location: Off Fosdick Road & Purchase Street and Lee Way

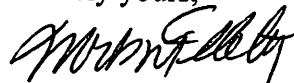
Dear Mr. Maki and Members of the Planning Board:

We are pleased to submit the attached Form B Application and Preliminary Subdivision Plans and supporting documentation. The submission is consistent with the requirements of Section 5.0 Preliminary Plans in the Carver Subdivision Rules and Regulations. And the Preliminary Plan Checklist. A project narrative is also attached that describes the two-lot residential subdivision and mentions the two requested waivers with justification that the Planning Board will be asked to consider. Concerning the above matter, enclosed please find the following:

1. Eight (8) Full Sized Set of Plans (Three Sheets).
2. One (1) 11 x 17 Sized Set of Plans.
3. PDF of Plans and Stormwater Report.
4. Complete Application Form B including MLCs for Each Parcel.
5. Brief Narrative of Project.
6. Check made payable to the Town of Carver \$700.00 for the filing fee.
7. Check made payable to the Town of Carver \$400.00 for the review fee.
8. Supporting documentation includes Quadrangle Maps Showing Priority Habitat and Estimated Habitats of Rare Wildlife/Vernal Pools; Narrative of Utilities.

Thank you for your courtesy and cooperation in this matter.

Sincerely yours,



Mark M. Flaherty, P.E.

CC: Mr. Gary Weston
Town Clerk
Board of Health



TOWN OF CARVER

Planning Board

108 Main Street, Carver, MA 02330

Tel: 508-866-3405 • Fax: 508-866-3430

Email: Carver.Planning@carverma.gov

Planning Board: Preliminary Subdivision (Form B)

- ☐ 8 full sized set of plans
- ☐ (1) 11x17 set of plans
- ☐ PDF of Plans
- ☐ PDF of Storm Water Report
- ☐ Complete Application Form
- ☐ Brief Narrative of Project
- ☐ Check payable to "Town of Carver" for \$500 plus \$100/lot for filing fee
- ☐ Review check payable to "Town of Carver" calculated at \$200/lot

Stamp application in with the Town Clerk.

The Board has 45-days from the date of application to make a decision.

There is no advertising or notice to abutters.

Decisions are not mailed to abutters.



TOWN OF CARVER

Planning Board

108 Main Street, Carver, MA 02330
Phone: 508-866-3450 Fax: 508-866-3430
Email: townplanner@carverma.gov

FORM B

Johnson Cranberries Limited Partnership (Map 57,
Lots 2 & 2A, Map 58, Lot 8)

APPLICANT NAME: Johnson Brothers Cranberries LLC (Map 57, Lot 1) FILE # _____

EMAIL: _____ DATE: April 8, 2022

To The Planning Board of the Town of Carver:

The undersigned, being the applicant as defined under Chapter 41, Section 81-L, for approval of a proposed subdivision shown on a plan entitled: Residences at Johnson Bogs

By Flaherty & Stefani, Inc. dated April 8, 2022

And described as follows: Assessors Parcels: Map 57, Lots 1, 2 & 2A; Map 58, Lot 8

Located off Fosdick Road, number of lots proposed

2 total acreage of tract 144.5, said applicant hereby submits said plan as

Preliminary subdivision plan in accordance with the Rules and Regulations of the Carver

Planning Board and makes application to the Board for approval of said plan.

The undersigned's title to said land is derived from Francis V. Johnson (Lot 1)

Charles R. & Genelda B. Johnson (Lot 2); Tremont Enterprises Corp. (Lot 2A) Richard A. Johnson (Lot 8)

By deed dated see below and recorded in the Plymouth District Registry of Deeds

Book see below, Page _____, registered in the Plymouth Registry District of the Land

Court, Certificate of Title No. _____.

Lot 1 Bk 39242 pg 232 deed dated 11/5/2010

Lot 2A Bk 14931 Pg 136 deed dated 1/9/1997

Lot 2 Bk 14521 pg 294 deed dated 7/15/96

Lot 8 Bk 35801 Pg 248 deed dated 3/27/2008

Received by Town Clerk:

Applicant's Signature

Francis V. Johnson, as General Partner & Manage

Date _____

Applicant's Address

Johnson Brothers Cranberries, LLC

Time _____

Applicant's Phone #

Johnson Cranberries Limited Partnership

Signature _____

(Owner's Signature,

315 Purchase Street

Address and Phone #

Middleborough, MA 02346

If not the Applicant)

tel: (508) 277-7035

Received by Board of Health:

Date _____

Time _____

Fee \$ _____

Review and

Signature _____

Residences at Johnson Bogs

Preliminary Subdivision Plan

Project Narrative, Supporting Documentation and Waiver Request

Project Narrative

The Preliminary Subdivision Plan combines four (4) existing adjoining parcels and subdivides them into 2 residential lots that comply with the Town of Carver's zoning regulations.

The proposed lots will be served by on-site drinking water wells and septic systems. Stormwater will be collected, treated and discharged on site. The lots will be served by electrical and communications infrastructure located on Fosdick Road. No connection to municipal utilities is proposed.

Currently, three (3) of the four (4) existing parcels are owned by Johnson Cranberries Limited Partnership, and one (1) of the four (4) existing parcels is owned by Johnson Brothers Cranberries, LLC. The parties intend to consolidate the ownership of the four (4) parcels under one entity. A purchase and sale agreement to that effect, dated April 8, 2022, has been entered into by the parties with an expected closing date of June 30, 2022. The consolidation of ownership will be complete prior to the filing of the Definitive Subdivision Plan.

Supporting Documentation

Maps from the Natural Heritage and Endangered Species Program depicting the location of the project site relative to Priority Habitats of Rare Species and Estimated Habitats of Rare Wildlife and Certified Vernal Pools are included at the end of this document.

Waiver Request

The applicant respectfully requests a waiver from Section 5.3.2 Required Information, Item #20 of the Carver Subdivision Rules and Regulations. Item #20 requires that the Preliminary Plan shall include:

Boundaries, if any, of any area(s) which the Conservation Commission has determined to be subject to G.L. c. 131, s. 40 and the Town of Carver Wetlands Protection By-Law. These areas shall be determined through approval of an Abbreviated Notice of Resource Area Delineation with the Conservation Commission prior to filing the application for a Preliminary Plan.

The applicant has provided approximate wetland delineations on the Preliminary Plan based on publicly available data; however, an ANRAD has not yet been filed for the project. Prior to the submittal of a Definitive Subdivision Plan, the applicant will engage a professional wetland scientist to field delineate the wetland resources, and will file an ANRAD for Conservation Commission approval.

MUNICIPAL LIEN CERTIFICATE
THE COMMONWEALTH OF MASSACHUSETTS
Town of Carver
Office of the Collector of Taxes

Requested By:
Thomas Melehan
84 Obery St., #205
Plymouth MA 02360

I certify from available information that all taxes, assessments and charges now payable that constitute liens as of the date of this certificate on the parcel of real estate specified in your application received on 04/04/2022 are listed below

DESCRIPTION OF REAL ESTATE							
Map/Parcel	57-1-0	Land	74340	Land Area	340204	Book	39242
Unit		Building	142800	Cert #	0	Page	232
District	0	Other	4600	Doc #	0	Deed Date	11/09/2010
		Total	151540			Certificate #	3541
						Cert Date	04/05/2022
Name of person assessed	JOHNSON BROS CRANBERRIES LLC						
Location of Property	96 PURCHASE ST					Interest thru:	04/05/2022

Year	Description	Total Billed	Balance	Interest	Demand & Fees	Total Due	PerDiem
2022	RE Q4	915.74	915.74	0.00	0.00	915.74	0.00
2022	RE Q3	915.75	0.00	0.00	0.00	0.00	0.00
2022	RE Q2	1,067.34	0.00	0.00	0.00	0.00	0.00
2022	RE Q1	1,067.34	0.00	0.00	0.00	0.00	0.00
2021	RE	4,165.24	0.00	0.00	0.00	0.00	0.00
2020	RE	4,296.04	0.00	0.00	0.00	0.00	0.00
Total Taxes		12,427.45	915.74	0.00	0.00	915.74	0.00
Property Total		12,427.45	915.74	0.00	0.00	915.74	0.00

RE Bill Number: 1950

Unpaid utility and other charges

Per Diem After 04/05/2022: 0.00

TOTAL DUE

915.74

Kathryn Kay

Collector of taxes for the

Town of Carver

Name of City or Town

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Town of Carver
Office of the Collector of Taxes

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DESCRIPTION OF REAL ESTATE							
Map/Parcel	57-2-A	Land	226530	Land Area	599839	Book	14931
Unit		Building	0	Cert #	0	Page	136
District	0	Other	0	Doc #	0	Deed Date	01/27/1997
		Total	3560			Certificate #	3540
						Cert Date	04/05/2022
Name of person assessed	JOHNSON CRANBERRIES LIMITED PARTNERSHIP						
Location of Property	0 LEE WY					Interest thru:	04/05/2022

Year	Description	Total Billed	Balance	Interest	Demand & Fees	Total Due	PerDiem
2022	RE Q4	46.58	46.58	0.00	0.00	46.58	0.00
2022	RE Q3	46.59	0.00	0.00	0.00	0.00	0.00
2022	RE Q2	0.00	0.00	0.00	0.00	0.00	0.00
2022	RE Q1	0.00	0.00	0.00	0.00	0.00	0.00
2021	RE	89.79	0.00	0.00	0.00	0.00	0.00
2020	RE	91.75	0.00	0.00	0.00	0.00	0.00
Total Taxes		274.71	46.58	0.00	0.00	46.58	0.00
Property Total		274.71	46.58	0.00	0.00	46.58	0.00

RE Bill Number: 1954

AS PER MASS GL CH 59, §57A, THE FY22 Q1 & Q2 PRELIMINARY REAL ESTATE TAX BILLS WERE NOT ISSUED. THE FULL YEAR'S TAXES ARE BILLED ON Q3 & Q4.

Unpaid utility and other charges

Per Diem After 04/05/2022: 0.00

TOTAL DUE 46.58

Kathryn Kay

Collector of taxes for the

Town of Carver

Name of City or Town

MUNICIPAL LIEN CERTIFICATE
THE COMMONWEALTH OF MASSACHUSETTS
Town of Carver
Office of the Collector of Taxes

Requested By:
Thomas Melehan
84 Obery St., #205
Plymouth MA 02360

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DESCRIPTION OF REAL ESTATE							
Map/Parcel	58-2-0	Land	1522100	Land Area	4271773	Book	14521
Unit		Building	0	Cert #	0	Page	294
District	0	Other	0	Doc #	0	Deed Date	07/19/1996
		Total	126450			Certificate #	3539
						Cert Date	04/05/2022
Name of person assessed	JOHNSON CRANBERRIES LIMITED PARTNERSHIP						
Location of Property	0-REAR FOSDICK RD					Interest thru:	04/05/2022

Year	Description	Total Billed	Balance	Interest	Demand & Fees	Total Due	PerDiem
2022	RE Q4	646.74	646.74	0.00	0.00	646.74	0.00
2022	RE Q3	646.75	0.00	0.00	0.00	0.00	0.00
2022	RE Q2	1,008.00	0.00	0.00	0.00	0.00	0.00
2022	RE Q1	1,008.00	0.00	0.00	0.00	0.00	0.00
2021	RE	3,933.65	0.00	0.00	0.00	0.00	0.00
2020	RE	4,019.64	0.00	0.00	0.00	0.00	0.00
	Total Taxes	11,262.78	646.74	0.00	0.00	646.74	0.00
	Property Total	11,262.78	646.74	0.00	0.00	646.74	0.00

RE Bill Number: 1955

Unpaid utility and other charges

Per Diem After 04/05/2022: 0.00

TOTAL DUE

646.74

Kathryn Kay

Collector of taxes for the

Town of Carver

Name of City or Town

MUNICIPAL LIEN CERTIFICATE
THE COMMONWEALTH OF MASSACHUSETTS
Town of Carver
Office of the Collector of Taxes

Requested By:
Thomas Melehan
84 Obery St., #205
Plymouth MA 02360

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DESCRIPTION OF REAL ESTATE							
Map/Parcel	58-8-0	Land	23240	Land Area	129809	Book	35801
Unit		Building	0	Cert #	0	Page	248
District	0	Other	0	Doc #	0	Deed Date	04/01/2008
		Total	150			Certificate #	3542
						Cert Date	04/05/2022
Name of person assessed	JOHNSON CRANBERRIES LTD PARTNE						
Location of Property	0-OFF FOSDICK RD						Interest thru: 04/05/2022

Year	Description	Total Billed	Balance	Interest	Demand & Fees	Total Due	PerDiem
2022	RE Q4	1.96	1.96	0.00	0.00	1.96	0.00
2022	RE Q3	1.97	0.00	0.00	0.00	0.00	0.00
2022	RE Q2	0.00	0.00	0.00	0.00	0.00	0.00
2022	RE Q1	0.00	0.00	0.00	0.00	0.00	0.00
2021	RE	4.17	0.00	0.00	0.00	0.00	0.00
2020	RE	4.26	0.00	0.00	0.00	0.00	0.00
Total Taxes		12.36	1.96	0.00	0.00	1.96	0.00
Property Total		12.36	1.96	0.00	0.00	1.96	0.00

RE Bill Number: 1956

AS PER MASS GL CH 59, §57A, THE FY22 Q1 & Q2 PRELIMINARY REAL ESTATE TAX BILLS WERE NOT ISSUED. THE FULL YEAR'S TAXES ARE BILLED ON Q3 & Q4.

Unpaid utility and other charges

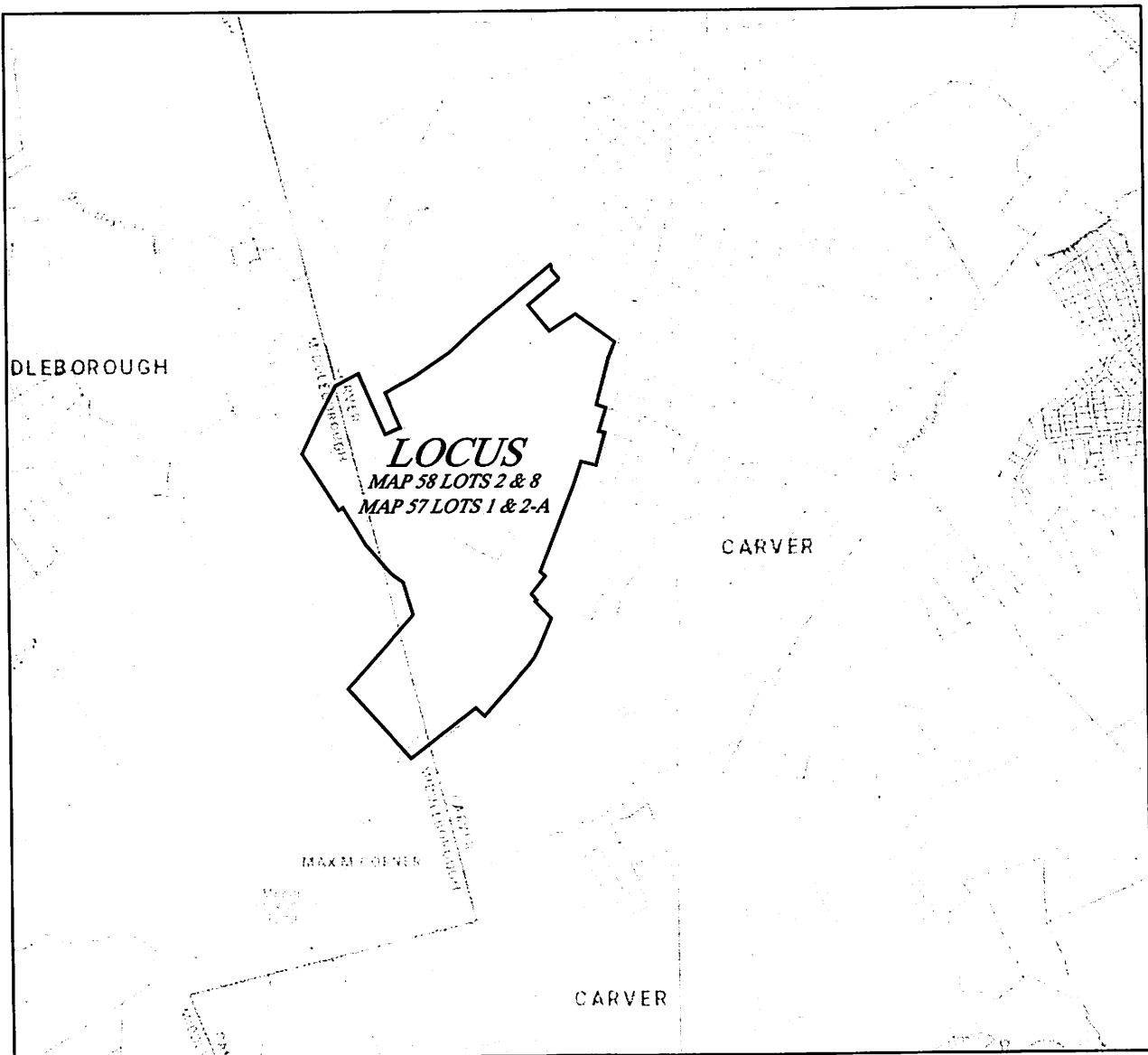
Per Diem After 04/05/2022: 0.00

TOTAL DUE 1.96

Kathryn Kay

Collector of taxes for the

Town of Carver
Name of City or Town



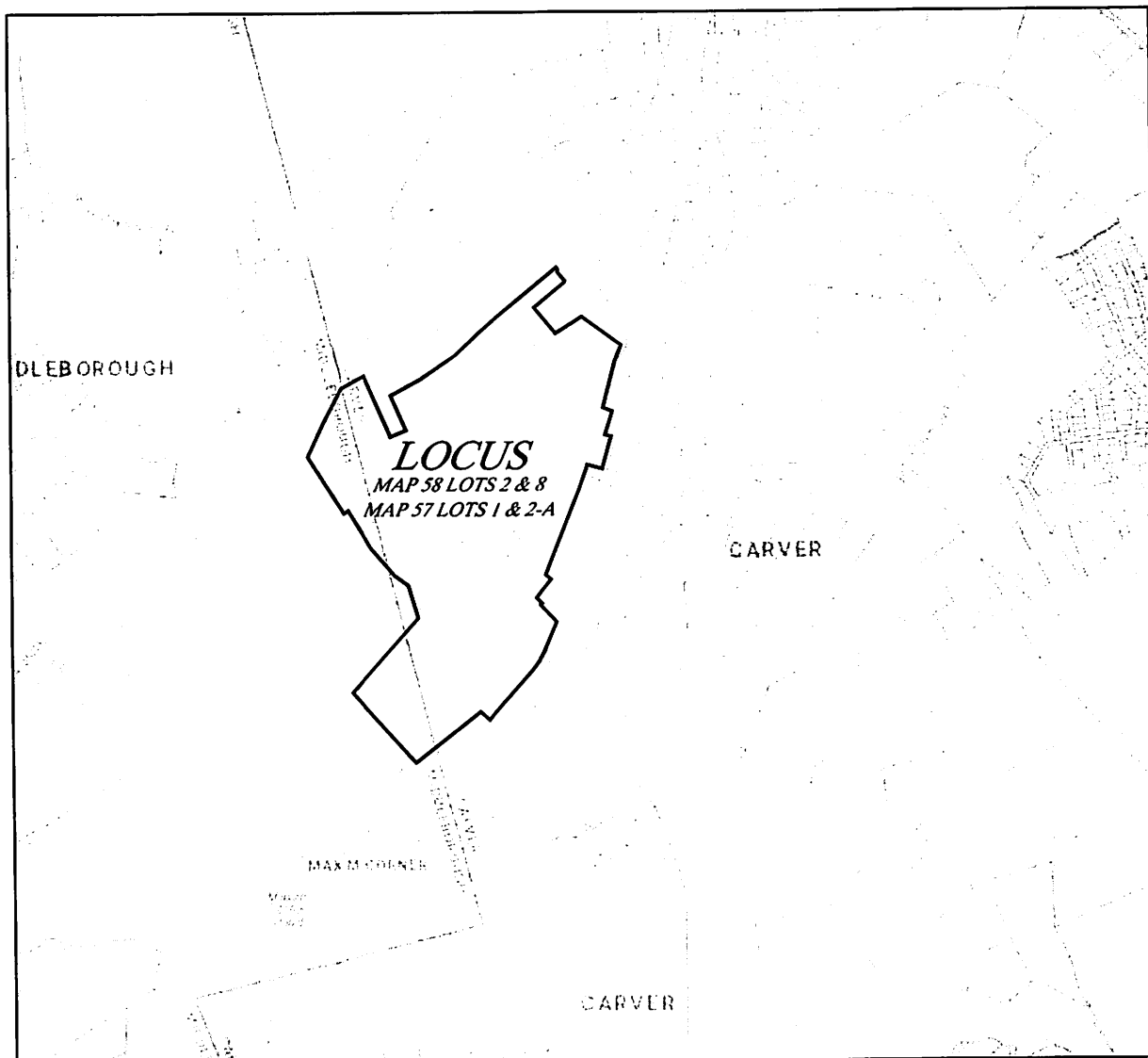
NO PRIORITY HABITAT WITHIN LOCUS

FLAHERTY & STEFANI INC.
67 SAMOSET STREET
PLYMOUTH, MA. 02360
(508)747-2425

SITE LOCUS MAP 57 PCL 1 & 2-A
SITE LOCUS MAP 58 PCL 2 & 8
QUADRANGLE MAP
ESTIMATED HABITAT AREA

RESIDENCES AT JOHNSONS BOGS
OFF FOSDICK ROAD & PURCHASE ST.
CARVER, MA.

FIG-1



NO ESTIMATED HABITAT FOR RARE WILDLIFE AND VERNAL POOLS WITHIN LOCUS

FLAHERTY & STEFAN INC.
67 SAMOSET STREET
PLYMOUTH, MA. 02360
(508)747-2425

SITE LOCUS MAP 57 PCL 1 & 2-A
SITE LOCUS MAP 58 PCL 2 & 8
QUADRANGLE MAP
ESTIMATED HABITAT AREA

RESIDENCES AT JOHNSONS BOGS
OFF FOSDICK ROAD & PURCHASE ST.
CARVER, MA.

FIG-2

Key: 2631


Town of CARVER - Fiscal Year 2022

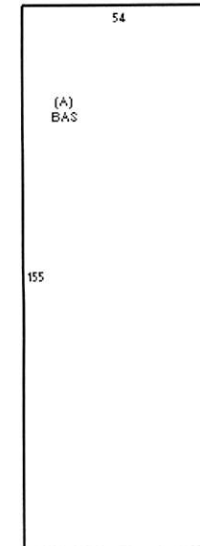
12/10/2021

5:44 pm

SEQ #: 2,575

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CURRENT OWNER										PARCEL ID				LOCATION						
JOHNSON BROS CRANBERRIES LLC C/O FRANCIS V JOHNSON, MGR 315 PURCHASE ST MIDDLEBORO, MA 02346										57-1-0-R				96 PURCHASE ST						
TRANSFER HISTORY										DOS		T		SALE PRICE		BK-PG (Cert)				
JOHNSON BROS CRANBERRIES										11/09/2010		A		100 39242-232						
JOHNSON FRANCIS V										01/21/1986		A		1 6596-322						
JOHNSON										01/01/1980		X		1 4931-319						
CD	T	AC/SF/UN	Ngh	INFL1	INFL2	ADJ BASE	SAF	INFL3	Lpi	VC	CREDIT AMT	ADJ VALUE								
371	A	1.100 CB	1.00 1	1.00 1	1.00 1	20,000	1.00 1	1.00 CB	1.00 710E		19,590	2,410								
300	A	6.710 EXS	1.00 1	1.00 1	1.00 1	7,800	1.00 1	1.00 EXS	1.00 716G		50,610	1,730								
TOTAL													7.810 Acres	ZONING	RA	FRNT	229	ASSESSED	CURRENT	PREVIOUS
Ngh													CRAN BOG	N O T E	LAND			4,140	4,330	
INFL1													NO ADJUST.		BUILDING			142,800	141,000	
INFL2													NO ADJUST.		DETACHED			4,600	4,500	
													OTHER			0	0			
TOTAL																		151,540	149,830	
TY	QUAL	COND	DIM/NOTE		YB	UNITS	ADJ PRICE	RCNLD	PHOTO 09/22/2020											
SHM	A	1.00 50	0.50 (3) 8X40 MTL		1960	960	6.90	3,300												
SHM	A	1.00 50	0.50 10X16 MTL TR		1960	160	6.90	600												
SHF	A	1.00 00	1.00 7X8		1980	56	12.90	700												
BUILDING													CD	ADJ	DESC	MEASURE	6/13/2008	EB	BLDG COMMENTS	
MODEL													5		COMMERCIAL					
STYLE													53	0.45	STORAGE [100%]	LIST	6/13/2008	EB		
QUALITY													C	1.00	AVERAGE [100%]	REVIEW				
FRAME													4	1.02	METAL FRAME [100%]					
YEAR BLT		1989	SIZE ADJ		0.900	ELEMENT		CD	DESCRIPTION	ADJ	S	BAT	T	DESCRIPTION	UNITS	YB	ADJ PRICE	RCN	TOTAL RCN	269,367
NET AREA		8,370	DETAIL ADJ		0.366	FOUNDATION		2	SLAB	1.02	A	BAS	L	BAS AREA	8,370	1989	32.18	269,367	CONDITION ELEM	CD
\$NLA(RCN)		\$32	OVERALL		1.000	EXT. COVER		19	PRE-FAB METAL	0.99										
						ROOF SHAPE		1	GABLE	1.00										
						ROOF COVER		10	METAL	0.98										
						FLOOR COVER		10	CONCRETE	0.98										
						INT. FINISH		5	SOLID WOOD	1.02										
						HEATING/COOLING		15	NONE	0.90										
						FUEL SOURCE		8	NONE	0.95										
						PARTITION		1	T	1.00										
CAPACITY			UNITS		ADJ															
STORIES			1		1.00															
% HEATED			100		1.00															
% CENTRAL A/C			0		1.00															
% SPRINKLERS			0		1.00															
EFF.YR/AGE		1992 / 28																		
COND		47 47 %																		
FUNC		0																		
ECON		0																		
DEPR		47 % GD 53																		
RCNLD		\$142,800																		



Key: 2651

Town of CARVER - Fiscal Year 2022

12/10/2021

5:44 pm

SEQ #: 2,596

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CURRENT OWNER										PARCEL ID		LOCATION		CLASS	CLASS%	DESCRIPTION		BN ID	BN	CARD				
JOHNSON CRANBERRIES LIMITED PARTNERSHIP 315 PURCHASE STREET MIDDLEBORO, MA 02346										57-2-A-R		0 LEE WY		7160	100	NEC RELATED				1 of 1				
										TRANSFER HISTORY		DOS	T	SALE PRICE	BK-PG (Cert)	PMT NO	PMT DT	TY	DESC	AMOUNT	INSP	BY	1st	%
										JOHNSON CRANBERRIES		01/27/1997	G	130,000	14931-136				67	61A APPL REC				0
TREMONT ENTERPRISE CORP		01/01/1973	X		1 3885-157				67	61A APPL REC				100	100									
ROBY		01/01/1972	X		1 3814-695				67	61A APPL REC				0	0									
									67	61A APPL REC				0	0									
									67	61A APPL REC				100	100									

CD	T	AC/SF/UN	Ngh	INFL1	INFL2	ADJ BASE	SAF	INFL3	Lpi	VC	CREDIT AMT	ADJ VALUE
100	S	60,000	NCR	1.00	1	1.00	1	1.00	NCR	1.00	716G	129,500
300	A	12,393	EXS	1.00	1	1.00	1	1.00	EXS	1.00	716G	93,470
TOTAL												360

TOTAL	13.770 Acres	ZONING	RA	FRNT	198	ASSESSED	CURRENT	PREVIOUS
Ngh	NORTH CARVER	N				LAND	3,560	3,230
INFL1	NO ADJUST.	O				BUILDING	0	0
INFL2	NO ADJUST.	T				DETACHED	0	0
		E				OTHER	0	0
TOTAL							3,560	3,230

TY	QUAL	COND	DIM/NOTE	YB	UNITS	ADJ PRICE	RCNLD	PHOTO
BLDG COMMENTS								

BUILDING	CD	ADJ	DESC	MEASURE
MODEL				
STYLE				
QUALITY				
FRAME				
				LIST
				REVIEW

YEAR BLT	NET AREA	SNLA(RCN)	SIZE ADJ	DETAIL ADJ	OVERALL	ELEMENT	CD	DESCRIPTION	ADJ	S	BAT	T	DESCRIPTION	UNITS	YB	ADJ PRICE	RCN	TOTAL RCN		
CONDITION ELEM																			CD	
CAPACITY																			UNITS	ADJ
EFF.YR/AGE																				
COND																				
FUNC																				
ECON																				
DEPR																			% GD	
RCNLD																				

Key: 2706

Town of CARVER - Fiscal Year 2022

12/10/2021 5:44 pm SEQ #: 2,646

JOHNSON CRANBERRIES LIMITED PARTNERSHIP 315 PURCHASE STREET MIDDLEBORO, MA 02346		CURRENT OWNER		PARCEL ID 58-2-0-R		LOCATION 0-REAR FOSDICK RD		CLASS 7100		CLASS% 100		CRANBERRY PMT DT 10/01/2021 09/30/2019 09/24/2018 09/22/2017 09/29/2016		DESCRIPTION DESC 61A APPL REC 61A APPL REC 61A APPL REC 61A APPL REC 61A APPL REC		BN ID BN		CARD 1 of 1			
JOHNSON CRANBERRIES		TRANSFER HISTORY		DOS 07/19/1986		X		T		SALE PRICE 1 14521-294		PMT NO		AMOUNT		INSP		BY		%	
CD		T		ACR/UN		NCR		INFL1		INFL2		INFL3		LPI		VC		CREDIT AMT		ADJ VALUE	
100		S		60,000		NCR		1.00		1.00		1.00		1.00		NCR		129,500		360	
300		A		8,264		EXS		1.00		1.00		1.00		1.00		EXS		62,330		2,130	
371		A		52,300		NCR		1.00		1.00		1.00		1.00		NCR		931,360		114,640	
300		A		36,125		EXS		1.00		1.00		1.00		1.00		EXS		272,460		9,320	
TOTAL		98.066 Acres		ZONING		RA		FRNT		1,051		ASSESSED		CURRENT		PREVIOUS					
NCR		NORTH CARVER		O		10, 13C, 15, 16, 17 ON MAP 58		LAND		126,450		0		141,500							
INFL1		NO ADJUST.		T				BUILDING		0		0		0							
INFL2		NO ADJUST.		E				OTHER		0		0		0							
TOTAL								TOTAL		126,450				141,500							
TY		QUAL		COND		DIM/NOTE		YB		UNITS		ADJ PRICE		RCNLD		PHOTO					
BUILDING		CD		ADJ		DESC		MEASURE		LIST		REVIEW									
MODEL																					
STYLE																					
QUALITY																					
FRAME																					
YEAR BLT				SIZE ADJ				DETAIL ADJ				OVERALL									
NET AREA																					
\$/SQA(RCN)																					
CAPACITY				UNITS				ADJ													
TOTAL RCN																					
CONDITION																					
ELEM																					
CD																					
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D E T A C H E D

B U I L D I N G

I L L D I N G

Key: 2712

Town of CARVER - Fiscal Year 2022

12/10/2021 5:44 pm SEQ #: 2647

CURRENT OWNER										PARCEL ID										LOCATION									
JOHNSON CRANBERRIES LTD PARTNE										58-9-0-R										0-OFF FOSDICK RD									
315 PURCHASE STREET										TRANSFER HISTORY										DOS T SALE PRICE BK-PG (Cert)									
MIDDLEBORO, MA 02346										JOHNSON CRANBERRIES LTD P										04/01/2008 F 1 35801-248									
										JOHNSON CRANBERRIES LTD										08/14/2007 A 1 34851-241									
										JOHNSON RICHARD A										01/31/2001 QS 20,000 19314-333									
CD T AC/SF/UN Ngt INFL1 INFL2 ADJ BASE SAF INFL3 Lpt VC CREDIT AMT ADJ VALUE																													
300 A 2,980 NCR 1.00 1 1.00 1 1.00 1 1.00 EXS 1.00 720G																				150									
TOTAL 2,980 Acres										ZONING RA FRNT 0																			
Ngt NORTH CARVER										IN Landlocked behind bog. access is across from 11, 13, 15,										150									
INFL1 NO ADJUST.										T										0									
INFL2 NO ADJUST.										E										0									
TOTAL										TOTAL										150									
TY QUAL COND DIM/NOTE YB UNITS ADJ PRICE RCNLD										PHOTO																			
BUILDING CD ADJ DESC										MEASURE																			
MODEL										LIST																			
STYLE										REVIEW																			
QUALITY																													
U FRAME																													
YEAR BLT										SIZE ADJ																			
NET AREA										DETAIL ADJ																			
INFLA(RCN)										OVERALL																			
CAPACITY										UNITS ADJ																			
TOTAL RCN										RCN																			
CONDITION ELEM										CD																			
EFF. YRIAGE																													
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FUNC																													
ECON																													
DEPR																													
% GD																													
RCNLD																													

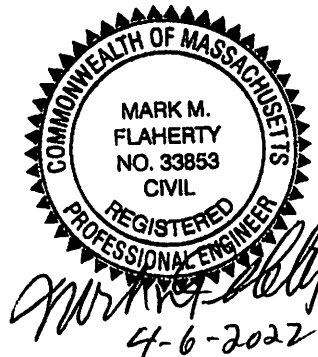
**Preliminary Subdivision Plan
In
Carver, Massachusetts
Off Fosdick Road and Purchase Street and Lee Way
Map 57 Parcel 1 Parcel 2-A & Map 58 Parcel 2 and Parcel 8**

**Storm Water Analysis &
Drainage Report**

Owner/Applicant: Johnson Cranberries Limited Partnership
Johnson Brothers Cranberries LLC
Francis V. Johnson, General Partner, and Manager
315 Purchase Street
Middleborough MA 02346

Prepared by: Flaherty & Stefani, Inc.
67 Samoset Street
Plymouth, Ma 02360

April 6, 2022





Drainage Project Overview:

Stormwater from this proposed subdivision road will be collected from the two watersheds that include impervious pavement areas and will be routed through two separate drainage systems on each end of this cul-de-sac. The drainage system will consist of catch basins to a drain manhole to a water quality tank and then to an infiltration/recharge system of leaching chambers surrounded by crushed stone. The systems have been designed to capture and infiltrate a 100-year storm event.

Table 1 – WATER QUALITY VOLUME TO BE TREATED (BMP Required Water Quality Treatment = 0.5" of Runoff over the total impervious area)		
BMP	Required Treatment Vol.	Proposed Treatment Vol.
	Watershed Total Impervious Pavement Area = 12,686 s.f. Req' Treatment Vol.=529 ft ³	Provided Water Quality Treatment 6000 WQ Tank Provided Treatment Volume 802 ft ³

Drainage Methodologies and Peak Flow Results

The infiltration systems were designed for the post-development conditions to handle a 100-year storm event. The peak flow and volume of these storms discharged after development will be less than the pre-development peak flows and volumes. The pre-development watershed drains to the existing cranberry bogs within the site. All post development runoff will be contained on-site.

Table 2 – Post-Development Peak Runoff Rates

Post-Construction Watershed Area	2 Year 24 Hour Storm Event	10 Year 24 Hour Storm Event	25 Year 24 Hour Storm Event	100 Year 24 Hour Storm Event
DA P-1	0.0 cfs	0.0 cfs	0.0 cfs	0.0 cfs

Flaherty & Stefani, Inc. performed all drainage calculations using the SCS TR-20 method for a Type III 24-hour storm with the "HydroCAD version 8.0 program" from Applied

Microcomputer Systems (See Appendix A). The software uses National Resource Conservation Service (NRCS) methodology and IDF curves. The curve numbers (CN's) and times of concentration for the existing and proposed catchment areas are based on soil type and cover conditions at the proposed site (a minimum time of concentration of 6 minutes was used to perform all calculations). Applied Microcomputer Systems states that TR 20 program is more precise in determining Tc and runoff than TR 55 method.

Stormwater runoff from the site is collected within each catchment area.

The site drainage system was designed in consideration of the standards and techniques of the Best Management Practices outlined in the Massachusetts Department of Environmental Protection Stormwater Management Guidelines in the Stormwater Policy Handbook.

Groundwater recharge is a factor in the design of all drainage systems. Table – 3 below presents the minimum recharge required and the proposed recharge of stormwater based upon the BMP methods of the MA Department of Environmental Protection Stormwater Management Guidelines. The proposed recharge quantities meet or exceed the required minimum recharges.

Table 3 - Drainage Recharge Calculation		
(BMP Required Recharge = 0.6" Total Site Runoff for Class-A Soils)		
BMP	Required Recharge	Proposed Recharge
100-Year Storms	12,686 (Total Impervious Area) x 0.6" = 634 ft ³	3482 ft ³ (100 Yr) Infiltration systems

BMP Guidelines for Total Suspended Solids (TSS) Removal

The stormwater management system will conform to the standards of the Massachusetts DEP Stormwater Management Guidelines for Total Suspended Solids (TSS) discharges. The system includes:

1. Deep Sump Catch Basin 25% removal
2. Water Quality Inlet 25% removal
3. Infiltration System 80%

In total, the applicant's activity will result in a 88% of the TSS in the flow discharge and thus reducing potential for sedimentation effects downstream. These calculations are presented below.

- | | | |
|-----------------|--------|------------------------------------|
| 1. (.25) x 1.00 | = 0.25 | with (1.00 - 0.25) 0.75 remaining; |
| 2. (.25) x 0.75 | = 0.18 | with (0.75 - 0.18) 0.57 remaining. |
| 3. (.80) x 0.57 | = 0.45 | with (0.57 - 0.45) 0.12 remaining |

Total = $(1.0 - 0.12) = 0.88 \times 100 = 88\%$ TSS removed
 BMP of 80% TSS removal is met.

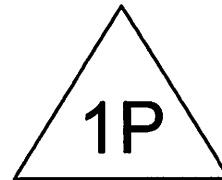
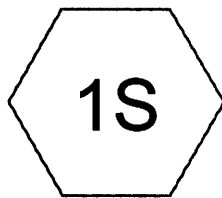
Drawdown Calculations

Infiltration System #1 : Recharge Volume = 3482 ft³

Rawls Rate = 8.27 inches/hour

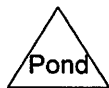
Bottom Area = $24.98 \times 109.68 = 2740$ SF

Drawdown Rate = $3482 / (8.27 / 12) / 2740 = 1.3$ Hr.



FRONT WATERSHED
#1

LEACHING SYSTEM #1



MELEHAN Johnson Solar WATERSHED 4-8-2022

Prepared by {enter your company name here}

Printed 4/11/2022

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Page 2**Rainfall Events Listing (selected events)**

Event#	Event Name	Storm Type	Curve	Mode	Duration (hours)	B/B	Depth (inches)	AMC
1	25 Year Storm	Type III 24-hr		Default	24.00	1	6.22	2
2	100 Year Storm	Type III 24-hr		Default	24.00	1	9.04	2

MELEHAN Johnson Solar WATERSHED 4-8-2022

Prepared by {enter your company name here}

Printed 4/11/2022

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Page 3

Area Listing (all nodes)

Area (acres)	CN	Description (subcatchment-numbers)
0.367	39	>75% Grass cover, Good, HSG A (1S)
0.023	98	Driveway (1S)
0.239	98	Roadway Pavement (1S)
0.030	98	Sidewalk (1S)
0.659	65	TOTAL AREA

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

Subcatchment 1S: FRONT WATERSHED #1 Runoff Area=28,689 sf 44.22% Impervious Runoff Depth=2.51"
Tc=6.0 min CN=65 Runoff=1.90 cfs 0.138 af

Pond 1P: LEACHING SYSTEM #1 Peak Elev=36.55' Storage=1,142 cf Inflow=1.90 cfs 0.138 af
Outflow=0.55 cfs 0.138 af

Total Runoff Area = 0.659 ac Runoff Volume = 0.138 af Average Runoff Depth = 2.51"
55.78% Pervious = 0.367 ac 44.22% Impervious = 0.291 ac

Summary for Subcatchment 1S: FRONT WATERSHED #1

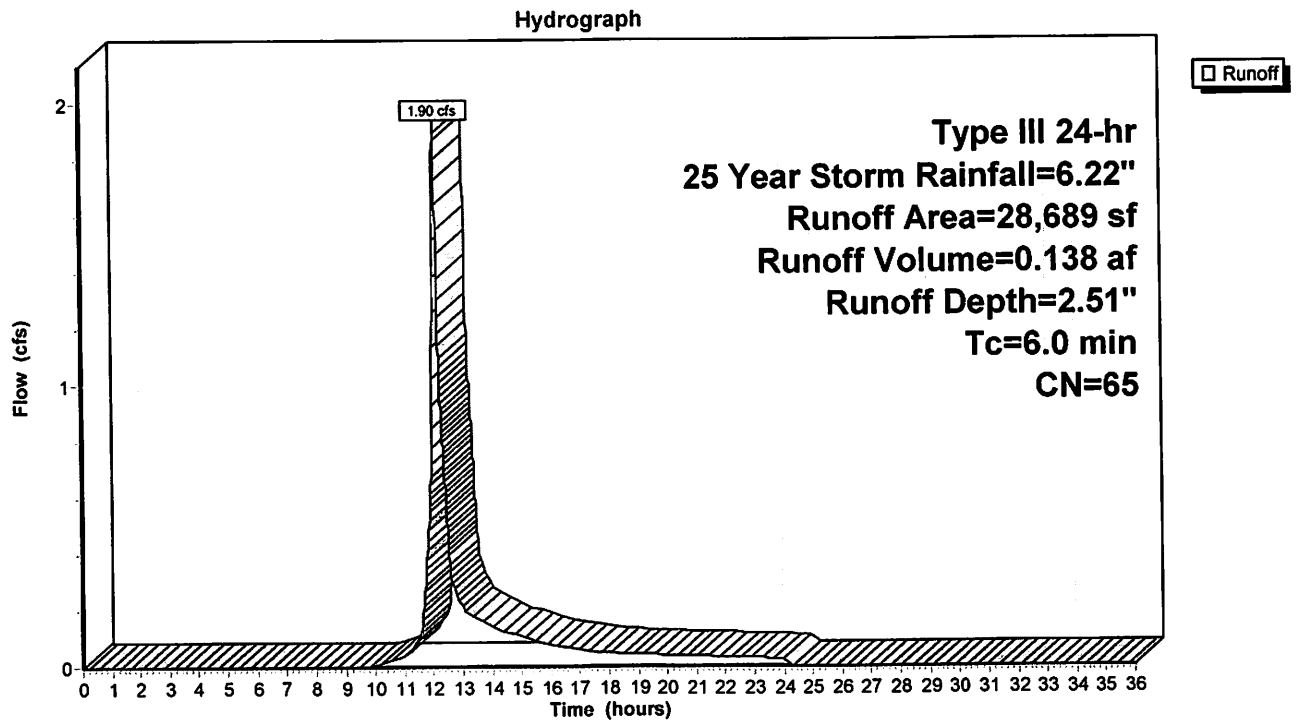
Runoff = 1.90 cfs @ 12.09 hrs, Volume= 0.138 af, Depth= 2.51"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs
 Type III 24-hr 25 Year Storm Rainfall=6.22"

	Area (sf)	CN	Description
*	10,400	98	Roadway Pavement
	16,003	39	>75% Grass cover, Good, HSG A
*	1,286	98	Sidewalk
*	1,000	98	Driveway
	28,689	65	Weighted Average
	16,003		55.78% Pervious Area
	12,686		44.22% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry,

Subcatchment 1S: FRONT WATERSHED #1



Summary for Pond 1P: LEACHING SYSTEM #1

Inflow Area = 0.659 ac, 44.22% Impervious, Inflow Depth = 2.51" for 25 Year Storm event
 Inflow = 1.90 cfs @ 12.09 hrs, Volume= 0.138 af
 Outflow = 0.55 cfs @ 12.48 hrs, Volume= 0.138 af, Atten= 71%, Lag= 23.0 min
 Discarded = 0.55 cfs @ 12.48 hrs, Volume= 0.138 af

Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs
 Peak Elev= 36.55' @ 12.48 hrs Surf.Area= 2,740 sf Storage= 1,142 cf

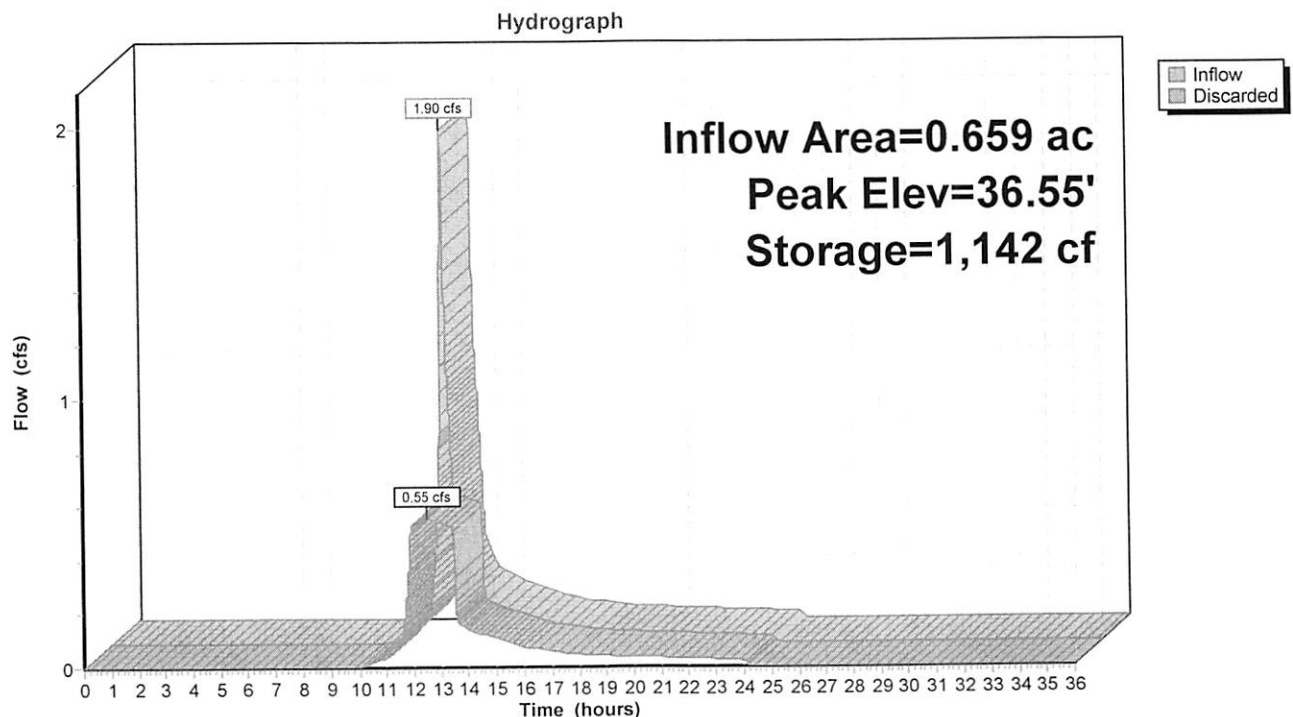
Plug-Flow detention time= 11.5 min calculated for 0.138 af (100% of inflow)
 Center-of-Mass det. time= 11.5 min (859.7 - 848.2)

Volume	Invert	Avail.Storage	Storage Description
#1	36.00'	1,934 cf	24.98'W x 109.68'L x 2.33'H Prisma 6,384 cf Overall - 1,548 cf Embedded = 4,836 cf x 40.0% Voids
#2	36.00'	1,548 cf	ADS_StormTech SC-310 x 105 Inside #1 Effective Size= 28.9"W x 16.0"H => 2.07 sf x 7.12'L = 14.7 cf Overall Size= 34.0"W x 16.0"H x 7.56'L with 0.44' Overlap
		3,482 cf	Total Available Storage

Device	Routing	Invert	Outlet Devices
#1	Discarded	36.00'	8.270 in/hr Exfiltration over Wetted area

Discarded OutFlow Max=0.55 cfs @ 12.48 hrs HW=36.55' (Free Discharge)
 1=Exfiltration (Exfiltration Controls 0.55 cfs)

Pond 1P: LEACHING SYSTEM #1



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

Subcatchment 1S: FRONT WATERSHED #1 Runoff Area=28,689 sf 44.22% Impervious Runoff Depth=4.75"
Tc=6.0 min CN=65 Runoff=3.67 cfs 0.261 af

Pond 1P: LEACHING SYSTEM #1 Peak Elev=38.20' Storage=3,344 cf Inflow=3.67 cfs 0.261 af
Outflow=0.64 cfs 0.261 af

Total Runoff Area = 0.659 ac Runoff Volume = 0.261 af Average Runoff Depth = 4.75"
55.78% Pervious = 0.367 ac 44.22% Impervious = 0.291 ac

Summary for Subcatchment 1S: FRONT WATERSHED #1

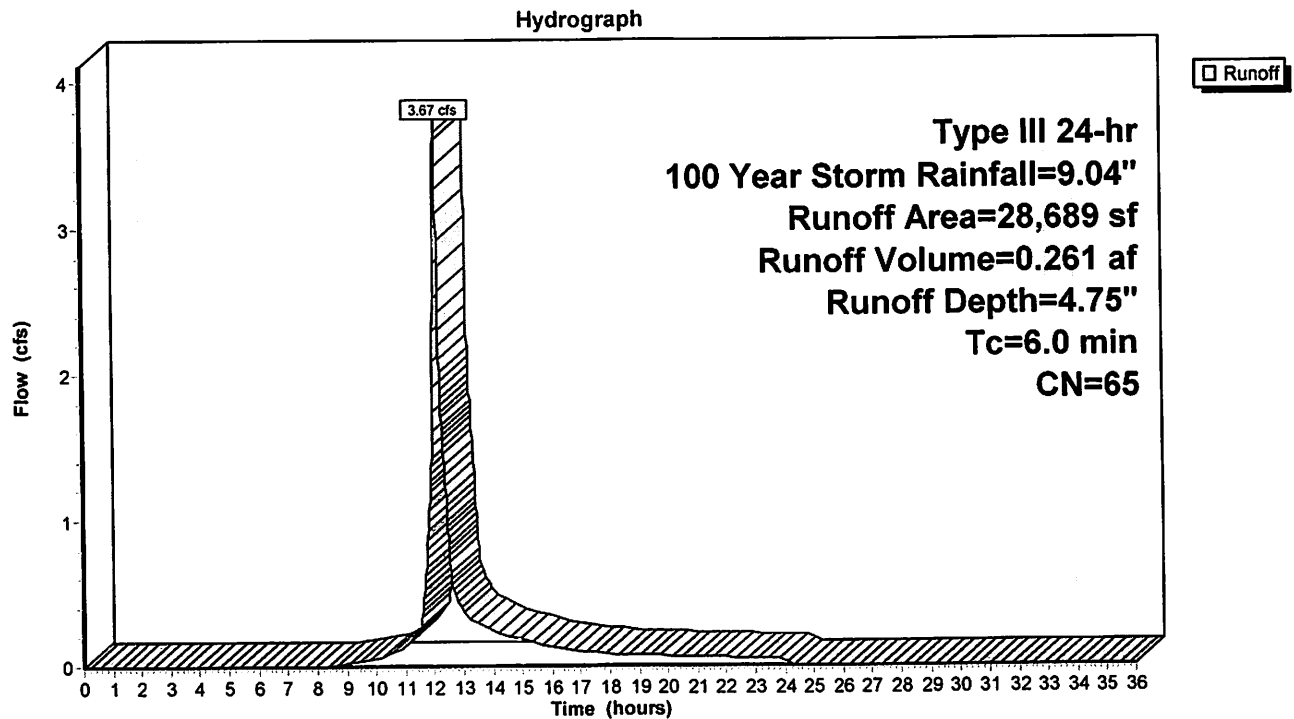
Runoff = 3.67 cfs @ 12.09 hrs, Volume= 0.261 af, Depth= 4.75"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs
 Type III 24-hr 100 Year Storm Rainfall=9.04"

	Area (sf)	CN	Description
*	10,400	98	Roadway Pavement
	16,003	39	>75% Grass cover, Good, HSG A
*	1,286	98	Sidewalk
*	1,000	98	Driveway
	28,689	65	Weighted Average
	16,003		55.78% Pervious Area
	12,686		44.22% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry,

Subcatchment 1S: FRONT WATERSHED #1



Summary for Pond 1P: LEACHING SYSTEM #1

Inflow Area = 0.659 ac, 44.22% Impervious, Inflow Depth = 4.75" for 100 Year Storm event
 Inflow = 3.67 cfs @ 12.09 hrs, Volume= 0.261 af
 Outflow = 0.64 cfs @ 12.57 hrs, Volume= 0.261 af, Atten= 83%, Lag= 28.9 min
 Discarded = 0.64 cfs @ 12.57 hrs, Volume= 0.261 af

Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs
 Peak Elev= 38.20' @ 12.57 hrs Surf.Area= 2,740 sf Storage= 3,344 cf

Plug-Flow detention time= 37.6 min calculated for 0.261 af (100% of inflow)
 Center-of-Mass det. time= 37.6 min (867.2 - 829.6)

Volume	Invert	Avail.Storage	Storage Description
#1	36.00'	1,934 cf	24.98'W x 109.68'L x 2.33'H Prismatic 6,384 cf Overall - 1,548 cf Embedded = 4,836 cf x 40.0% Voids
#2	36.00'	1,548 cf	ADS_StormTech SC-310 x 105 Inside #1 Effective Size= 28.9"W x 16.0"H => 2.07 sf x 7.12'L = 14.7 cf Overall Size= 34.0"W x 16.0"H x 7.56'L with 0.44' Overlap
		3,482 cf	Total Available Storage

Device	Routing	Invert	Outlet Devices
#1	Discarded	36.00'	8.270 in/hr Exfiltration over Wetted area

Discarded OutFlow Max=0.64 cfs @ 12.57 hrs HW=38.20' (Free Discharge)
 1=Exfiltration (Exfiltration Controls 0.64 cfs)

Pond 1P: LEACHING SYSTEM #1

