

303-C-1

3 Newcomb St.

Garage

John Bennett

2001-0150

on Spreadsheet

**CITY OF PORTLAND, MAINE
DEVELOPMENT REVIEW APPLICATION
PLANNING DEPARTMENT PROCESSING FORM
Planning Copy**

2001-0150

Application I. D. Number

06/15/2001

Application Date

3 Newcomb Street

Project Name/Description

Bennett John H

Applicant

3 Newcomb St , Portland , ME 04103

Applicant's Mailing Address

Buchanan, Brenda M.

Consultant/Agent

Applicant Ph: (207) 799-6322 Agent Fax:

Applicant or Agent Daytime Telephone, Fax

3 - 3 Newcomb St, Portland, Maine

Address of Proposed Site

303 C001001

Assessor's Reference: Chart-Block-Lot

Proposed Development (check all that apply): ☒ New Building ☐ Building Addition ☐ Change Of Use ☐ Residential ☐ Office ☐ Retail
☐ Manufacturing ☐ Warehouse/Distribution ☐ Parking Lot ☒ Other (specify) Replace commercial garage

1,500 sq. ft. unit

.31

Proposed Building square Feet or # of Units

Acreage of Site

Zoning

Check Review Required:

- | | | | |
|--|---|--|--|
| <input checked="" type="checkbox"/> Site Plan
(major/minor) | <input type="checkbox"/> Subdivision
of lots _____ | <input type="checkbox"/> PAD Review | <input type="checkbox"/> 14-403 Streets Review |
| <input type="checkbox"/> Flood Hazard | <input type="checkbox"/> Shoreland | <input type="checkbox"/> Historic Preservation | <input type="checkbox"/> DEP Local Certification |
| <input type="checkbox"/> Zoning Conditional
Use (ZBA/PB) | <input type="checkbox"/> Zoning Variance | | <input type="checkbox"/> Other _____ |

Fees Paid: Site Plan \$400.00 Subdivision _____ Engineer Review _____ Date 06/18/2001

Planning Comments

The building permit for this project was issued prior to receiving a cost estimate and performance guarantee due to a procedural mistake. No cost estimate or performance guarantee is being required at this point however no CO will be issued until the project is fully completed.

Performance Guarantee ☐ Required* ☒ Not Required

* No building permit may be issued until a performance guarantee has been submitted as indicated below

<input type="checkbox"/> Performance Guarantee Accepted	_____	_____	_____
	date	amount	expiration date
<input type="checkbox"/> Inspection Fee Paid	_____	_____	
	date	amount	
<input type="checkbox"/> Building Permit Issue	_____		
	date		
<input type="checkbox"/> Performance Guarantee Reduced	_____	_____	_____
	date	remaining balance	signature
<input type="checkbox"/> Temporary Certificate of Occupancy	_____	<input type="checkbox"/> Conditions (See Attached)	_____
	date		expiration date
<input type="checkbox"/> Final Inspection	_____	_____	
	date	signature	
<input type="checkbox"/> Certificate Of Occupancy	_____		
	date		
<input type="checkbox"/> Performance Guarantee Released	_____	_____	
	date	signature	
<input type="checkbox"/> Defect Guarantee Submitted	_____	_____	_____
	submitted date	amount	expiration date
<input type="checkbox"/> Defect Guarantee Released	_____	_____	
	date	signature	

signature

**CITY OF PORTLAND, MAINE
DEVELOPMENT REVIEW APPLICATION
PLANNING DEPARTMENT PROCESSING FORM
ADDENDUM**

Bennett John H

Applicant

3 Newcomb St , Portland , ME 04103

Applicant's Mailing Address

Buchanan, Brenda M.

Consultant/Agent

Applicant Ph: (207) 799-6322 Agent Fax:

Applicant or Agent Daytime Telephone, Fax

2001-0150

Application I. D. Number

06/15/2001

Application Date

3 Newcomb Street

Project Name/Description

3 - 3 Newcomb St, Portland, Maine

Address of Proposed Site

303 C001001

Assessor's Reference: Chart-Block-Lot

Approval Conditions of Planning

- 1 That the portions of the lot programmed for parking, ingress and egress be suitably graveled and all other area be seeded with a species of appropriate durability.

Approval Conditions of Insp

- 1 This permit is being approved on the basis of plans submitted. Any deviations shall require a separate approval before starting that work.
- 2 Separate permits shall be required for future decks, sheds, pools, and/or garage.
- 3 Separate permits shall be required for any new signage.
- 4 All repairs are to be performed in a fully enclosed structure.
- 5 All "external effects" such as noise, smoke, and outdoor storage requirements shall be observed at all times.

Approval Conditions of DRC

- 1 An erosion control plan and erosion control measures such as silt fence will be placed on the plan presented at the pre-construction meeting.
- 2 Neighboring streets will be kept free and clean of mud and debris possibly generated by this site development.
- 3 No floor drain will be included within the building.
- 4 That the drainage accomadated by the swale either be kept on site per a letter from the storm water engineer or a letter from the abutter allowing the 2 inch pipe draining onto their property be recieved by staff

**CITY OF PORTLAND, MAINE
DEVELOPMENT REVIEW APPLICATION
PLANNING DEPARTMENT PROCESSING FORM
Planning Copy**

2001-0150

Application I. D. Number

6/15/01

Application Date

3 Newcomb Street

Project Name/Description

Bennett John H

Applicant

3 Newcomb St , Portland , ME 04103

Applicant's Mailing Address

Buchanan, Brenda M.

Consultant/Agent

Applicant Ph: (207) 799-6322 Agent Fax:

Applicant or Agent Daytime Telephone, Fax

3 - 3 Newcomb St, Portland, Maine

Address of Proposed Site

303 C001001

Assessor's Reference: Chart-Block-Lot

Proposed Development (check all that apply): ☒ New Building ☐ Building Addition ☐ Change Of Use ☐ Residential ☐ Office ☐ Retail

☐ Manufacturing ☐ Warehouse/Distribution ☐ Parking Lot

☒ Other (specify) Replace commercial garage

1,500 sq. ft. unit

.31

Proposed Building square Feet or # of Units

Acreage of Site

Zoning

Check Review Required:

☒ Site Plan
(major/minor)

☐ Subdivision
of lots _____

☐ PAD Review

☐ 14-403 Streets Review

☐ Flood Hazard

☐ Shoreland

☐ Historic Preservation

☐ DEP Local Certification

☐ Zoning Conditional
Use (ZBA/PB)

☐ Zoning Variance

☐ Other _____

Fees Paid: Site Plan \$400.00 Subdivision _____ Engineer Review _____ Date 6/18/01

Planning Approval Status:

Reviewer _____

☐ Approved

☐ Approved w/Conditions
See Attached

☐ Denied

Approval Date _____

Approval Expiration _____

Extension to _____

☐ Additional Sheets
Attached

☐ OK to Issue Building Permit

signature

date

Performance Guarantee

☐ Required*

☐ Not Required

* No building permit may be issued until a performance guarantee has been submitted as indicated below

☐ Performance Guarantee Accepted

date

amount

expiration date

☐ Inspection Fee Paid

date

amount

☐ Building Permit Issue

date

☐ Performance Guarantee Reduced

date

remaining balance

signature

☐ Temporary Certificate of Occupancy

date

☐ Conditions (See Attached)

expiration date

☐ Final Inspection

date

signature

☐ Certificate Of Occupancy

date

☐ Performance Guarantee Released

date

signature

☐ Defect Guarantee Submitted

submitted date

amount

expiration date

☐ Defect Guarantee Released

date

signature



CITY OF PORTLAND

July 9, 2001

Ms. Brenda M. Buchanan
Warren, Currier & Buchanan
57 Exchange Street
Portland, ME 04101

RE: 3 Newcomb Street (CBL 303-F-001)

Dear Ms. Buchanan:

On July 9, 2001, the Portland Planning Authority granted minor site plan approval for the replacement of the existing 733 square foot commercial garage with a new 1,500 square foot garage at the property located at 3 Newcomb Street.

The approval is subject to the following condition(s):

1. That the portions of the lot programmed for parking, ingress and egress be suitably graveled and all other area be seeded with a species of appropriate durability.

The approval is based on the submitted site plan. If you need to make any modifications to the approved site plan, you must submit a revised site plan for staff review and approval.

Please note the following provisions and requirements for all site plan approvals:

1. The site plan approval will be deemed to have expired unless work in the development has commenced within one (1) year of the approval or within a time period agreed upon in writing by the City and the applicant. A one year extension may be granted by this department if requested by the applicant in writing prior to the expiration date of the site plan.
2. A performance guarantee in a form acceptable to the City of Portland and an inspection fee equal to 2.0% of the performance guarantee will have to be posted before beginning any site construction or issuance of a building permit.
3. A defect guarantee, consisting of 10% of the performance guarantee, must be posted before the performance guarantee will be released.
4. Prior to construction, a pre-construction meeting shall be held at the project site with the contractor, development review coordinator, Public Work's representative and owner to review the construction schedule and critical aspects of the site work. At that time, the site/building contractor shall provide three (3) copies of a detailed construction schedule to the attending City representatives. It shall be the contractor's responsibility to arrange a mutually agreeable time for the pre-construction meeting.

ALFRED J. WAXLER

Mail:
P.O. Box 6681
04103

Phone (207) 773-5853
Fax (207) 772-7554

PORTLAND, MAINE

July 13, 2001

Jonathon Spence
Portland Planning Board
389 Congress Street
Portland Maine
04101

Re: John Bennett Site Plan 3 Newcomb Street.

Dear Mr. Spence:

This letter is to confirm our conversation earlier this week regarding my concerns with Mr. Bennett's site plan. Should the review process fail to address all issues then the purpose of the process fails.

I understand a drainage swale has been placed two feet from my property line. What assurance can the City provide me that water from this swale will not leak onto my property. This would result in a condition prohibited by state law and city regulations. I suggest this swale be moved to a more expedient location and should the water flow figures for the twenty-five year storm show it, a retention pond should be required.

Upon your suggestion, I contacted Kevin Carroll one of the Plumbing Inspectors for this area and asked that he investigate the sewage disposal system for the home on this property. Also, a direct pipe from this home carry's gray water on to my property. This condition must be eliminated.

Since the new garage plans show a burning toilet, a better solution would be to require a regular toilet and the two properties, home and garage, be connected to the Warren Ave. sewer over unpaved Saville Street. A correct sizing of the pipe would be beneficial to the two existing properties on Saville Street. Perhaps this would be an ideal opportunity to measure the efficiency of the septic systems of these two properties.

Jonathon Spence

July 13, 2001

Page 2

A sewer in Saville Street now would also service my property in the rear and open much needed additional industrial property for development. The City should take a proper practical approach to new sewer extensions and require those who benefit participate in the cost. I would gladly participate in the cost of this sewer extension.

Please respond to these concerns in order for me to adequately prepare for a solution to these problems.

Sincerely

A handwritten signature in cursive script, appearing to read "Jonathon Spence".

A.JW./BH

cc

Joseph E. Gray

Kevin Carroll

Lee Urban

John Bennett



CITY OF PORTLAND

January 22, 2002

John Bennett
3 Newcomb Street
Portland, ME 04103

Re: 3 Newcomb Street CBL: 303-F-001

Dear John:

Last week, you called to inquire about the drainage plan for the Delta Realty project across Warren Avenue. You asked if the required stormwater improvements for the Delta Realty project were consistent with those required for your garage.

I've looked at both plans and find them to be consistent with each other and compliant with our standards for stormwater management.

In both cases, we required a low swale for detention in order to retain runoff in the case of a rain event. The swale on your property was designed to catch runoff from the roof of the garage building, before outletting it the rear of the site. The Delta Realty plan, which was prepared by a civil engineer, was also designed with a swale to catch runoff between the existing developed portion of the site and the new storage building. The 100 foot long swale is, like yours, designed with a 1% slope to provide slight retention and direction of the flow. Their plan directs the stormwater to a low area on their own property, adjacent to the railroad right of way.

I hope this information is useful to you.

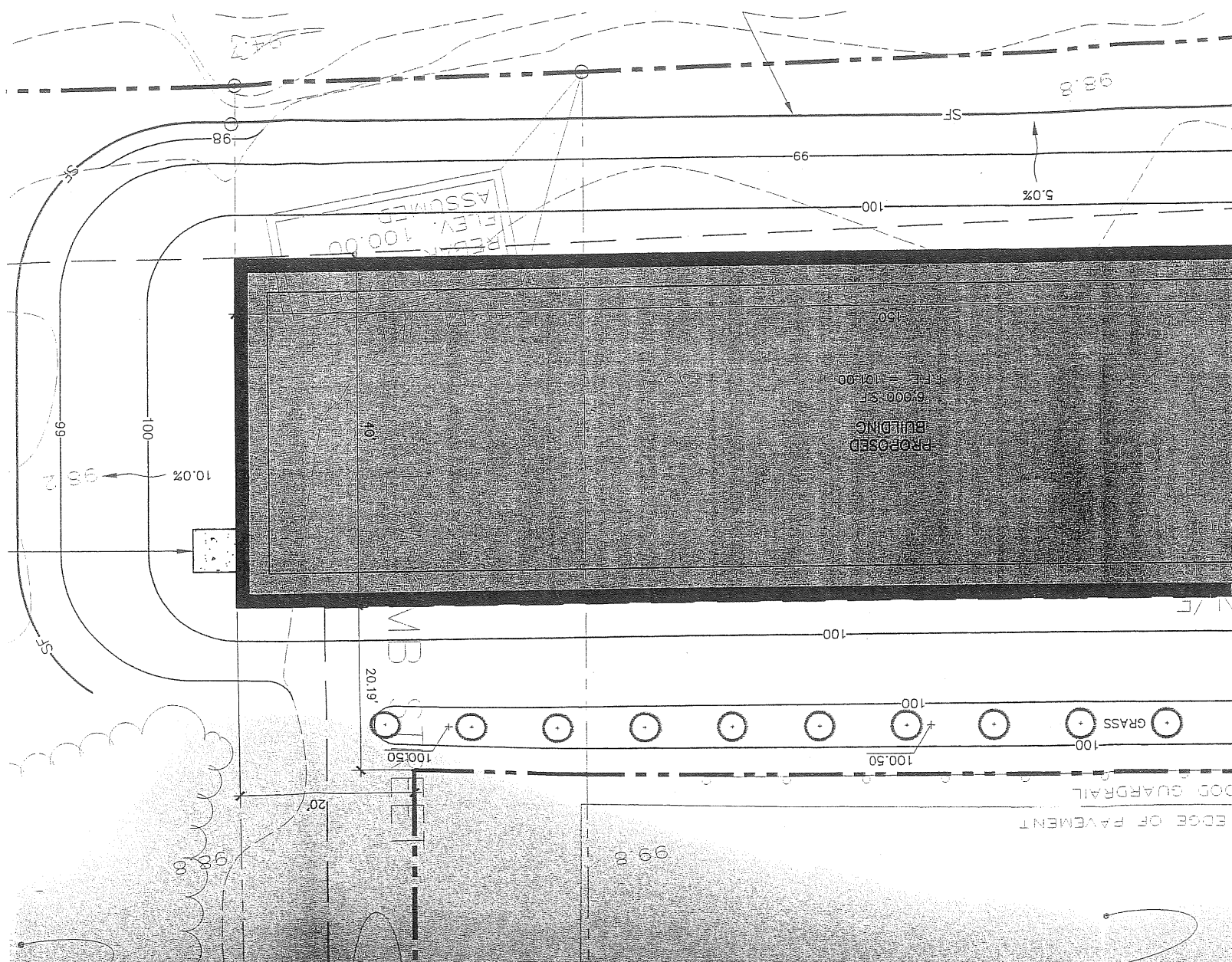
Please call if you have any questions.

Sincerely,

A handwritten signature in cursive script, appearing to read "Sarah".

Sarah Hopkins
Development Review Services Manager

cc.: ✓ Jonathan Spence, Planner
Jay Reynolds, Development Review Coordinator



Site Review Pre-Application
Multi-Family/Attached Single Family Dwellings/Two-Family Dwelling
or Commercial Structures and Additions Thereto

In the interest of processing your application in the quickest possible manner, please complete the Information below for Site Plan Review

NOTEIf you or the property owner owes real estate or personal property taxes or user charges on ANY PROPERTY within the City, payment arrangements must be made before permits of any kind are accepted.**

JOHN BENNETT
Applicant

June 15, 2001
Application Date

77 MIDDLEST WASHINGTON ME
Applicant's Mailing Address

NEW GARAGE
Project Name/Description

Brenda M. Buchanan, Esq.
Consultant/Agent

#3 NEWCOMB ST PORT
Address Of Proposed Site

799-6322 / 772-1262 (Brenda)
Applicant/Agent Daytime telephone and FAX

Map 303, Block c, Lot 1
Assessor's Reference, Chart#, Block, Lot#

Proposed Development (Check all that apply) ☒ New Building ☐ Building Addition ☐ Change of Use ☐ Residential ☐ Office ☐ Retail
☐ Manufacturing ☐ Warehouse/Distribution ☐ Parking Lot ☐ Other(Specify) _____

1500 SQ FT 1 UNIT
Proposed Building Square Footage and /or # of Units

.31
Acreage of Site

B-4
Zoning

Major Site Plan _____

Minor Site Plan ☒

You must Include the following with you application:

- 1) A Copy of Your Deed or Purchase and Sale Agreement
- 2) 9 sets of Site Plan packages containing the information found in the attached sample plans and checklist.

(Section 14-522 of the Zoning Ordinance outlines the process, copies are available for review at the counter, photocopies are \$ 0.25 per page)

I hereby certify that I am the Owner of record of the named property, or that the proposed work is authorized by the owner of record and that I have been authorized by the owner to make this application as his/her authorized agent. I agree to conform to all applicable laws of this jurisdiction. In addition, if an approval for the proposed project or use described in this application is issued, I certify that the Code Official's authorized representative shall have the authority to enter all areas covered by this approval at any reasonable hour to enforce the provisions of the codes applicable to this approval.

Signature of applicant: <u>John H Bennett</u>	Date: <u>6/13/01</u>
---	----------------------

Site Review Fee: Major \$500.00 Minor 400.00

This application is for site review ONLY, a Building Permit application and associated fees will be required prior to construction.

WARRANTY DEED

QAD INVESTORS, INC., a Maine Corporation of Westbrook, Cumberland County,
Maine

for consideration paid, grant to JOHN H. BENNETT of Westbrook, Cumberland County,
Maine whose mailing address is 77 Middle Street, Westbrook, Maine 04092

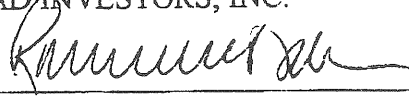
with WARRANTY COVENANTS, the land in Portland, Cumberland County, State of
Maine bounded and described as follows:

See Exhibit A attached hereto and
incorporated herewith

In Witness Whereof, Russell Glidden, President of QAD Investors, Inc. has set his hand
and seal this 31st day of October, 2000

QAD INVESTORS, INC.

By



Russell Glidden, President

STATE OF MAINE
Cumberland, ss.

October 31, 2000

Then personally appeared the above-named Russell Glidden, President of QAD Investors
Inc. and acknowledged the foregoing instrument to be his free act and deed in his said
capacity and the free act and deed of said corporation.

Before me,


Notary Public

Typed Name of Notary: Richard G. Steeves

RICHARD GLENN STEEVES
Notary Public, Maine
My Commission Expires December 7, 2004

Exhibit A

MAINE REAL ESTATE TAX PAID

EXHIBIT A

Certain lots or parcels of land with the buildings thereon situated in the City of Portland, County of Cumberland, and State of Maine and being lots numbered 14, 15, 16, 37, 38, and 39 as delineated on a plan of lots at Warren Avenue Terrace made by Ernest W. Branch, surveyor, dated April 1911 and recorded in Plan Book 12, Page 2 to which reference is hereby made for a more particular description of the premises hereby conveyed.

Being the same premises conveyed to Grantor Corporation by deed dated 11/3/92 recorded in the Cumberland County Registry of Deeds at Book 10566, Page 305.

RECEIVED
RECORDED REGISTRY OF DEEDS

2000 NOV -1 AM 8:48

CUMBERLAND COUNTY

John B O'Brien

June 13, 2001

John Bennett
3 Newcomb St.
Portland, ME

Subject: Proposed Garage
3 Newcomb St.

Dear John,

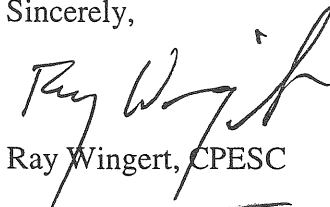
Attached is the stormwater analysis for the proposed modifications to the existing property at 3 Newcomb St. The proposed modifications include:

- Removal of the existing garage and shed;
- Construction of a new garage;
- Placement of gravel south of the new garage, and along the south property boundary for parking;
- Construction of a grassed swale for stormwater detention and attenuation of peak runoff from the new garage; and
- Final re-grading of the gravel driveway and parking areas.

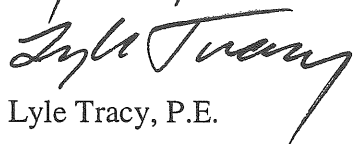
Peak runoff for the 2-year, 10-year, and 25-year storms were calculated for both existing and proposed conditions. The results of the analysis shows that the total peak runoff from the property under proposed conditions is less than existing conditions for all storms evaluated. The proposed stormwater detention swale adequately attenuates peak runoff to compensate for increased gravel area.

The attached stormwater analysis includes calculations, and existing and proposed site drainage plans. The stormwater analysis was performed by Ray Wingert, Certified Professional in Erosion and Sediment Control (Cert. No. 2218). The stormwater analysis was reviewed by Lyle Tracy, P. E.

Sincerely,



Ray Wingert, CPESC



Lyle Tracy, P.E.

STORMWATER CALCULATIONS

FOR 3 NEWCOMB ST.
J. BENNETT

EXISTING PROPERTY

TOTAL AREA 13,373 ft^2

VERY FLAT TOPOGRAPHY.

WESTERLY PORTION OF PROPERTY DRAINS TO THE NW CORNER (DRAINAGE AREA "E1"). THE EASTERLY PORTION OF THE PROPERTY DRAINS TO THE SOUTH (DRAINAGE AREA "E2").

EXISTING STRUCTURES INCLUDE A GARAGE, HOUSE & SHED. THE EXISTING DRIVE & PARKING IS GRAVEL. OPEN AREA IS GRASS.

CUMBERLAND CO. SOILS MAP (SCS) SHOWS THE FOLLOWING SOILS IN THE AREA:

BUC2 - BUXTON SILT LOAM (HYDROLOGIC SOIL GROUP "D")
EMB - ELMWOOD SANDY LOAM ("C" SOIL)

HOWEVER, SOILS TESTS (TPI & TPI2) SHOW:

<u>DEPTH</u>	<u>SOIL</u>
0-4"	SAND/LOAM
4-8"	CEMENTIOUS GRAVEL
>8"	BLUE CLAY

BASED ON SOILS TESTS, USE HYDROLOGIC SOILS GROUP "D".

PROPOSED PROJECT

REMOVE EXISTING GARAGE AND REPLACE IT WITH A NEW GARAGE, RESULTING IN A NET INCREASE OF 590 ft^2 (WITH REMOVAL OF THE SHED). THE RUNOFF FROM THE NEW GARAGE IS DIRECTED TO A NEW DET

Rev.	Orig.	Date	Chkd.	Date	Client/Project: <u>J. BENNETT</u>
		6/11/01			Subject: <u>3 NEWCOMB ST.</u>
					<u>STORMWATER</u>
					Calc. No.: _____

PROPOSED PROJECT (CONT.)

THE DETENTION SWALE PROVIDES SUFFICIENT STORAGE TO ATTENUATE PEAK RUNOFF TO BELOW EXISTING CONDITION.

NEW GRAVEL WILL BE PLACED ON THE SOUTH SIDE OF THE NEW GARAGE, AND ALONG THE SOUTH PROPERTY LINE FOR ADDITIONAL PARKING.

DRAINAGE AREA P1 - WESTERLY PORTION OF PROPERTY; DRAINS TO NW CORNER OF PROPERTY.

P2 - EASTERLY PORTION OF THE PROPERTY; DRAINS TO THE SOUTHERLY BOUNDARY.

P3 - NEW GARAGE & DETENTION SWALE. DISCHARGE TO NW CORNER OF THE PROPERTY.

P4 - NE PORTION OF THE PROPERTY; DRAINS TO NORTH PROPERTY LINE.

RAINFALL - FROM "STORMWATER MANAGEMENT FOR MAINTENANCE BMPs" FOR CUMBERLAND CO. SE:

24R 3.0"

104R 4.7"

254R 5.5"

COMPUTER ANALYSIS OF STORMWATER WAS PERFORMED USING "HYDROCAD". COPIES OF COMPUTER INPUT & OUTPUT ARE ATTACHED.

Rev.	Orig.	Date	Chkd.	Date	Client/Project:
		6/11/01			J. BENNETT
					Subject: 3 NEWCOMB
					Calc. No.: Sht. 2 of

and III (SCS NEH -4, SCS TR-55) included in Table 3-5. The type II and type III storm distributions as shown in Figure 3.5, are applicable within Maine.

Rainfall is also spatially distributed during a given event. However, for design of most stormwater management facilities, common practice assumes that rainfall is uniformly distributed over the entire contributing watershed. This assumption does not necessarily apply to large, complex watersheds, for which SCS TR-20 or an equivalent model allowing this flexibility should be used.

Table 3-4 24 Hour Duration Rainfalls For Various Return Periods.
Natural Resources Conservation Service County Rainfall Data

Return Interval or Frequency										
County	Storm Type	Return Interval or Frequency								Annual
		1-Yr	2-Yr	5-Yr	10-Yr	25-Yr	100-Yr	500-Yr		
Androscoggin		2.5	3.0	3.9	4.6	5.4	5.9	6.5	7.8	45.3
Aroostook C		2.1	2.1	3.2	3.6	4.2	4.6	5.0	5.9	36.1 (Presque Isle Area)
Aroostook N		2.0	2.3	3.0	3.5	4.0	4.4	4.8	5.7	36.1 (Fort Kent Area)
Aroostook S	S	2.2	2.5	3.3	3.8	4.4	4.8	5.3	6.4	39.0 (Houlton Area)
Cumberland NW	E	2.8	3.3	4.3	5.0	5.8	6.4	6.9	8.3	43.4 (NW of St. Route 1)
Cumberland SE	E	2.5	3.0	4.0	4.7	5.5	6.0	6.7	8.1	44.4 (SE of St. Route 11)
Franklin		2.4	2.9	3.7	4.2	4.9	5.4	5.9	7.0	45.6
Hancock		2.4	2.7	3.6	4.2	4.9	5.4	6.0	7.2	45.2
Kennebec	N	2.4	3.0	3.8	4.4	5.1	5.6	6.1	7.2	41.7
Knox-Lincoln	O	2.5	2.9	3.8	4.4	5.1	5.6	6.2	7.4	46.1 KNOX 46.1 LINCOLN
Oxford E	T	2.5	3.0	4.0	4.6	5.3	5.9	6.4	7.6	43.0 (E of St. Route 26)
Oxford W	E	3.0	3.5	4.5	5.2	6.0	6.5	7.1	8.4	43.8 (W of St. Route 26)
Penobscot N	S	2.2	2.5	3.3	3.8	4.4	4.9	5.4	6.4	41.5 (N of Can.-Atl. Rwy)
Penobscot S		2.4	2.7	3.5	4.1	4.8	5.3	5.8	6.9	39.5 (S of Can.-Atl. Rwy)
Piscataquis N	1	2.2	2.5	3.3	3.8	4.4	4.8	5.3	6.3	38.5 (N of Can.-Atl. Rwy)
Piscataquis S		2.3	2.6	3.4	4.0	4.6	5.0	5.5	6.6	41.0 (S of Can.-Atl. Rwy)
Sagadahoc	A	2.5	3.0	3.9	4.6	5.4	5.9	6.5	7.8	45.3 43.8
Somerset N	N	2.2	2.5	3.3	3.8	4.4	4.8	5.3	6.3	37.3 (N of Can.-Atl. Rwy)
Somerset S	D	2.4	2.7	3.5	4.1	4.7	5.2	5.7	6.8	39.5 (S of Can.-Atl. Rwy)
Waldo		2.5	2.8	3.7	4.3	4.9	5.5	6.0	7.1	47.2
Washington	2	2.4	2.5	3.4	4.0	4.8	5.3	5.9	7.1	44.2
York		2.5	3.0	4.0	4.6	5.4	6.0	6.6	7.8	46.7

NOTES: REVISED 4/10/92 Lew P. Crosby

24-HR. DURATION RAINFALL

SOURCES: 24-HR. DATA — TP 40

ANNUAL DATA — CDAN

Note 1: ¹Use **Type II** for Oxford County (with the exception of towns listed below) and Penobscot County (with the exception of towns listed below) and all Maine counties not listed below.

Note 2: ²Use **Type III** for York, Cumberland, Androscoggin, Sagadahoc, Kennebec, Waldo, Knox, ~~Somerset~~, ~~Franklin~~, ~~Aroostook~~, Lincoln, Hancock, Washington Counties; the following Oxford County Towns: Porter, Brownfield, Hiram, Denmark, Oxford, Hebron, Buckfield, and Hartford; and the following Penobscot County towns: Dixmont, Newburgh, Hampden, Bangor, Veazie, Orono, Bradley, Clifton, Eddington, Holden, Brewer, Orrington, Plymouth, Etna, Carmel, Hermon, Glenburn, Old Town, Milford, and Greenfield.

RESULTS

<u>EXISTING DRAINAGE</u>	<u>PEAK RUNOFF (CFS)</u>		
	<u>2YR</u>	<u>10YR</u>	<u>25YR</u>
E1	0.33	0.64	0.78
E2	<u>0.36</u>	<u>0.69</u>	<u>0.84</u>
TOTAL	0.69	1.33	1.62

PROPOSED DRAINAGE

P1	0.30	0.56	0.68
P2	0.30	0.55	0.67
P3*	(0.15)	(0.24)	(0.29)
IP (DET. SWALE)	0.01	0.03	0.04
P4	<u>0.04</u>	<u>0.07</u>	<u>0.08</u>
TOTAL	0.65	1.21	1.47

* P3 OUTFLOW EQUAL TO INFLOW INTO THE DETENTION SWALE.

AS CAN BE SEEN, PEAK RUNOFF FOR PROPOSED CONDITIONS IS LESS THAN EXISTING CONDITIONS. THE DETENTION SWALE ADEQUATELY ATTENUATES PEAK FLOW FROM THE NEW GARAGE. OUTFLOW TO THE NORTH BOUNDARY REMAINS ABOUT THE SAME:

EXISTING E1 = 0.78 CFS
 PROPOSED P1, P3 (IP), & P4 = 0.80 } NEGLIGIBLE DIFFERENCE FOR 25 YR STORM

SOUTHERLY DRAINAGE IS SIGNIFICANTLY REDUCED, EVEN WITH THE ADDITION OF GRAVEL PARKING, DUE TO REDUCED OVERALL DRAINAGE AREA:

EXISTING E2 0.84 CFS
 PROPOSED P2 0.67 CFS } 25 YR STORM

Rev.	Orig.	Date	Chkd.	Date	Client/Project:
		6/11/01			J. BENNETT
					Subject: 3 NEWCOMB ST.
					Calc. No.: _____ Sht. 3 of _____

EXISTING CONDITIONS

TOTAL AREA 13,373 ft^2

EXIST. GARAGE 733 ft^2

EXIST. HOUSE 693 ft^2 + 191 ft^2 = 884 ft^2

SHED 75 ft^2

TOTAL STRUCTURES 1692 ft^2

EXISTING GRAVEL DRIVE 4230 ft^2

TOTAL OPEN/GRASS AREA 7451 ft^2

STORMWATER RUNOFF - SEE "EXISTING SITE DRAINAGE PLAN"
DRAINAGE E1 -

WESTERLY PORTION OF PROPERTY; DRAINS TO NW CORNER
OF PROPERTY.

SHEET FLOW, $L = 100' \pm$

STRUCTURES 800 ft^2

GRAVEL 1720 ft^2

GRASS 4000 ft^2

TOTAL 6520 ft^2

DRAINAGE E2

EASTERLY PORTION OF PROPERTY; DRAINS TO SOUTHERLY
PROPERTY LINE.

SHEET FLOW, $L = 100' \pm$

STRUCTURES 890 ft^2

GRAVEL 2510 ft^2

GRASS 3450 ft^2

TOTAL 6850 ft^2

Rev.	Orig.	Date	Chkd.	Date	Client/Project:
		6/11/01			J. BENNETT
					Subject: 3 NEWCOMB ST.
					STORMWATER
					Calc. No.: Sht. 4 of

PROPOSED CONDITIONS

STORMWATER RUNOFF - SEE "PROPOSED SITE DRAINAGE PLAN"

DRAINAGE P1

WESTERLY PORTION OF THE PROPERTY; DRAINS TO NW CORNER OF PROPERTY.

SHEET FLOW $L = 100' \pm$.

GRAVEL 3400 ft^2
GRASS 2010 ft^2
TOTAL 5410 ft^2

DRAINAGE P2

EASTERLY PORTION OF PROPERTY; DRAINS TO SOUTHERLY PORTION OF PROPERTY.

SHEET FLOW $L = 100' \pm$.

STRUCTURES 640 ft^2
GRAVEL 2470 ft^2
GRASS 2190 ft^2
TOTAL 5300 ft^2

DRAINAGE P3

NEW GARAGE DRAINAGE TO DETENTION SINK, DISCHARGE TO NW CORNER OF PROPERTY.

POND 1P:

STRUCTURES 1500 ft^2
GRAVEL -
GRASS 500 ft^2
TOTAL 2000 ft^2

DETENTION SINK STORAGE:

FL, ft	V, ft^3
100.5	0
101	200
101.5	400

Rev.	Orig.	Date	Chkd.	Date	Client/Project: J. BENNETT
		6/11/01			Subject: 3 NEWCOMB ST.
					STORMWATER
					Calc. No.: Sht. 5 of

PROPOSED CONDITIONS (CONT.)

DRAINAGE P4 - NE PORTION OF PROPERTY; DRAINS TO
NORTH PROPERTY LINE.

STRUCTURES	240	ft ²
GRASS	420	ft ²
TOTAL	660	ft ²

Rev.	Orig.	Date	Chkd.	Date	Client/Project:
		6/11/01			J. BENNETT
					Subject: 3 NEWCOMB ST.
					STORMWATER
					Calc. No.: Sht. 6 of

3 Newcomb Existing ~~1984~~ 24K

Type III 24-hr Rainfall=3.00" (AMC=2) 2 Year Storm

Prepared by HydroCAD SAMPLER 1-800-927-7246 www.hydrocad.net

Page 1

HydroCAD® 5.95 s/n 000000 © 1986-2001 Applied Microcomputer Systems

6/10/01

Subcatchment 1S: E1

Runoff = 0.33 cfs @ 12.02 hrs, Volume= 0.018 af

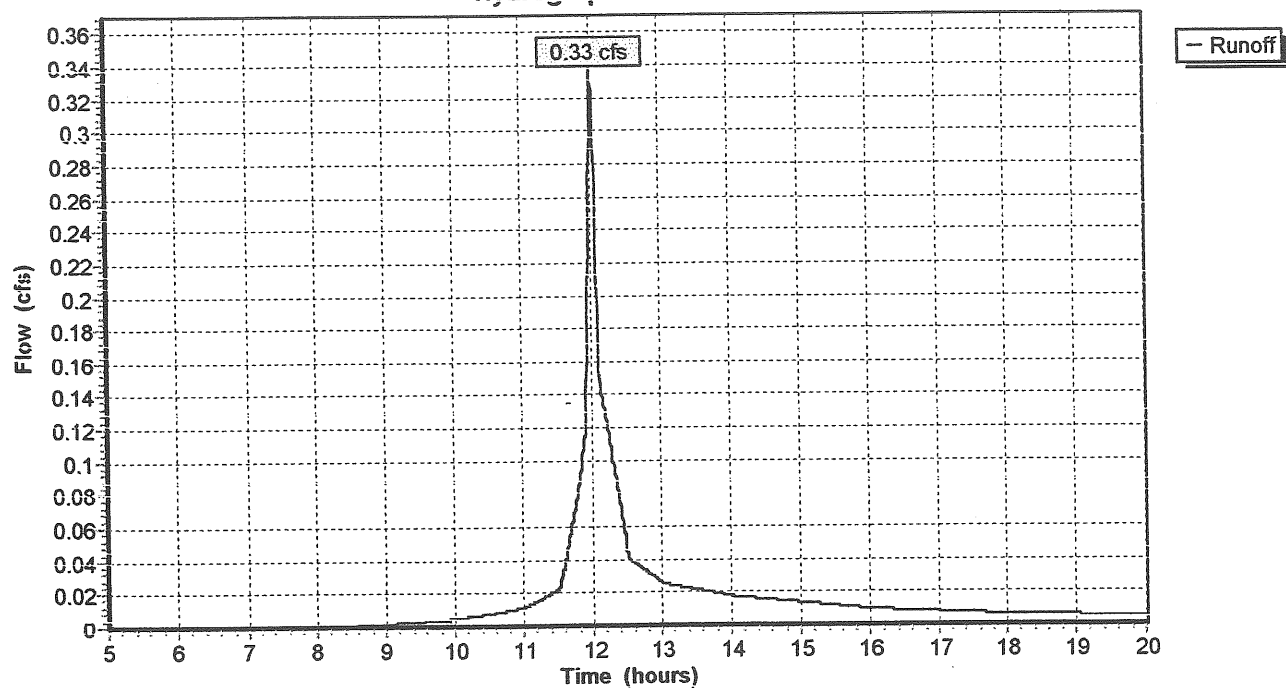
Runoff by SCS TR-20 method, UH=SCS, Time Span= 5.00-20.00 hrs, dt= 0.01 hrs
Type III 24-hr Rainfall=3.00" (AMC=2)

Area (sf)	CN	Description
1,720	91	Gravel roads, HSG D
4,000	80	>75% Grass cover, Good, HSG D
800	98	Paved parking & roofs
6,520	85	Weighted Average

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.3	100	0.0200	1.3		Sheet Flow, E1 Sheet Flow Smooth surfaces n= 0.011 P2= 3.00"

Subcatchment 1S: E1

Hydrograph Plot



Subcatchment 2S: E2

Runoff = 0.36 cfs @ 12.02 hrs, Volume= 0.020 af

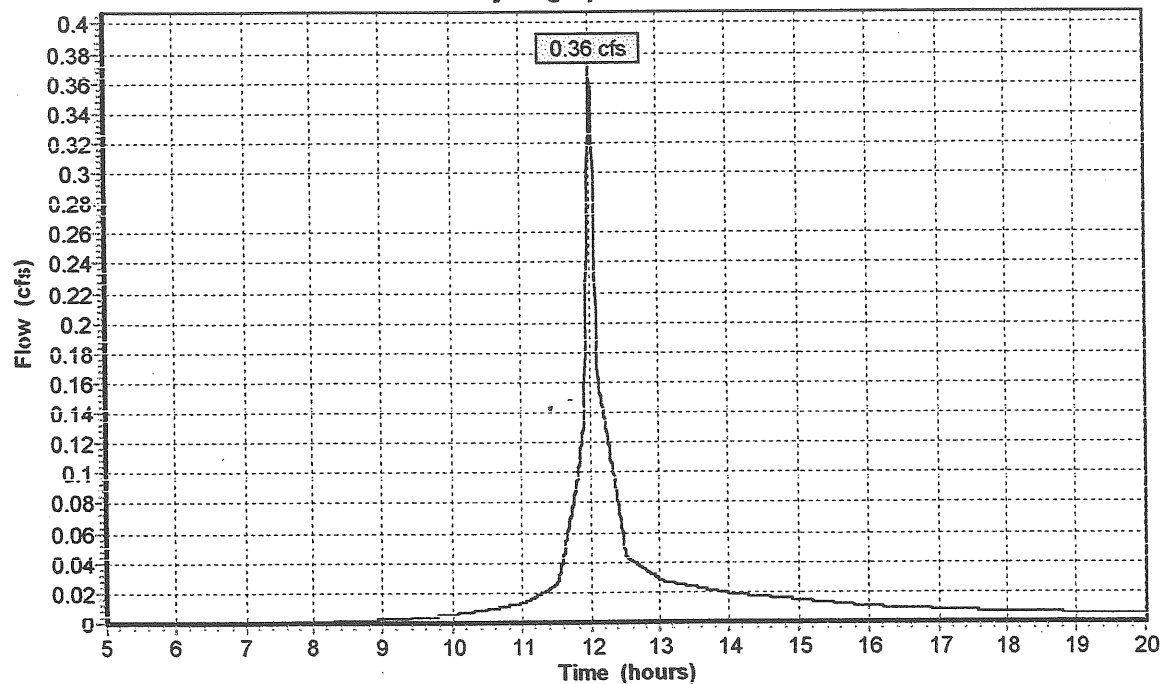
Runoff by SCS TR-20 method, UH=SCS, Time Span= 5.00-20.00 hrs, dt= 0.01 hrs
Type III 24-hr Rainfall=3.00" (AMC=2)

Area (sf)	CN	Description
2,510	91	Gravel roads, HSG D
3,450	80	>75% Grass cover, Good, HSG D
890	98	Paved parking & roofs
6,850	86	Weighted Average

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.3	100	0.0200	1.3		Sheet Flow, E1 Sheet Flow Smooth surfaces n= 0.011 P2= 3.00"

Subcatchment 2S: E2

Hydrograph Plot



Subcatchment 1S: P1

Runoff = 0.30 cfs @ 12.02 hrs, Volume= 0.017 af

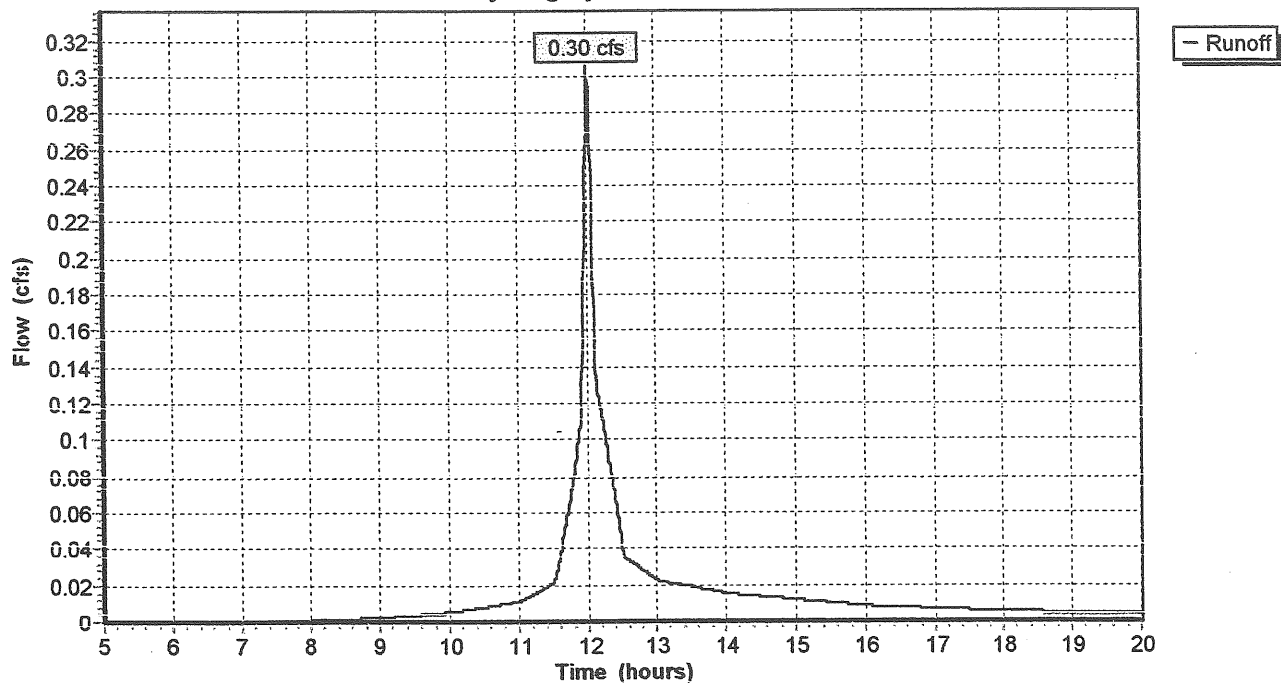
Runoff by SCS TR-20 method, UH=SCS, Time Span= 5.00-20.00 hrs, dt= 0.01 hrs
Type III 24-hr Rainfall=3.00" (AMC=2)

Area (sf)	CN	Description
3,400	91	Gravel roads, HSG D
2,010	80	>75% Grass cover, Good, HSG D
5,410	87	Weighted Average

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.3	100	0.0200	1.3		Sheet Flow, P1 Sheet Flow Smooth surfaces n= 0.011 P2= 3.00"

Subcatchment 1S: P1

Hydrograph Plot



Subcatchment 2S: P2

Runoff = 0.30 cfs @ 12.02 hrs, Volume= 0.016 af

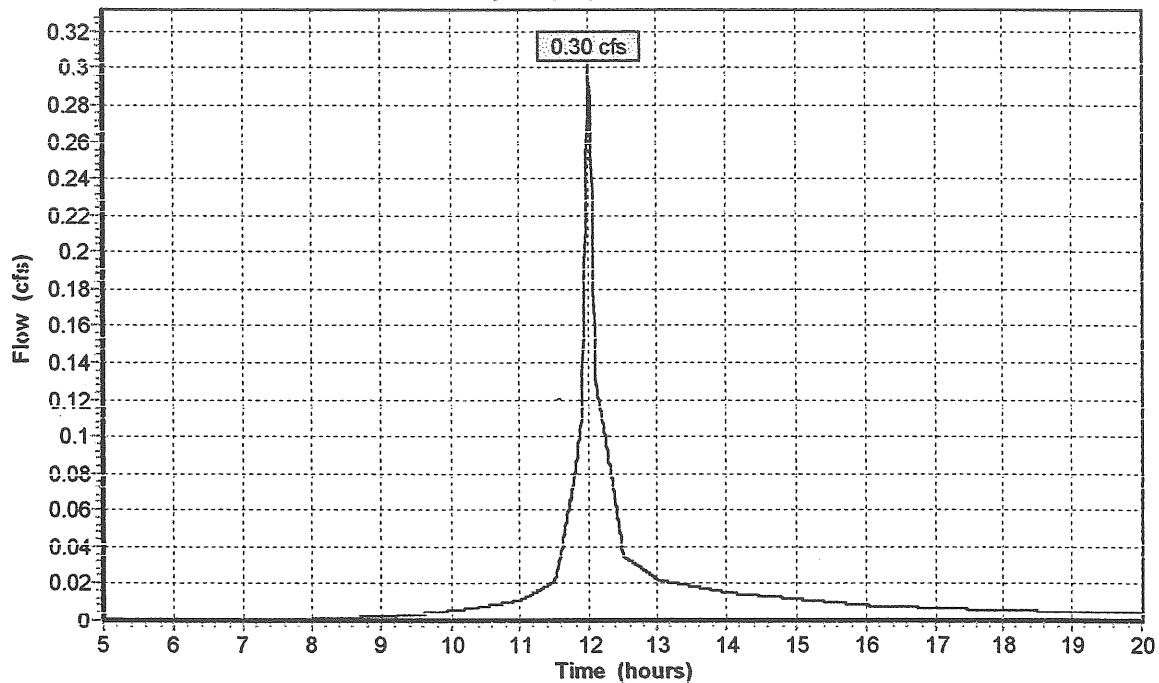
Runoff by SCS TR-20 method, UH=SCS, Time Span= 5.00-20.00 hrs, dt= 0.01 hrs
Type III 24-hr Rainfall=3.00" (AMC=2)

Area (sf)	CN	Description
2,470	91	Gravel roads, HSG D
2,190	80	>75% Grass cover, Good, HSG D
640	98	Paved parking & roofs
5,300	87	Weighted Average

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.0	80	0.0200	1.3		Sheet Flow, P2 Sheet Flow
					Smooth surfaces n= 0.011 P2= 3.00"

Subcatchment 2S: P2

Hydrograph Plot



Subcatchment 3S: P3

Runoff = 0.15 cfs @ 12.01 hrs, Volume= 0.009 af

Runoff by SCS TR-20 method, UH=SCS, Time Span= 5.00-20.00 hrs, dt= 0.01 hrs

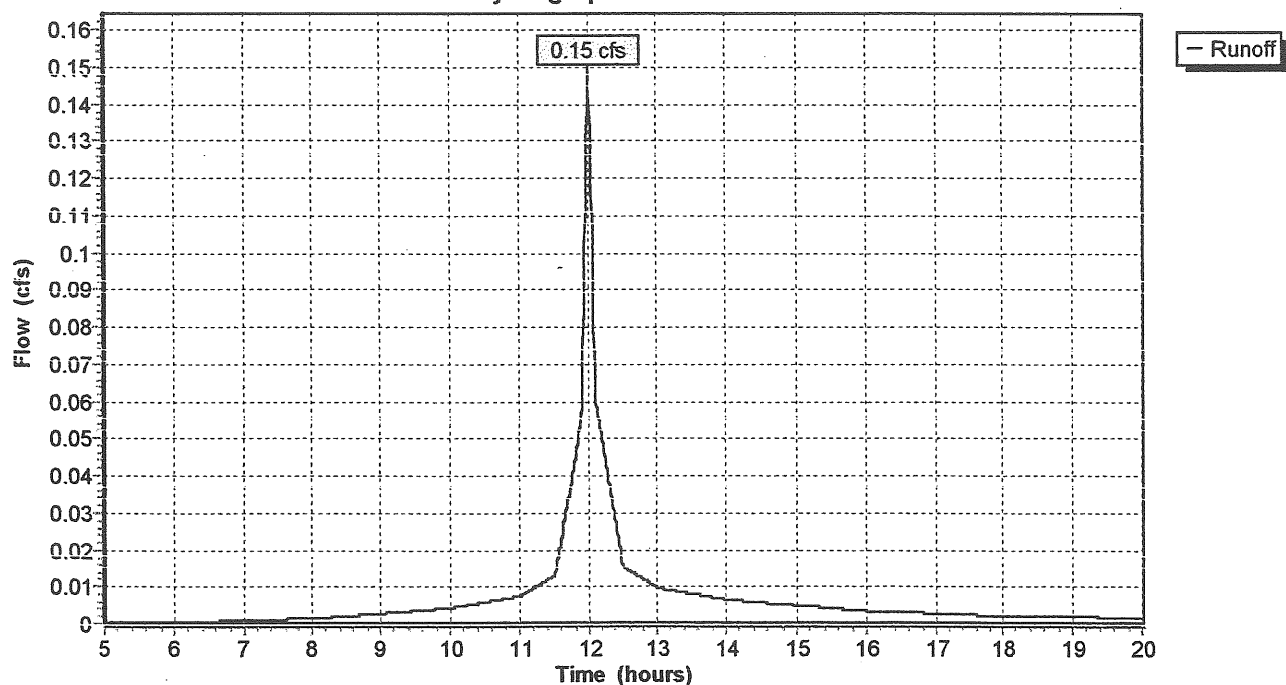
Type III 24-hr Rainfall=3.00" (AMC=2)

Area (sf)	CN	Description
1,500	98	Paved parking & roofs
500	80	>75% Grass cover, Good, HSG D
2,000	94	Weighted Average

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.1	15	0.7000	3.8		Sheet Flow, E1 Sheet Flow Smooth surfaces n= 0.011 P2= 3.00"
0.1	50	0.0200	7.2	2.16	Channel Flow, Gutter Area= 0.3 sf Perim= 1.5' r= 0.20'
0.5	40	0.0200	1.3	0.12	Circular Channel (pipe), Drain Pipe Diam= 4.0" Area= 0.1 sf Perim= 1.0' r= 0.08'
0.7	105	Total			

Subcatchment 3S: P3

Hydrograph Plot



3 Newcomb Proposed ^{24R} ~~40R~~

Type III 24-hr Rainfall=3.00" (AMC=2) 2 Year Storm

Prepared by HydroCAD SAMPLER 1-800-927-7246 www.hydrocad.net

Page 4

HydroCAD® 5.95 s/n 000000 © 1986-2001 Applied Microcomputer Systems

6/10/01

Subcatchment 4S: P4

Runoff = 0.04 cfs @ 12.01 hrs, Volume= 0.002 af

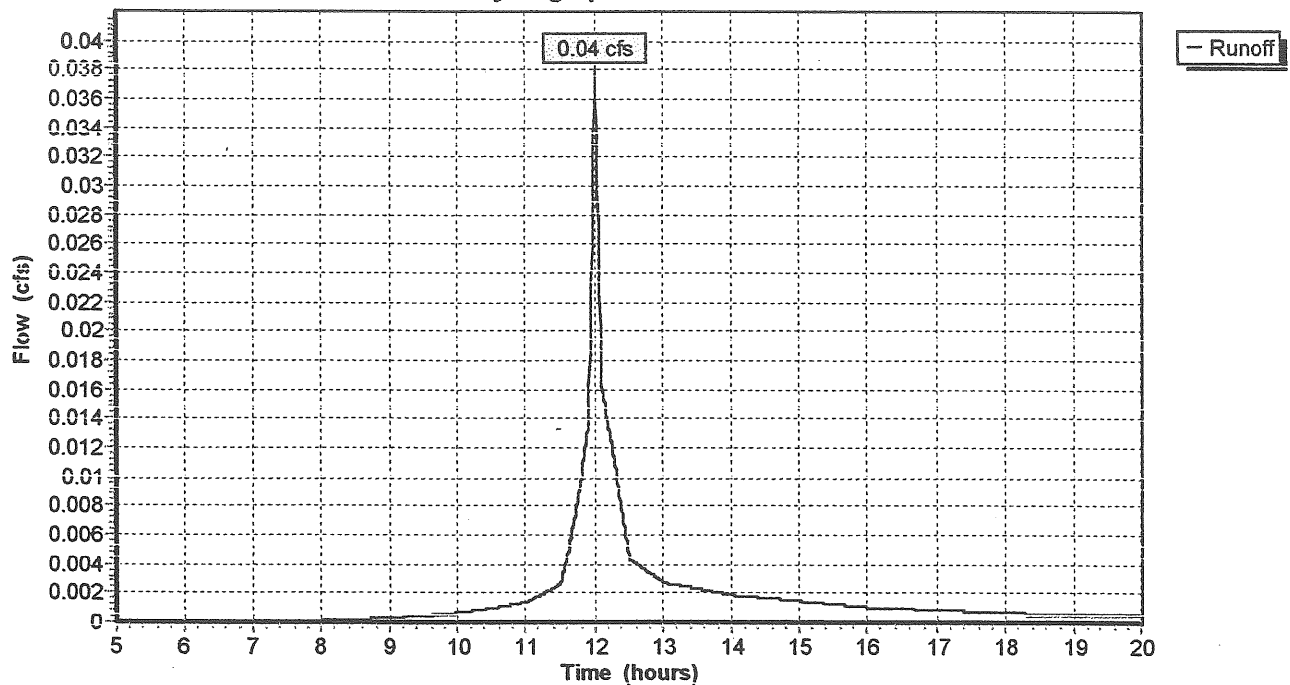
Runoff by SCS TR-20 method, UH=SCS, Time Span= 5.00-20.00 hrs, dt= 0.01 hrs
Type III 24-hr Rainfall=3.00" (AMC=2)

Area (sf)	CN	Description
240	98	Paved parking & roofs
420	80	>75% Grass cover, Good, HSG D
660	87	Weighted Average

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.5	20	0.0100	0.7		Sheet Flow, Sheet Flow Smooth surfaces n= 0.011 P2= 3.00"

Subcatchment 4S: P4

Hydrograph Plot



3 Newcomb Proposed 2Yr

Type III 24-hr Rainfall=3.00" (AMC=2)

Prepared by HydroCAD SAMPLER 1-800-927-7246 www.hydrocad.net

Page 1

HydroCAD® 5.95 s/n 000000 © 1986-2001 Applied Microcomputer Systems

6/10/01

Pond 1P: Detention Swale

[82] Warning: Early inflow requires earlier time span

Inflow = 0.15 cfs @ 12.01 hrs, Volume= 0.009 af
 Outflow = 0.01 cfs @ 12.74 hrs, Volume= 0.004 af, Atten= 91%, Lag= 43.7 min
 Primary = 0.01 cfs @ 12.74 hrs, Volume= 0.004 af
 Secondary = 0.00 cfs @ 5.00 hrs, Volume= 0.000 af

Routing by Stor-ind method, Time Span= 5.00-20.00 hrs, dt= 0.01 hrs

Peak Elev= 101.10' Storage= 242 cf

Plug-Flow detention time= 235.0 min calculated for 0.004 af (42% of inflow)

Elevation (feet)	Cum.Store (cubic-feet)
100.50	0
101.00	200
101.50	400

Primary OutFlow (Free Discharge)

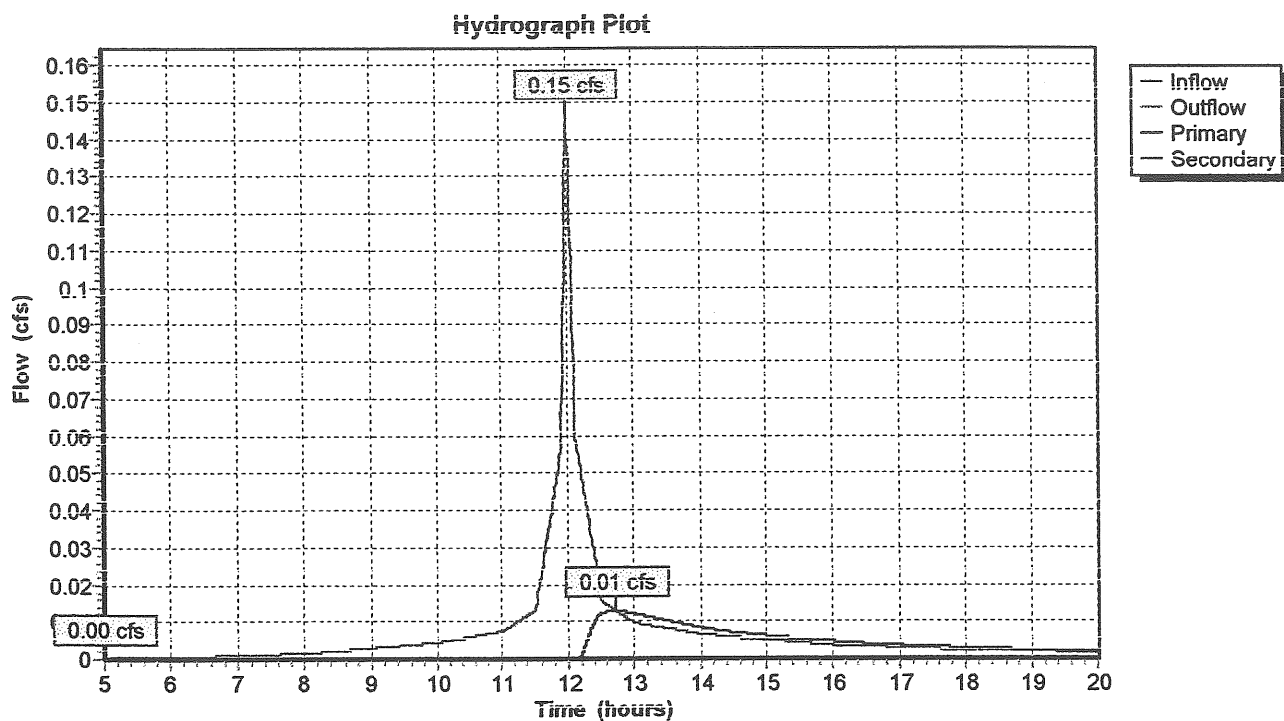
└1=Culvert

Secondary OutFlow (Free Discharge)

└2=Broad-Crested Rectangular Weir

#	Routing	Invert	Outlet Devices
1	Primary	101.00'	2.0" x 10.0' long Culvert RCP, groove end projecting, Ke= 0.200 Outlet invert= 100.50' S= 0.0500 '/ n= 0.030 Cc= 0.900
2	Secondary	101.50'	50.0' long x 10.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64

Pond 1P: Detention Swale



3 Newcomb Existing

Type III 24-hr Rainfall=4.70" (AMC=2)

Prepared by HydroCAD SAMPLER 1-800-927-7246 www.hydrocad.net

Page 1

HydroCAD® 5.95 s/n 000000 © 1986-2001 Applied Microcomputer Systems

6/10/01

Subcatchment 1S: E1

Runoff = 0.64 cfs @ 12.02 hrs, Volume= 0.036 af

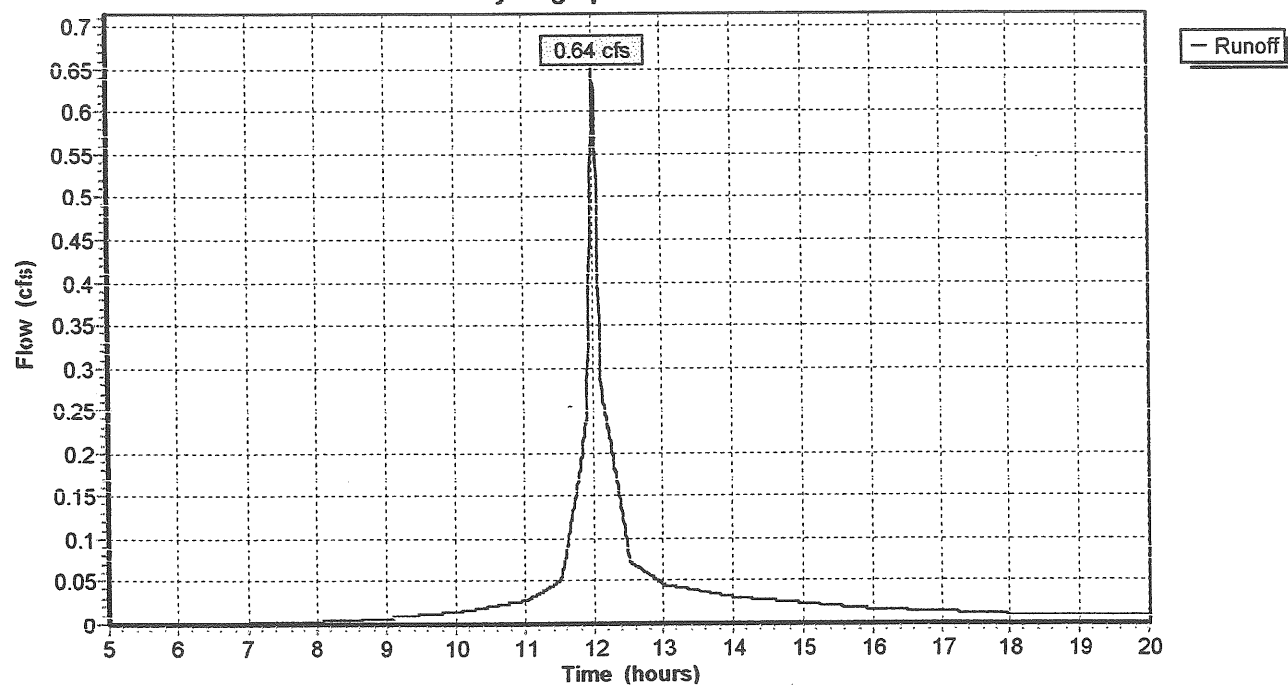
Runoff by SCS TR-20 method, UH=SCS, Time Span= 5.00-20.00 hrs, dt= 0.01 hrs
Type III 24-hr Rainfall=4.70" (AMC=2)

Area (sf)	CN	Description
1,720	91	Gravel roads, HSG D
4,000	80	>75% Grass cover, Good, HSG D
800	98	Paved parking & roofs
6,520	85	Weighted Average

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.3	100	0.0200	1.3		Sheet Flow, E1 Sheet Flow
Smooth surfaces n= 0.011 P2= 3.00"					

Subcatchment 1S: E1

Hydrograph Plot



3 Newcomb Existing

Type III 24-hr Rainfall=4.70" (AMC=2)

Prepared by HydroCAD SAMPLER 1-800-927-7246 www.hydrocad.net

Page 2

HydroCAD® 5.95 s/n 000000 © 1986-2001 Applied Microcomputer Systems

6/10/01

Subcatchment 2S: E2

Runoff = 0.69 cfs @ 12.02 hrs, Volume= 0.039 af

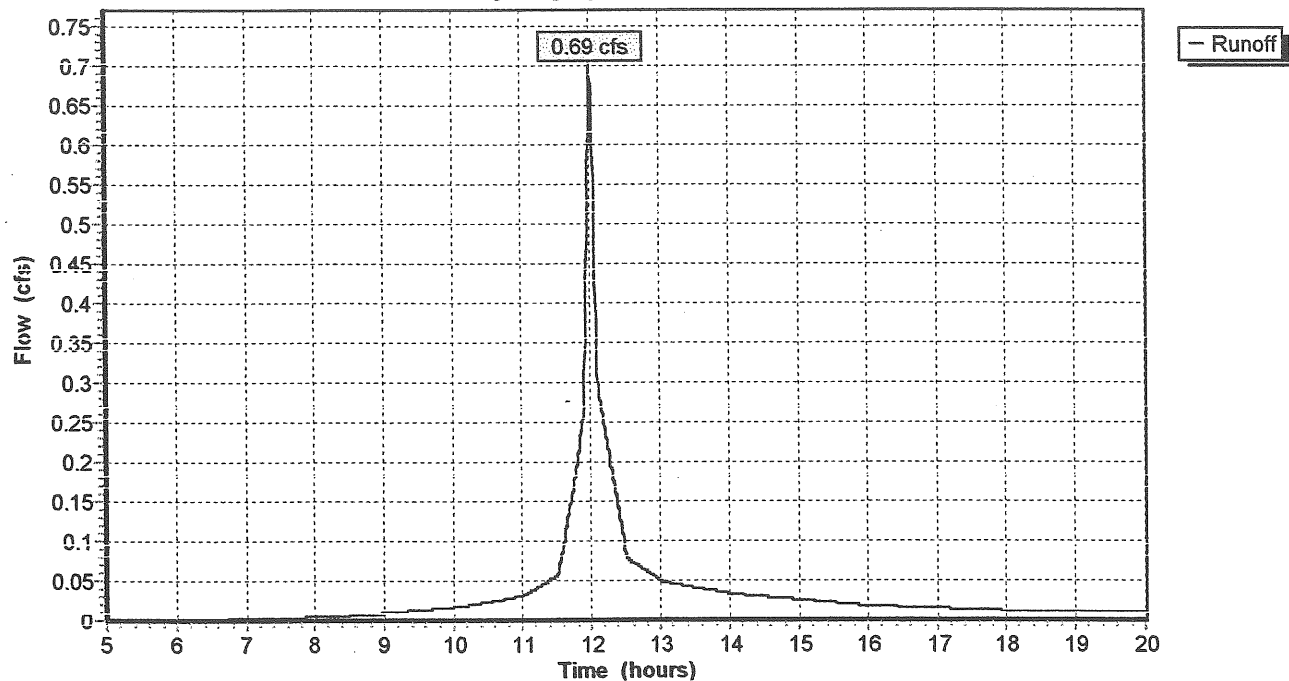
Runoff by SCS TR-20 method, UH=SCS, Time Span= 5.00-20.00 hrs, dt= 0.01 hrs
Type III 24-hr Rainfall=4.70" (AMC=2)

Area (sf)	CN	Description
2,510	91	Gravel roads, HSG D
3,450	80	>75% Grass cover, Good, HSG D
890	98	Paved parking & roofs
6,850	86	Weighted Average

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.3	100	0.0200	1.3		Sheet Flow, E1 Sheet Flow
Smooth surfaces n= 0.011 P2= 3.00"					

Subcatchment 2S: E2

Hydrograph Plot



3 Newcomb Proposed

Type III 24-hr Rainfall=4.70" (AMC=2)

Prepared by HydroCAD SAMPLER 1-800-927-7246 www.hydrocad.net

Page 1

HydroCAD® 5.95 s/n 000000 © 1986-2001 Applied Microcomputer Systems

6/10/01

Subcatchment 1S: P1

Runoff = 0.56 cfs @ 12.02 hrs, Volume= 0.032 af

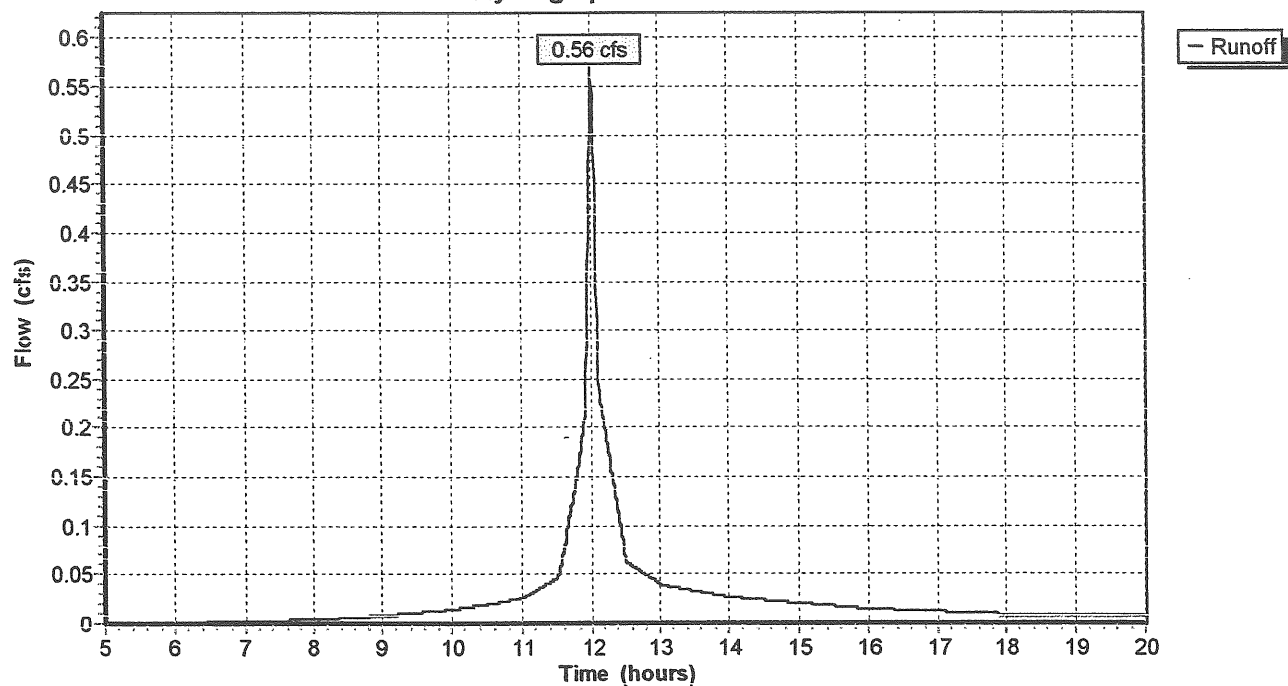
Runoff by SCS TR-20 method, UH=SCS, Time Span= 5.00-20.00 hrs, dt= 0.01 hrs
Type III 24-hr Rainfall=4.70" (AMC=2)

Area (sf)	CN	Description
3,400	91	Gravel roads, HSG D
2,010	80	>75% Grass cover, Good, HSG D
5,410	87	Weighted Average

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.3	100	0.0200	1.3		Sheet Flow, P1 Sheet Flow Smooth surfaces n= 0.011 P2= 3.00"

Subcatchment 1S: P1

Hydrograph Plot



3 Newcomb Proposed

Type III 24-hr Rainfall=4.70" (AMC=2)

Prepared by HydroCAD SAMPLER 1-800-927-7246 www.hydrocad.net

Page 2

HydroCAD® 5.95 s/n 000000 © 1986-2001 Applied Microcomputer Systems

6/10/01

Subcatchment 2S: P2

Runoff = 0.55 cfs @ 12.02 hrs, Volume= 0.031 af

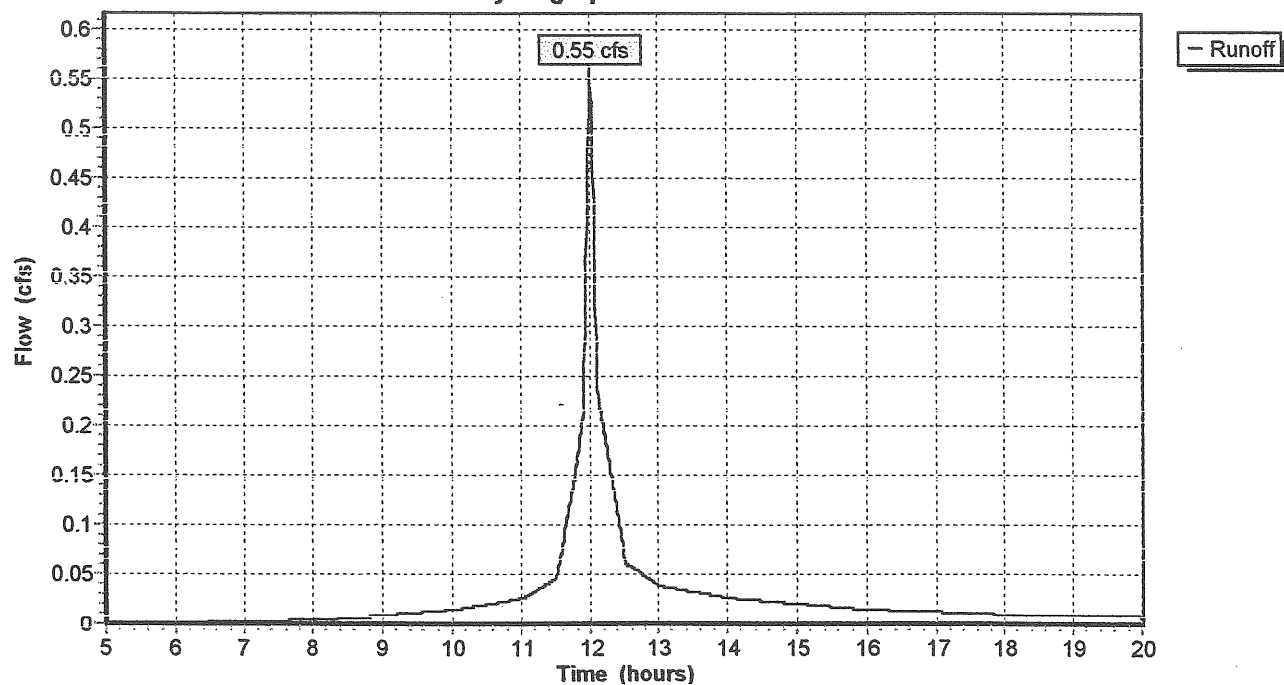
Runoff by SCS TR-20 method, UH=SCS, Time Span= 5.00-20.00 hrs, dt= 0.01 hrs
Type III 24-hr Rainfall=4.70" (AMC=2)

Area (sf)	CN	Description
2,470	91	Gravel roads, HSG D
2,190	80	>75% Grass cover, Good, HSG D
640	98	Paved parking & roofs
5,300	87	Weighted Average

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.0	80	0.0200	1.3		Sheet Flow, P2 Sheet Flow
Smooth surfaces n= 0.011 P2= 3.00"					

Subcatchment 2S: P2

Hydrograph Plot



3 Newcomb Proposed

Prepared by HydroCAD SAMPLER 1-800-927-7246 www.hydrocad.net
HydroCAD® 5.95 s/n 000000 © 1986-2001 Applied Microcomputer Systems

Type III 24-hr Rainfall=4.70" (AMC=2)

Page 3
6/10/01

Subcatchment 3S: P3

Runoff = 0.24 cfs @ 12.01 hrs, Volume= 0.014 af

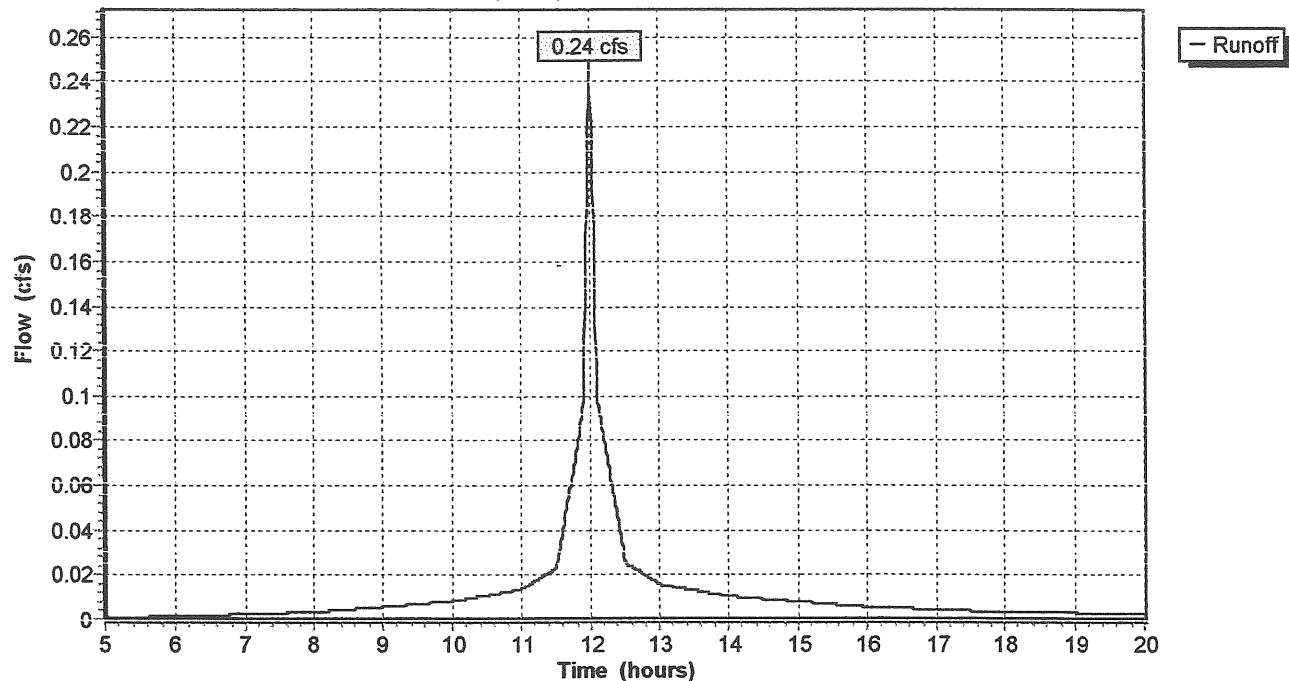
Runoff by SCS TR-20 method, UH=SCS, Time Span= 5.00-20.00 hrs, dt= 0.01 hrs
Type III 24-hr Rainfall=4.70" (AMC=2)

Area (sf)	CN	Description
1,500	98	Paved parking & roofs
500	80	>75% Grass cover, Good, HSG D
2,000	94	Weighted Average

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.1	15	0.7000	3.8		Sheet Flow, E1 Sheet Flow Smooth surfaces n= 0.011 P2= 3.00"
0.1	50	0.0200	7.2	2.16	Channel Flow, Gutter Area= 0.3 sf Perim= 1.5' r= 0.20'
0.5	40	0.0200	1.3	0.12	Circular Channel (pipe), Drain Pipe Diam= 4.0" Area= 0.1 sf Perim= 1.0' r= 0.08'
0.7	105	Total			

Subcatchment 3S: P3

Hydrograph Plot



3 Newcomb Proposed

Type III 24-hr Rainfall=4.70" (AMC=2)

Prepared by HydroCAD SAMPLER 1-800-927-7246 www.hydrocad.net

Page 4

HydroCAD® 5.95 s/n 000000 © 1986-2001 Applied Microcomputer Systems

6/10/01

Subcatchment 4S: P4

Runoff = 0.07 cfs @ 12.01 hrs, Volume= 0.004 af

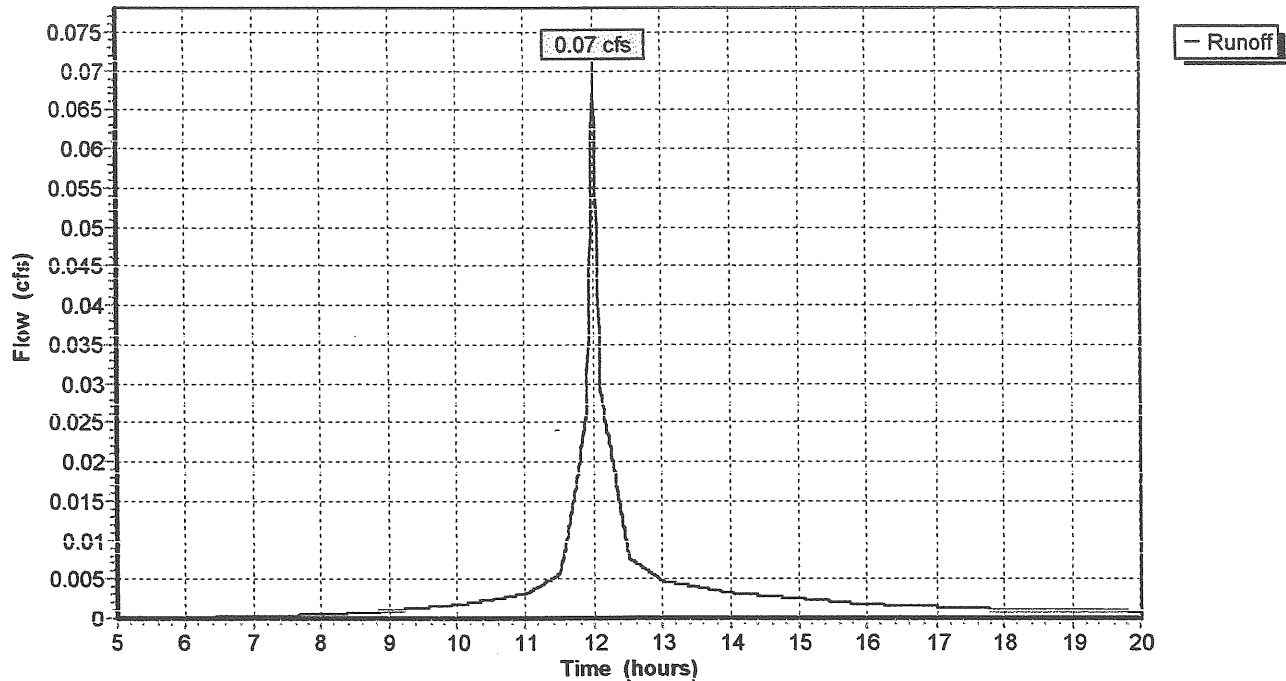
Runoff by SCS TR-20 method, UH=SCS, Time Span= 5.00-20.00 hrs, dt= 0.01 hrs
Type III 24-hr Rainfall=4.70" (AMC=2)

Area (sf)	CN	Description
240	98	Paved parking & roofs
420	80	>75% Grass cover, Good, HSG D
660	87	Weighted Average

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.5	20	0.0100	0.7		Sheet Flow, Sheet Flow
Smooth surfaces n= 0.011 P2= 3.00"					

Subcatchment 4S: P4

Hydrograph Plot



3 Newcomb Proposed

Type III 24-hr Rainfall=4.70" (AMC=2)

Prepared by HydroCAD SAMPLER 1-800-927-7246 www.hydrocad.net

Page 5

HydroCAD® 5.95 s/n 000000 © 1986-2001 Applied Microcomputer Systems

6/10/01

Pond 1P: Detention Swale

Inflow = 0.24 cfs @ 12.01 hrs, Volume= 0.014 af
 Outflow = 0.03 cfs @ 12.46 hrs, Volume= 0.009 af, Atten= 86%, Lag= 26.9 min
 Primary = 0.03 cfs @ 12.46 hrs, Volume= 0.009 af
 Secondary = 0.00 cfs @ 5.00 hrs, Volume= 0.000 af

Routing by Stor-ind method, Time Span= 5.00-20.00 hrs, dt= 0.01 hrs

Peak Elev= 101.43' Storage= 371 cf

Plug-Flow detention time= 178.0 min calculated for 0.009 af (65% of inflow)

Elevation (feet)	Cum.Store (cubic-feet)
100.50	0
101.00	200
101.50	400

Primary OutFlow (Free Discharge)

└1=Culvert

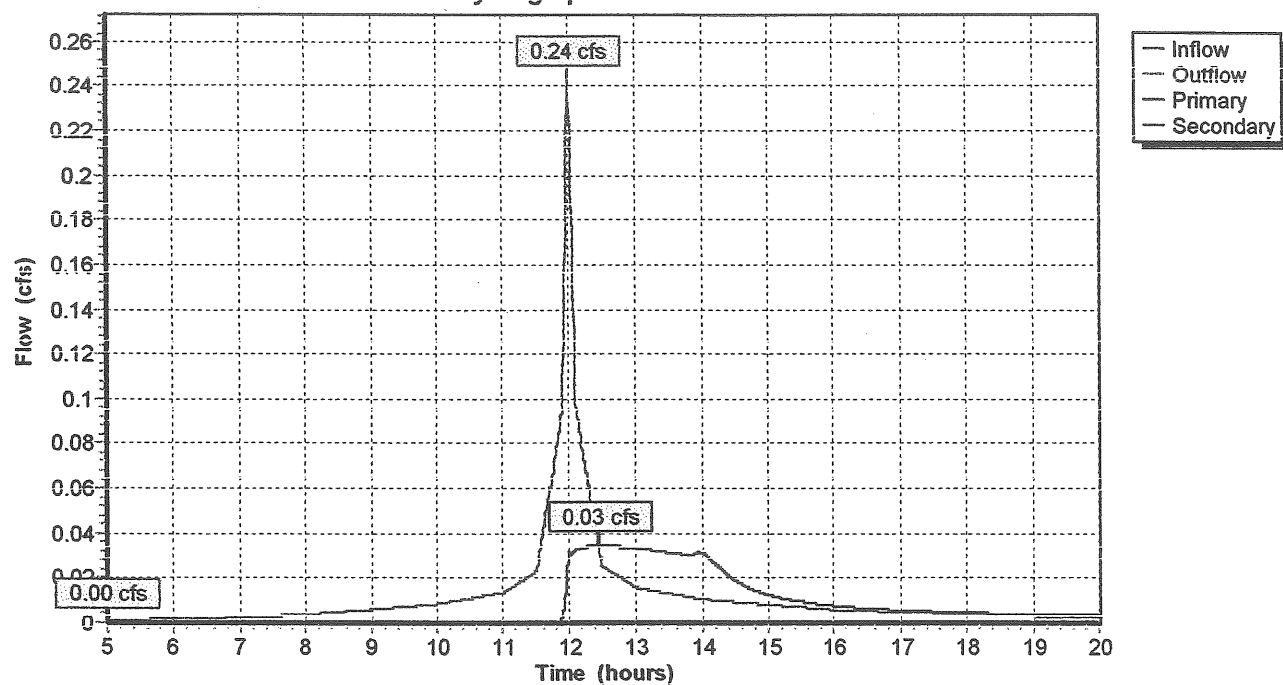
Secondary OutFlow (Free Discharge)

└2=Broad-Crested Rectangular Weir

#	Routing	Invert	Outlet Devices
1	Primary	101.00'	2.0" x 10.0' long Culvert RCP, groove end projecting, Ke= 0.200 Outlet invert= 100.50' S= 0.0500 ' n= 0.030 Cc= 0.900
2	Secondary	101.50'	50.0' long x 10.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64

Pond 1P: Detention Swale

Hydrograph Plot



3 Newcomb Existing

Type III 24-hr Rainfall=5.50" (AMC=2)

Prepared by HydroCAD SAMPLER 1-800-927-7246 www.hydrocad.net

Page 1

HydroCAD® 5.95 s/n 000000 © 1986-2001 Applied Microcomputer Systems

6/10/01

Subcatchment 1S: E1

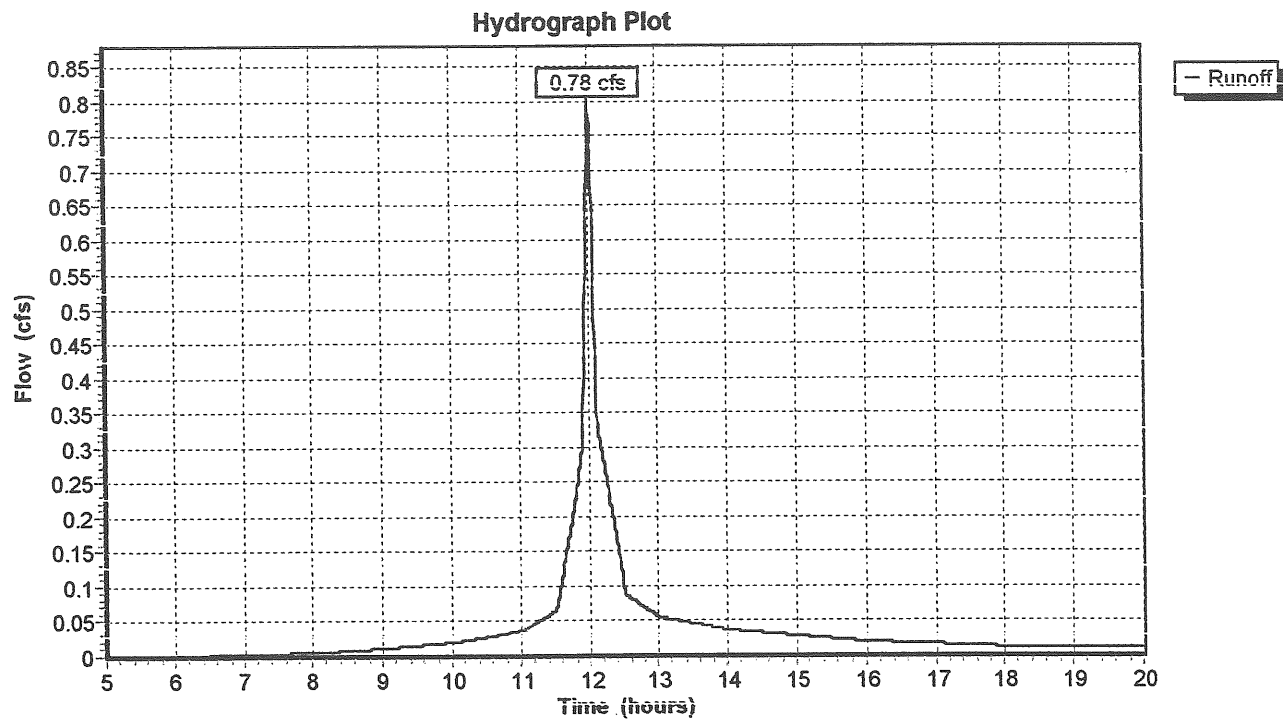
Runoff = 0.78 cfs @ 12.02 hrs, Volume= 0.045 af

Runoff by SCS TR-20 method, UH=SCS, Time Span= 5.00-20.00 hrs, dt= 0.01 hrs
Type III 24-hr Rainfall=5.50" (AMC=2)

Area (sf)	CN	Description
1,720	91	Gravel roads, HSG D
4,000	80	>75% Grass cover, Good, HSG D
800	98	Paved parking & roofs
6,520	85	Weighted Average

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.3	100	0.0200	1.3		Sheet Flow, E1 Sheet Flow Smooth surfaces n= 0.011 P2= 3.00"

Subcatchment 1S: E1



3 Newcomb Existing

Type III 24-hr Rainfall=5.50" (AMC=2)

Prepared by HydroCAD SAMPLER 1-800-927-7246 www.hydrocad.net

Page 1

HydroCAD® 5.95 s/n 000000 © 1986-2001 Applied Microcomputer Systems

6/10/01

Subcatchment 2S: E2

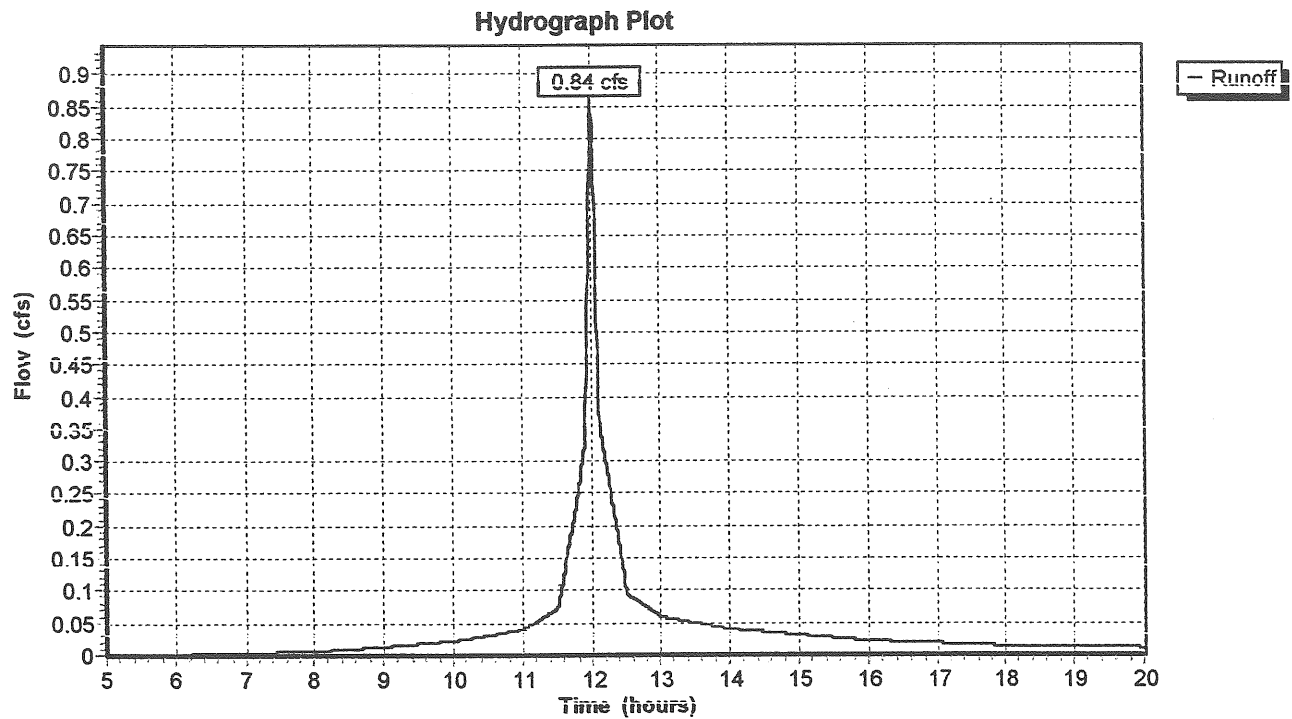
Runoff = 0.84 cfs @ 12.02 hrs, Volume= 0.049 af

Runoff by SCS TR-20 method, UH=SCS, Time Span= 5.00-20.00 hrs, dt= 0.01 hrs
 Type III 24-hr Rainfall=5.50" (AMC=2)

Area (sf)	CN	Description
2,510	91	Gravel roads, HSG D
3,450	80	>75% Grass cover, Good, HSG D
890	98	Paved parking & roofs
6,850	86	Weighted Average

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.3	100	0.0200	1.3		Sheet Flow, E1 Sheet Flow Smooth surfaces n= 0.011 P2= 3.00"

Subcatchment 2S: E2



3 Newcomb Proposed

Type III 24-hr Rainfall=5.50" (AMC=2)

Prepared by HydroCAD SAMPLER 1-800-927-7246 www.hydrocad.net

Page 1

HydroCAD® 5.95 s/n 000000 © 1986-2001 Applied Microcomputer Systems

6/10/01

Subcatchment 1S: P1

Runoff = 0.68 cfs @ 12.02 hrs, Volume= 0.039 af

Runoff by SCS TR-20 method, UH=SCS, Time Span= 5.00-20.00 hrs, dt= 0.01 hrs

Type III 24-hr Rainfall=5.50" (AMC=2)

Area (sf)	CN	Description
3,400	91	Gravel roads, HSG D
2,010	80	>75% Grass cover, Good, HSG D
5,410	87	Weighted Average

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.3	100	0.0200	1.3		Sheet Flow, P1 Sheet Flow Smooth surfaces n= 0.011 P2= 3.00"

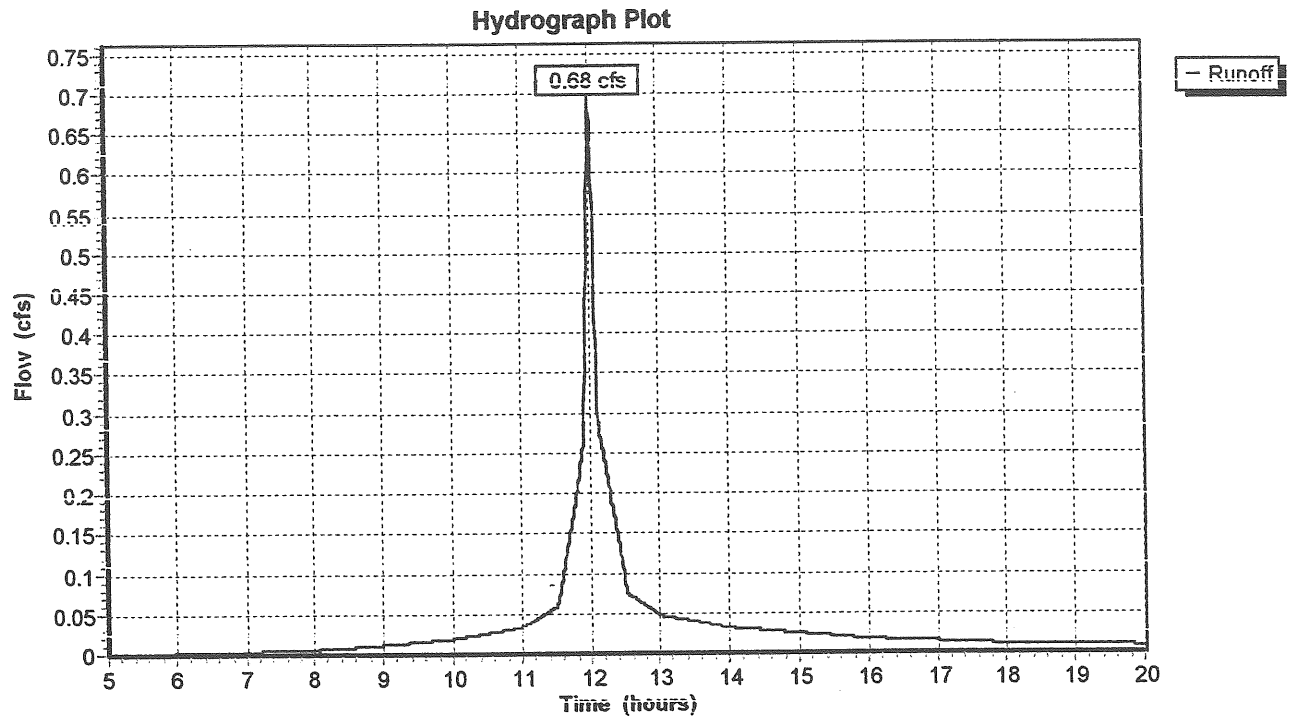
3 Newcomb Proposed

Prepared by HydroCAD SAMPLER 1-800-927-7246 www.hydrocad.net
HydroCAD® 5.95 s/n 000000 © 1986-2001 Applied Microcomputer Systems

Type III 24-hr Rainfall=5.50" (AMC=2)

Page 1
6/10/01

Subcatchment 1S: P1



3 Newcomb Proposed

Type III 24-hr Rainfall=5.50" (AMC=2)

Prepared by HydroCAD SAMPLER 1-800-927-7246 www.hydrocad.net

Page 1

HydroCAD® 5.95 s/n 000000 © 1986-2001 Applied Microcomputer Systems

6/10/01

Subcatchment 2S: P2

[49] Hint: $T_c < 2dt$ may require smaller dt

Runoff = 0.67 cfs @ 12.02 hrs, Volume= 0.039 af

Runoff by SCS TR-20 method, UH=SCS, Time Span= 5.00-20.00 hrs, $dt=0.01$ hrs

Type III 24-hr Rainfall=5.50" (AMC=2)

Area (sf)	CN	Description
2,470	91	Gravel roads, HSG D
2,190	80	>75% Grass cover, Good, HSG D
640	98	Paved parking & roofs
5,300	87	Weighted Average

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.0	80	0.0200	1.3		Sheet Flow, P2 Sheet Flow Smooth surfaces n= 0.011 P2= 3.00"

3 Newcomb Proposed

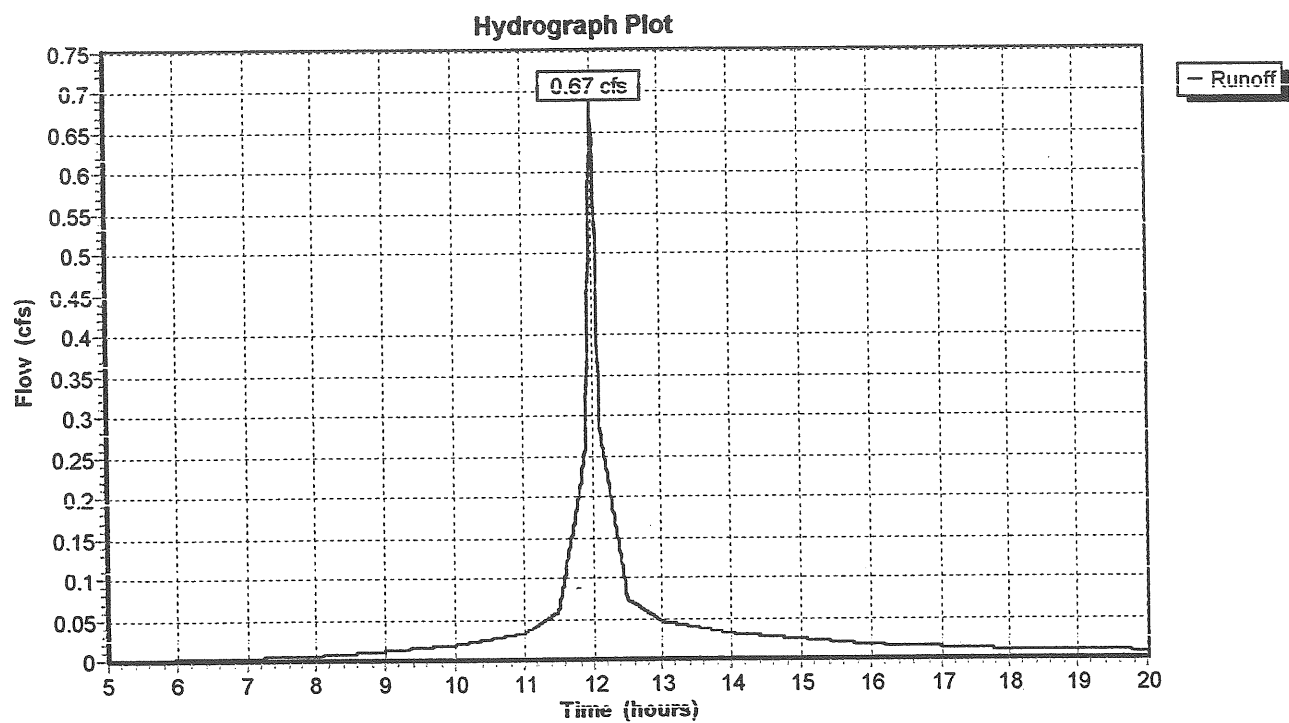
Prepared by HydroCAD SAMPLER 1-800-927-7246 www.hydrocad.net
HydroCAD® 5.95 s/n 000000 © 1986-2001 Applied Microcomputer Systems

Type III 24-hr Rainfall=5.50" (AMC=2)

Page 1

6/10/01

Subcatchment 2S: P2



3 Newcomb Proposed

Type III 24-hr Rainfall=5.50" (AMC=2)

Prepared by HydroCAD SAMPLER 1-800-927-7246 www.hydrocad.net

Page 1

HydroCAD® 5.95 s/n 000000 © 1986-2001 Applied Microcomputer Systems

6/10/01

Subcatchment 3S: P3

[49] Hint: Tc<2dt may require smaller dt

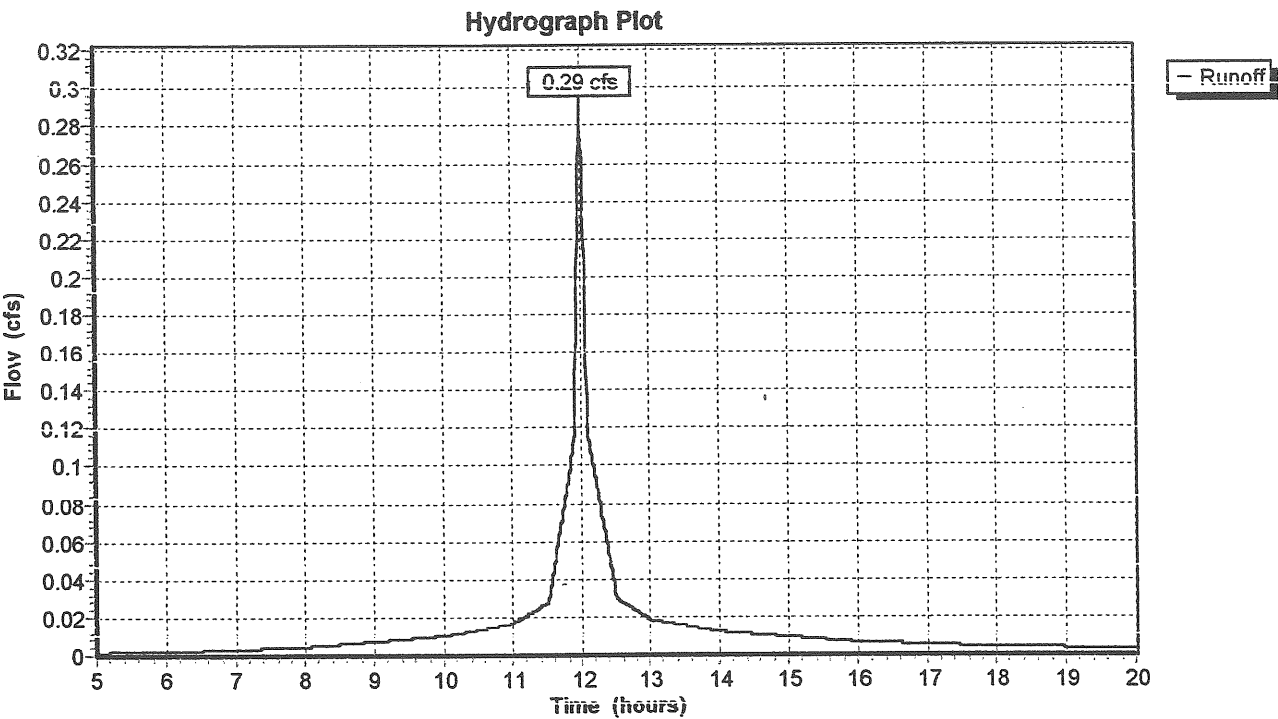
Runoff = 0.29 cfs @ 12.01 hrs, Volume= 0.017 af

Runoff by SCS TR-20 method, UH=SCS, Time Span= 5.00-20.00 hrs, dt= 0.01 hrs
Type III 24-hr Rainfall=5.50" (AMC=2)

Area (sf)	CN	Description
1,500	98	Paved parking & roofs
500	80	>75% Grass cover, Good, HSG D
2,000	94	Weighted Average

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.1	15	0.7000	3.8		Sheet Flow, E1 Sheet Flow Smooth surfaces n= 0.011 P2= 3.00"
0.1	50	0.0200	7.2	2.16	Channel Flow, Gutter Area= 0.3 sf Perim= 1.5' r= 0.20'
0.5	40	0.0200	1.3	0.12	Circular Channel (pipe), Drain Pipe Diam= 4.0" Area= 0.1 sf Perim= 1.0' r= 0.08'
0.7	105	Total			

Subcatchment 3S: P3



3 Newcomb Proposed

Type III 24-hr Rainfall=5.50" (AMC=2)

Prepared by HydroCAD SAMPLER 1-800-927-7246 www.hydrocad.net

Page 1

HydroCAD® 5.95 s/n 000000 © 1986-2001 Applied Microcomputer Systems

6/10/01

Pond 1P: Detention Swale

[82] Warning: Early inflow requires earlier time span

[91] Warning: Storage range exceeded by 0.10'

[85] Warning: Oscillations may require Finer Routing>1

Inflow	=	0.29 cfs @ 12.01 hrs,	Volume=	0.017 af
Outflow	=	0.04 cfs @ 12.47 hrs,	Volume=	0.012 af, Atten= 87%, Lag= 27.6 min
Primary	=	0.04 cfs @ 12.47 hrs,	Volume=	0.012 af
Secondary	=	0.00 cfs @ 5.00 hrs,	Volume=	0.000 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.01 hrs

Peak Elev= 101.60' Storage= 441 cf

Plug-Flow detention time= 179.6 min calculated for 0.012 af (71% of inflow)

Elevation (feet)	Cum.Store (cubic-feet)
100.50	0
101.00	200
101.50	400

Primary OutFlow (Free Discharge)

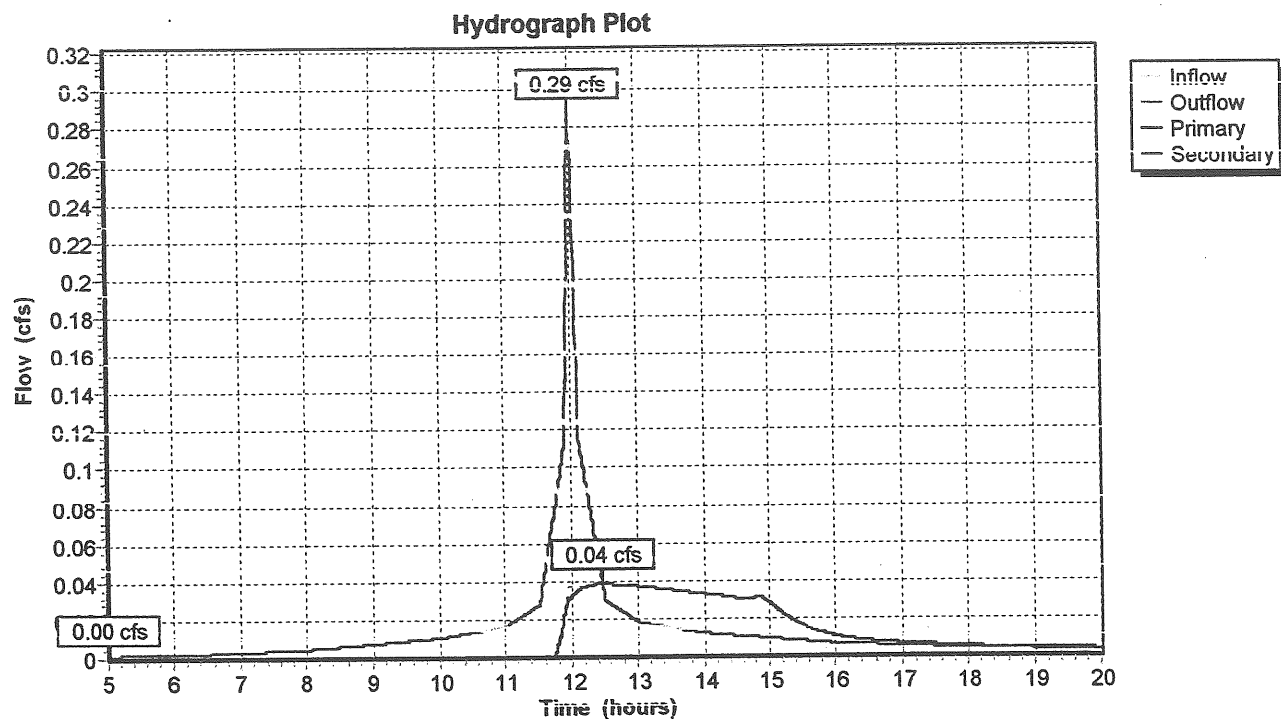
1=Culvert

Secondary OutFlow (Free Discharge)

2=Broad-Crested Rectangular Weir

#	Routing	Invert	Outlet Devices
1	Primary	101.00'	2.0" x 10.0' long Culvert RCP, groove end projecting, Ke= 0.200 Outlet invert= 100.50' S= 0.0500 '/ n= 0.030 Cc= 0.900
2	Secondary	101.50'	50.0' long x 10.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64

Pond 1P: Detention Swale



3 Newcomb Proposed

Type III 24-hr Rainfall=5.50" (AMC=2)

Prepared by HydroCAD SAMPLER 1-800-927-7246 www.hydrocad.net

Page 1

HydroCAD® 5.95 s/n 000000 © 1986-2001 Applied Microcomputer Systems

6/10/01

Subcatchment 4S: P4

[49] Hint: Tc<2dt may require smaller dt

Runoff = 0.08 cfs @ 12.01 hrs, Volume= 0.005 af

Runoff by SCS TR-20 method, UH=SCS, Time Span= 5.00-20.00 hrs, dt= 0.01 hrs

Type III 24-hr Rainfall=5.50" (AMC=2)

Area (sf)	CN	Description
240	98	Paved parking & roofs
420	80	>75% Grass cover, Good, HSG D
660	87	Weighted Average

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.5	20	0.0100	0.7		Sheet Flow, Sheet Flow
					Smooth surfaces n= 0.011 P2= 3.00"

3 Newcomb Proposed

Type III 24-hr Rainfall=5.50" (AMC=2)

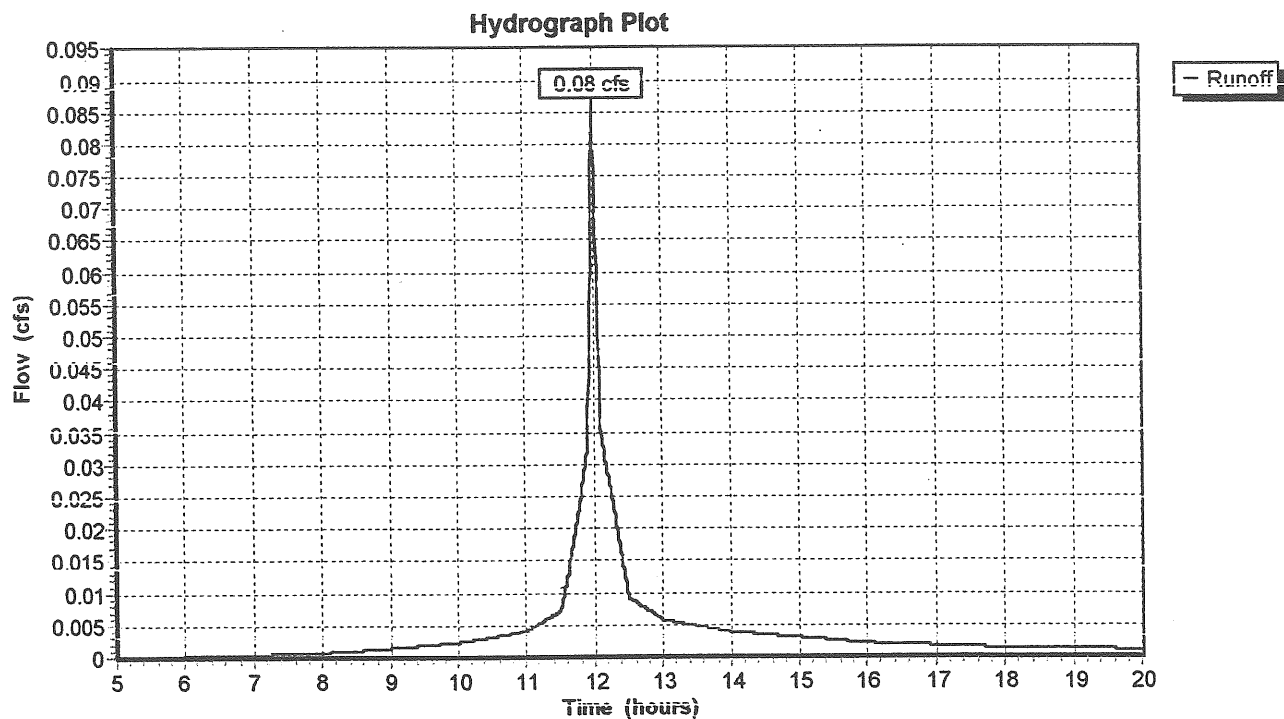
Prepared by HydroCAD SAMPLER 1-800-927-7246 www.hydrocad.net

Page 1

HydroCAD® 5.95 s/n 000000 © 1986-2001 Applied Microcomputer Systems

6/10/01

Subcatchment 4S: P4



SOIL SURVEY

Cumberland County, Maine

Assistance provided is available to all eligible applicants regardless of race, color, religion, sex, national origin, age, marital status, or handicap.

UNITED STATES DEPARTMENT OF AGRICULTURE
Soil Conservation Service
In cooperation with
MAINE AGRICULTURAL EXPERIMENT STATION
Issued August 1974

For a full description of a mapping unit, read both the description of the mapping unit and that of the series. An explanation of the capability classification system.

Acres and extent, table 1, page 9.
 Estimated yields, table 2, page 42.
 Woodland management, table 3, page 44.
 Suitability for wildlife habitat, table 4, page 51.

Map symbol	Mapping unit	Described on page	Capability unit Symbol	Woodland group Symbol	Wildlife group Number
Au	Au Gres loamy sand-----	10	IVw-5	4w1	3
BgB	Belgrade very fine sandy loam, 0 to 8 percent slopes----	11	IIw-7	3o1	2
BgC2	Belgrade very fine sandy loam, 8 to 15 percent slopes, eroded-----	11	IIIew-7	3r1	1
Bo	Biddeford silt loam-----	12	VIw-7	Unsuited	4
BuB	Buxton silt loam, 3 to 8 percent slopes-----	12	IIw-7	4o1	2
BuC2	Buxton silt loam, 8 to 15 percent slopes, eroded-----	12	IIIew-7	5c1	1
CaB	Canaan sandy loam, 3 to 8 percent slopes-----	13	IIIe-1	4d1	6
CaC	Canaan sandy loam, 8 to 15 percent slopes-----	13	IVe-1	4d1	6
CeB	Canaan very rocky sandy loam, 3 to 8 percent slopes----	13	VIIs-1	4x1	8
CeC	Canaan very rocky sandy loam, 8 to 20 percent slopes----	13	VIIs-1	4x1	8
CeE	Canaan very rocky sandy loam, 20 to 60 percent slopes---	14	VIIIs-1	4x2	8
Ck	Coastal beaches-----	14	VIIIIs-5	Unsuited	13
Cu	Cut and fill land-----	14	Unclassified	---	--
DeA	Deerfield loamy sand, 0 to 3 percent slopes-----	15	IIIw-5	4o1	2
DeB	Deerfield loamy sand, 3 to 8 percent slopes-----	15	IIIw-5	4o1	2
Du	Dune land-----	15	VIIIIs-5	6s1	13
EmB	Elmwood fine sandy loam, 0 to 8 percent slopes-----	16	IIw-8	3o1	2
Gp	Gravel pits-----	16	Unclassified	---	13
HfB	Hartland very fine sandy loam, 3 to 8 percent slopes----	16	IIe-7	3o1	1
HfC2	Hartland very fine sandy loam, 8 to 15 percent slopes, eroded-----	16	IIIe-7	3r1	1
HfD2	Hartland very fine sandy loam, 15 to 25 percent slopes, eroded-----	16	IVe-7	3r2	10
HgB	Hermon sandy loam, 3 to 8 percent slopes-----	17	IIIs-3	4s1	1
HgC	Hermon sandy loam, 8 to 15 percent slopes-----	17	IIIIs-3	4s1	1
HgD	Hermon sandy loam, 15 to 25 percent slopes-----	17	IVIs-3	4s2	10
HhB	Hermon very stony sandy loam, 3 to 8 percent slopes----	18	VIIs-3	4s1	7
HhC	Hermon very stony sandy loam, 8 to 15 percent slopes----	18	VIIs-3	4s1	7
HhD	Hermon very stony sandy loam, 15 to 30 percent slopes---	18	VIIs-3	4s2	8
HkC	Hermon extremely stony sandy loam, 8 to 20 percent slopes-----	18	VIIIs-3	4x3	8
HkE	Hermon extremely stony sandy loam, 20 to 60 percent slopes-----	18	VIIIs-3	4x4	8
HlB	Hinckley gravelly sandy loam, 3 to 8 percent slopes----	19	IIIIs-5	5s1	5
HlC	Hinckley gravelly sandy loam, 8 to 15 percent slopes----	19	IVIs-5	5s1	5
HlD	Hinckley gravelly sandy loam, 15 to 25 percent slopes---	19	VIIs-5	5s2	8
HnB	Hinckley-Suffield complex, 3 to 8 percent slopes-----	19	IIIIs-57	5s1	5
HnC	Hinckley-Suffield complex, 8 to 15 percent slopes-----	19	IVIs-57	5s1	5
HnD	Hinckley-Suffield complex, 15 to 25 percent slopes-----	19	VIIs-57	5s2	8
HrB	Hollis fine sandy loam, 3 to 8 percent slopes-----	20	IIIe-1	5d1	6
HrC	Hollis fine sandy loam, 8 to 15 percent slopes-----	20	IVe-1	5d1	6
HrD	Hollis fine sandy loam, 15 to 25 percent slopes-----	20	VIe-1	5d2	8
HsB	Hollis very rocky fine sandy loam, 3 to 8 percent slopes-----	20	VIIs-1	5x1	8
HsC	Hollis very rocky fine sandy loam, 8 to 20 percent slopes-----	20	VIIs-1	5x1	8
HsE	Hollis very rocky fine sandy loam, 20 to 35 percent slopes-----	21	VIIIs-1	5x2	8
Ls	Limerick-Saco silt loams-----	21	VIw-6	4w1	9
	Limerick soil-----	--	VIw-6	Unsuited	9
	Saco soil-----	--	IIIe-1	4d1	6
LyB	Lyman fine sandy loam, 3 to 8 percent slopes-----	22	IVIs-1	4d1	6
LyC	Lyman fine sandy loam, 8 to 15 percent slopes-----	22			

Exhibit A-1, continued: Hydrologic soil groups for United States soils

BUCHENAU, THICK	S	BURCHELL	C	CARO POJO	C	CALOOD	C	CANTEEN	B
SOLUM		BURDETT	C	CAROOSE	B	CALOOSA	C	CANTEY	D
BUCKAROO	C	BUREN	C	CAROT	D	CALOUSE	B	CANTINA	C
BUCKBAY	C	BURGESS	C	CABRILLO	C	CALPAC	B	CANTON	B
BUCKCREEK	C	BURGI	B	CABSTON	B	CALPEAK	D	CANTON BEND	C
BUCKEYE	C	BURIBURI	C	CACHE	D	CALPINE	B	CANTRIL	B
BUCKHALL	B	BURKE	C	CACIGUC	C	CALROY	B	CANTUA	B
BUCKHOUSE	B	BURKETOWN	C	CACTUSFLAT	C	CALUME	B	CANTUCHE	D
BUCKING	A	BURKEVILLE	D	CADDO	D	CALVERTON	C	CANUTIO	B
BUCKLAKE	C	BURKHARDT	B	CADEVILLE	D	CALVIN	C	CANWALL	C
BUCKLAND	C	BURLEIGH	A/D	CADILLAC	A	CALVISTA	D	CANYON	D
BUCKLE	B	BURLESON	D	CADIZ	F	CALVCOOS	D	CAPAC	C
BUCKLEBAR	S	BURLEWASH	D	CADHUS	B	CALZACORTA	D	CAPAY	D
BUCKLEY	D	BURLINGTON	A	CADOMA	D	CAMAGUEY	D	CAPE	D
BUCKLICK	C	BURPAH	D	CAESAR	A	CAMARGO	B	CAPE FEAR	D
BUCKLICK, THICK	B	BURNAC	D	CAGEY	C	CAMARILLO	C	CAPEHORN	D
SOLUM		BURNBOROUGH	B	CAGLE	C	CAMARILLO, DRAINED	B	CAPERS	D
BUCKLON	D	BURNEL	C	CAGUABO	D	CAMAS	A	CAPERTON	D
BUCKNELL	D	BURNETTE	C	CAGWIN	B	CAMAS, STONY	B	CAPHOR	B
BUCKNEY	B	BURNHAM	D	CAMABA	B	CAMATTA	D	CAPILLO	C
BUCKPEAK	B	BURNSIDE	B	CAMONA	B	CAMBARGE	B	CAPISTRANO	B
BUCKS	B	BURNSVILLE	B	CAID	B	CAMBERN	C	CAPITAN	D
BUCKSHOT	B	BURNSWICK	B	CAINMOY	A	CAMBERT	C	CAPJAC	C
BUCKSKIN	C	BURNT LAKE	A	CAIRG	D	CAMBETH	C	CAPLEN	D
BUCKTON	B	BURNTRIVER	E	CAJALCO	C	CAMBRIA	B	CAPLES	D
BUDE	C	BURP	D	CAJETE	E	CAMBRIIDGE	C	CAPLES, DRAINED	C
BUDIMOL	D	BURRITA	D	CAJON, OVERWASH	A	CAMDEN	E	CAPONA	C
BUDLEVIS	C	BURROSVILLE	C	CAJON, LOAMY	A	CAMEEK	B	CAPOOSE	C
BUELL	S	BURSLEY	D	SUBSTRATUM		CAMELBACK	D	CAPPS	B
BUEVA VISTA	S	BURSON	C	CAJON, SILTY	A	CAMEO	E	CAPSHAW	C
BUFFARAN	D	BUPT	D	SUBSTRATUM		CAMEPON	D	CAPTINA	C
BUFFCREEK	B	BUKTON	B	CAJON, ALKALI	A	CAMILLUS	B	CAPTIVA	B/D
BUFFINGTON	S	BURWELL	C	CYERWASH	C	CAMINO	C	CAPULIN	B
BUFFMEYER	B	BUSBY	E	CAJON	E	CAMPANA	B	CARACOCLES	D
BUFFPOK	C	BUSE	B	SALINE-ALKALI		CAMPBELL, MUCK	C	CARADAN	D
BUFTON	C	BUSHOP	B	CAJON, COOL	A	SUBSTRATUM		CARALAMPI	B
BUMRIG	C	BUSHMAN	B	CYERWASH		CAMPBELL, DRAINED	B	CARBENGLE	C
BUICK	C	BUSHMELL	C	CAJON, GRAVELLY	A	CAMPBELLTON	C	CARRO	C
BUIST	F	BUSHVALLEY	D	CAJON, COOL	A	CAMPCCREEK	C	CARBOL	D
BUKO	B	BUSKA	B	CAJON, WARM	A	CAMPJA	B	CARONA	D
BUKO, VET	C	BUSSY	C	CALABAR	D	CAMPO	C	CARBONDALE	A/D
BUKREEK	S	BUSTER	E	CALAPASAS	B	CAMPONE	C	CARCITY	D
BULAKE	D	BUSTI	C	CALAMINE	D	CAMPSPASS	B	CARDENAS	D
BULKLEY	C	BUSYWILD	E	CALAPITY	D	CAMPUS	B	CARDIFF	B
BULL RUN	S	BUTANO	C	CALAPUS	A	CAMPUDEN	C	CARDIGAN	B
BULL RUN, HARDPAN	C	BUTCHE	C	CALAVERAS	E	CANA	C	CARDINGTON	C
SUBSTRATUM		BUTLER	D	CALAWAM	E	CANAAN	C	CARDON	D
BULL TRAIL	B	BUTLERTOWN	C	CALCO	E/D	CANADIAN	B	CAREFREE	D
BULLARDS	B	BUTTERFIELD	C	CALCOUSTA	B/D	CANADICE	D	CAREY	B
BULLCREEK	D	BUTTERMILK	B	CALCROSS	B	CANALOU	B	CAREY LAKE	B
BULLFLAT	B	BUTTERS	B	CALD	C	CANANDAIGUA	D	CARGENT	B
BULLFOR	C	BUTTON	D	CALDER	D	CANASERAGA	C	CARGILL	C
BULLION	D	BUTTONMOOR	B	CALDERWOOD	D	CANAYERAL	C	CARIBEL	B
BULLNEL	C	BUTTONVILLOW	C	CALDWELL	C	CANBURN	D	CARIBOU	B
BULLOCK	D	BUXIN	D	CALDWELL, DRAINED	B	CANDELARIA	B	CARIOCA	B
BULLREY	F	BUXTON, SOMEWHAT	D	CALE	B	CANDELERO	C	CARIS	C
BULLUMP	S	POORLY DRAINED		CALEAST	C	CANDERLY	B	CARJO	C
BULLYARD	F	BUXTON, STONY	C	CALER	B	CANDLER	A	CARLIN	D
BULLYINKLE	D	BUXTON, MODERATELY	C	CALERTONIA	E	CANOLESTICK	C	CARLINTON	C
BULLY	B	WELL DRAINED		CALENOAR	C	CANOR	A	CARLISLE	A/D
BULOV	A	BUZZIN	A	CALERA	C	CANE	C	CARLITO	D
BUNCOMBE	A	BYARS	D	CALHI	A	CANCADEA	D	CARLOS	A/D
BUNDOO	B	BYBEE	D	CALHOUN	D	CANEK	E	CARLOTTA	B
BUNDOORF	D	BYINGTON	C	CALICO	C	CANELO	D	CARLOW	D
SUNGY	C	BYLER	C	CALICOTT	A	CANEST	D	CARLSBAD	C
BUNDYMAN	C	BYLU	B	CALIFON	C	CANEYVILLE	C	CARLSEORG	A
BUNEJUG	C	BYNUM	C	CALIHUS	F	CANEZ	B	CARLSON	B
BUNKER	B	BYRAM	C	CALITA	B	CANFIELD	C	CARLSTROM	C
BUNKERMILL	D	BYRNIE	D	CALIZA	D	CANISTEC	E/D	CARLTON	C
BUNKWATER	C	CABALLO	E	CALKINS	C	CANISTEO, STONY	D	CARMACK	B
BUNKY	C	CADARTON	E	CALLABO	C	CANIVE	B	CARMEL	C
BUNNELL	B	CABBA	D	CALLAHAN	D	CANLON	D	CARNI	B
BUNSELMEIER	B	CABBART	C	CALLAN	C	CANNELL	B	CARNMICHAEL	C
BUNTINGVILLE	C	CABSBART, STONY	D	CALLEGUAS	D	CANNING	B	CARNODY	C
BUNYAN	B	CAPBART, WARM	D	CALLINGS	C	CANNON	B	CARNASAW	C
BURBANK	A	CAREZON	D	CALLISBURG	C	CANNONVILLE	D	CARNEGIE	C
BURCH	B	CABIN	B	CALLCAY	C	CANOE	B	CARNERO	C
BURCHAM	S	CABINET	C	CALMAR	F	CANOYA	B/D	CARNEY	D
BURCHAWO	B	CABLE	B/D	CALNEVA	C	CANTALA	B	CAROLINE	C

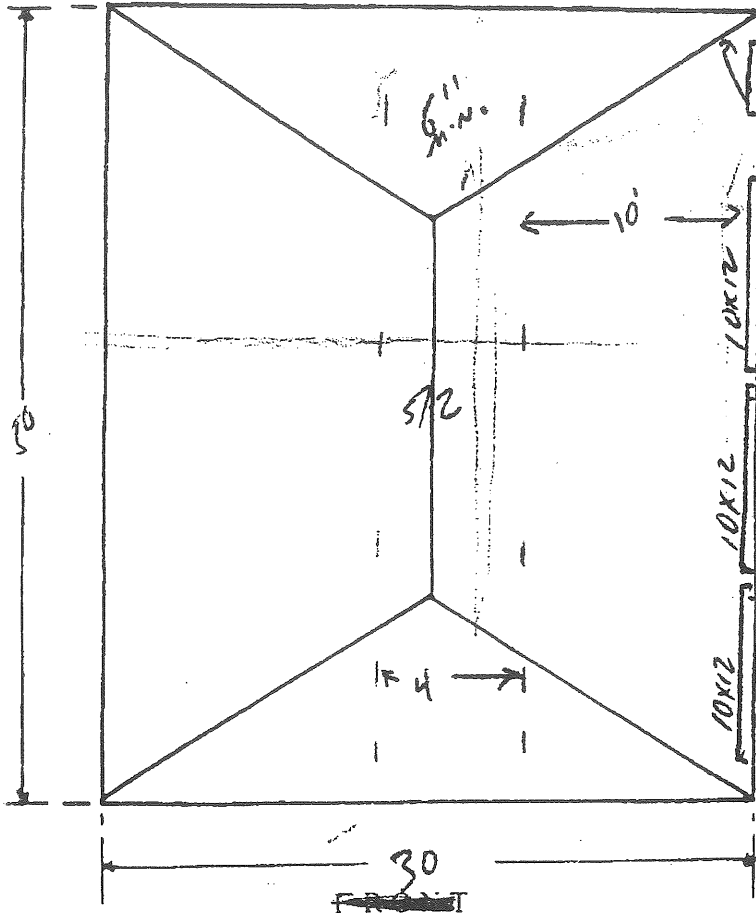
NOTES: TWO HYDROLOGIC SOIL GROUPS SUCH AS B/C INDICATES THE DRAINED/UNDRAINED SITUATION. MODIFIERS SHOWN, E.G., BEDROCK SUBSTRATUM, REFER TO A SPECIFIC SOIL SERIES PHASE FOUND IN SOIL MAP LEGEND.

Exhibit A-1, continued: Hydrologic soil groups for United States soils

ECONFINA	A	ELBOWLAKE	B	ELBRICK	B	ENOCHVILLE.	C	ESTER	D
ECTOR	D	ELBURN	B	ELBRIN	P	DRAINED		ESTER, THAWED	C
EDALGO	C	ELDUITE	C	ELPOSE	B	ENOLA	B	ESTERO	D
EDDINGS	B	ELCO	P	ELS	A	ENON	C	ESTES	D
EDDS	S	ELD	B	ELSAM	E	ENOREE	D	ESTESLAKE	C
EDDY	C	ELDEAN	P	ELSIE	E	ENOS	C	ESTHERVILLE	B
EDEN	C	ELDER	E	ELSINSBORO	B	ENOSBURG	C	ESTO	B
EDENBOWER	D	ELDER MOLLOW	D	ELSMERE	A	ENSENADA	B	ESTRELLA	B
EDENTON	C	ELDERON	E	ELSTON	B	ENSIGN	D	ETACH	C
EDFRO	D	ELDERON, STONY	A	ELTREE	B	ENSLAY	B/D	ETCHEN	C
EDGAR	B	ELDGIN	A	ELTSAC	D	ENSTPON	B	ETELKA	C
EDGE	D	ELDON	B	ELVE	B	ENTENTE	B	ETHAN	B
EDGEHILL	C	ELDORADO	P	ELVEDERE	C	ENTERO	D	ETHANIA	B
EDGELEY	C	ELDRIDGE	C	ELVEPS	B/D	ENTEPPRISE	B	ETHELMAN	B
EDGENONT	B	ELECTRA	C	ELVIPA	E/D	ENTIAI	D	ETHETE	B
EDGEWATER	C	ELEROY	B	ELWELL	C	ENTMOOT	C	ETHETE, SALINE	C
EDGEWICK	C	ELIYA	E	ELWHA	C	ENVILLE	C	ETHRIDGE	C
EDGINGTON	C/D	ELFCREEK	C	ELWOOD	C	ENVOL	D	ETIL	A
EDINA	D	ELFRIDA	B	ELY	E	ENZIAN	D	ETOE	B
EDINSBURG	C	ELGEE	A	ELYSIAN	E	EOJ	C	ETOILE	D
EDISTO	C	ELHINA	C	ELZINGA	P	EOLA	D	ETOVAN	B
EDLIN	B	ELIJAH	C	EPAL	R	EPHRAIM	C	ETOWN	D
EDLOE	B	ELINDIQ	C	EPARGO	C	EPHRAIA	B	ETSEL	D
EDMINSTER	D	ELIOAK	C	EPEDEN	B	EPHRAIA	D	ETTA	B
EDMONDS	D	ELIZA	D	EPERTON	C	EPHRAIA	C	ETTER	B
EDMORE	D	ELK	B	EMBLEM	B	EPOKE	B	ETTERSURG	B
EDMUND	D	ELK MOLLOW	E	EMERY	E	EPOY	B	ETTPICK	B/D
EDMUNDSTON	B	ELK MOUNTAIN	B	EPBUDO	F	EPOUPETTE	R/D	EUEANKS	B
EDNA	D	ELKA	C	EPDENT	D	EPPING	D	EUCUD	C
EDNEYTOWN	B	ELKADER	R	EPDENT, BEDROCK	C	EPSIE	D	EUDORA	B
EDNEYVILLE	B	ELKCREEK	C	SUBSTRATUM.		EPYIP	D	EUEK	B
EDOM	C	ELKHART	B	DRAINED	C	ECUIS	D	EUFULA	A
EDROY	D	ELKHILLS	B	EPDENT, DRAINED	C	ERA	B	EUNARLEE	C
EDSON	C	ELKHORN	E	EMERALD	E	ERAKATK	C	EUNOLA	C
EDWARDS	B/D	ELKINS	D	EMERALDA	D	ERAM	D	EUREKA	D
EEL	R	ELKINSVILLE	P	EMERSON	P	ERAMOSH	C	EUSEIO	C
EELCOVE	D	ELKOUND	D	EMIGRANT	C	ERBER	C	EUSTIS	A
EELPOINT	D	ELKMER	B	EMIGRATION	E	ERCAN	R	EUTAW	D
EEL	C	ELKOL	B	EMILY	C	EPO	D	EVADALE	D
EFFIE	C	ELKRIDGE	D	EMLIN	C	ERICSON	F	EVANGELINE	C
EFFINGTON	D	ELKSEL	C	EMMA	A	EPIN	B	EVANS	B
EGAN	C	ELKTON	C/D	EMMET	E	ERNEM	D	EVANSHAM	D
EGAN	B	ELLABELLE	D	EMMET	E	ERNEM	C	EVANSTON	B
EGAS	D	ELLEDGE	C	EMMONS	E	ERNEST	B	EVANSVILLE	B/D
EGBERT	D	ELLEN	F	EMORY	E	ERNO	C	EVANT	D
EGBERT, STRATIFIED	C	ELLETT	D	EMCT	B	ERRANGUSPE	C	EVARO	B
SUBSTRATUM		ELLIBER	A	EMEDRADO	B	EPVIDE	C	EVARO	B
EGBERT, MODERATELY	C	ELLICOTT	R	EMETVILLE	C	ESCAROSA	B	EVART	D
WET		ELLINGTON	A	EMPIRE	B	ESCALANTE	C	EVENDALE	C
EGBERT, DRAINED	C	ELLINOR	C	EMFONIA	B	ESCANABA	A	EVERETT	A
EGBERT, SANDY	C	ELLISOTT	C	EMRICK	B	ESCANO	C	EVERETT, HARD	S
SUBSTRATUM		ELLISOTTVILLE	B	EMRO	B	ESCARO	F	SUBSTRATUM	
EGBERT, SLOPING	C	ELLIS	D	EMRAP	B	ESCARO	C	EVERGLADES	B/D
EGELAND	B	ELLISFORD	B	EMBAR, WET	D	ESCONDIDO	D	EVERLY	B
EGINBENCH	C	ELLISVILLE	B	ENCAMPMENT	F	ESMANY	B	EVERMAN	D
EGLIN	A	ELLOAN	D	ENCHANTED	P	ESLENOO	D	EVERSON	C
EGYPT	D	ELLORGE	D	ENCIEPRG	D	ESMOPALDA	B	EVERWHITE	C
EICKS	C	ELLSWORTH	C	ENCINA	E	ESMOND	B	EVESBORO	A
EIGHTLAP	D	ELLUM	C	ENCAY	C	ESPARTO	P	EVESBORO	A
EIGHTMILE	D	ELLZEY	C/D	ENDERS	C	ESPELIE	B/D	EVYRIDGE	B
EILERTSEN	B	ELM LAKE	A/C	ENDERSBY	E	ESPII	F	EVA	B
EITZEN	C	ELMOALF	B	EMICOTT	C	ESPIAL	A	EVA, BEDROCK	C
ERAM	B	ELMENDORF	D	ENDOLCH	B	ESPINOSA	D	SUBSTRATUM	
ERAKAKA	B	ELHINA	C	ENDOSAY	C	ESPINT	A	EVAL	A
EKIM	C	ELHISA	A	ENERGY	E	ESPLIN	D	EXCELSIOR	B
EKRUS	D	ELMONT	P	ENET	E	ESPY	C	EXCHEQUER	D
FL DARA	B	ELMORE	B	ENFIELD	B	ESQUATZEL	R	EXCLOSE	B
EL PECO	C	ELMPPIDGE	C	ENGELHARD	B/D	ESPO	D	EXEL	C
EL RANCHO	B	ELMVILLE	B	ENGETT	A/D	ESRO, MODERATELY	C	EXETER	C
EL SOLYO	C	ELMWOOD	C	ENGLE	B	ET	B	EXETER, THICK	B
ELAM	A	ELNIDU	C	ENGLEWOOD	C	ESS	B	SOLUM	E
ELAM, HARDPAN	S	ELNORA	B	ENKO	C	ESSAL	E	EXETTE	E
SUBSTRATUM		ELDOCHMAN	B	ENKO, OVERJLON	B	ESSEN	C	EXIRA	B
ELANDCO	S	ELDGIN	D	ENLCE	D	ESSEX	C	EXLINE	D
ELBA	C	ELDIKA	C	ENNING	B	ESSEXVILLE	A/D	EXRAY	D
ELBAYVILLE	B	ELONA	C	ENNIS	C	ESTACADO	B	EXUM	C
ELBERT	D	ELPAN	D	ENOCH	C	ESTACION	B	EYAK	C
ELBETH	R	ELPEDRO	B	ENOCHVILLE	D	ESTATE	C	EYERFROB	C
ELBON	R	ELRED	B/D			ESTELLINE	R	EYLAU	C

NOTES: TWO HYDROLOGIC SOIL GROUPS SUCH AS B/C INDICATES THE DRAINED/UNDRAINED SITUATION. MODIFIERS SHOWN. E.G., BEDROCK SUBSTRATUM. REFER TO A SPECIFIC SOIL SERIES PHASE FOUND IN SOIL MAP LEGEND.

Customer John Bennett
 Street 3 Newcomb St Portland
 City Portland ME 04103
 Phone (Home) 799 6322 (Work) _____
 Date 4-25-01 Delivery Date, _____



SPECIAL INSTRUCTIONS

Burnt & end
30x50 gable as in
spec -
posted 14'
3 10x12 OHV
steel insulated.

We provide cust with
CROSS SECTION PLANS
Concrete plan
Elevation Drawings,

OVERHEAD DOORS

Size	Qty	Wood	Steel	Insulate
<u>10x12</u>	<u>3</u>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
		Non-Insulated	Glass	Solid
		<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Size	Qty	Wood	Steel	Insulate
		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
		Non-Insulated	Glass	Solid
		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Rust proof nails on exterior walls
 Bottom plate - double 2 x 4
 Studs - 2 x 4 - 16" O.C.
 Corner Posts - triple 2 x 4
 Top plate - double 2 x 4
 Rafters - 2x 6 - 16" O.C.
 Rafters ties - 2 x 6 - 48" O.C.
 Ridge board - 2 x 6
 Roof deck - plywood sheathing
 Shingles - 20 year asphalt
 Cornice - soffit - 1 x 6 or 1 x 8
 Facia - 1 x 4
 Corner boards - 1 x 3 and 1 x 4
 butted at right angles
 Rake
 Collar Ties - 2 x 4 - 16" O.C.
 Metal drip edge
 Standard Roof Pitch 5 / 12

Siding tex 1-11
 Window with locks 0
 Reinforced concrete floor (bull float finish) yes
 Shingle color Black
 Service door 2/8 x 6/8 yes glass
 Colonial Braces no

Pending town Approval

IMPORTANT: All Site preparation including digging, dozing, fill, gravel, and tree removal will be PAID BY OWNER and is not included in the contract price.

Plan Approved by [Signature]

Zoning Division
Marge Schmuckal
Zoning Administrator



Department of Urban Development
Joseph E. Gray, Jr.
Director

Exhibit I

CITY OF PORTLAND

May 22, 2001

Brenda Buchannan
C/o Warren, Crier, Buchannan
57 Exchange Street
Portland, ME 04101

RE: 3 Newcomb Street – 303-C-1,2,3,14,15,16 - B-4 zone

Dear Brenda,

As discussed with you verbally, this office has determined that Newcomb Street would not have to be rebuilt up to City standards as outlined in Section 14-403 during the reconstruction of the commercial garage located at 3 Newcomb Street. This determination was confirmed with our Corporation Counsel.

It is also noted that you are looking into the availability of alternate toilet facilities and hand washing capabilities after a soil evaluation revealed that it could not manage this commercial building along with the existing dwelling unit. The City's Plumbing Inspector will be the person who would review and permit such facilities.

We look forward to receiving your submission for a site plan review.

Very truly yours,

Marge Schmuckal
Zoning Administrator

Cc: Mark Adelson, Housing & Neighborhood Services
Sam Hoffses, Chief Building Inspector
Penny Littell, Corporation Counsel
File

Exhibit K

Regent® E-70-H (70 Watt High Pressure Sodium)

Congratulations. You have purchased a Regent dusk to dawn security light. This fixture will provide years of convenience and protection for your home or business.

How it works

Your Regent dusk to dawn security light features a light sensor that automatically turns the light on at dusk and off at dawn.

What you need

- Screwdriver
- Drill with 3/16" drill bit
- Adjustable wrench
- 1/2" diameter flexible conduit
- 1/2" conduit connectors
- Wire connectors

What's included

- Fixture housing (A)
- One-piece lens assembly (B)
- Bulb - MV or HPS (C)
- Light sensor (D)
- Access cover (E)
- (3) Mounting screws (F)
- (2) Lens assembly lock screws (G)
- (2) Access cover mounting screws (H)
- Green ground screw (I)

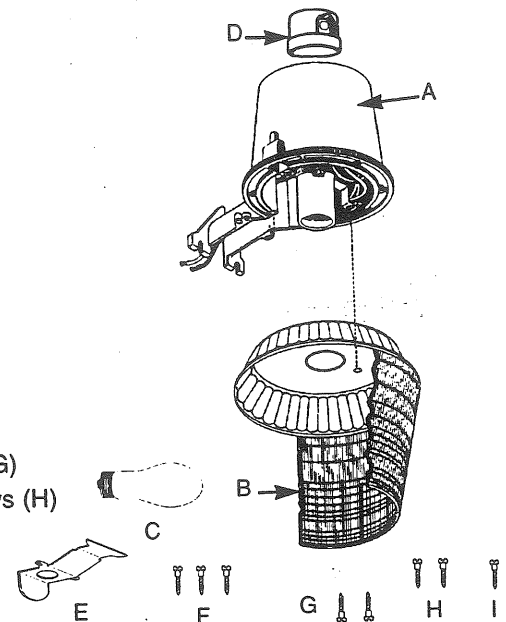
What to know

- For outdoor use only.
- UL and CSA Listed for wet locations.
- Fixture must be connected to a 120 Volt, 60 Hz power source. Any other connection voids warranty.
- Fixture should be installed by persons with experience in household wiring or by a qualified electrician. The electrical system, and method of electrically connecting the fixture to it, must be in accordance with the National Electrical Code and local building codes.
- Always use same wattage and type of bulb that was included with the fixture. Failure to do so will void the warranty.

Putting up your fixture

NOTE: This fixture is intended to be conduit connected to a properly installed and properly grounded metal weatherproof junction box (not provided). All conduit connectors, conduit, and junction boxes (not provided) should be UL Listed suitable for wet locations.

Fig. 1



- Using the pattern on the box, mark and drill holes for mounting.

- NOTE:** This fixture should be mounted in an upright position. Install the two bottom mounting screws first, leaving enough room between the mounting screws and the mounting surface to accommodate mounting the fixture.

- Screw the top mounting screw into the predrilled hole and back the screw out. This will leave the hole threaded and make installation of the fixture easier.

- Remove access cover (E) from hardware bag.

- Install the first conduit connector and conduit (not provided) into the access cover.

- Feed supply wires into conduit and make wiring connections as described in "Wiring your fixture."

- Attach access cover to the light fixture using screws (H) provided (as shown in Fig. 2).

NOTE: Make sure all wiring is placed into the arm prior to tightening the access cover screws.

- Using the three mounting screws provided, bolt the housing to the mounting surface.

- Connect conduit and conduit connector at the junction box (Fig. 3).

- Fasten lens assembly to housing using the 2 screws (Fig. 1-G) provided.

Wiring your fixture

- Turn off the power at the main fuse/breaker box.

- Connect the black fixture wire to the black supply wire (hot).

- Connect the white fixture wire to the white supply wire (neutral).

- Connect the green ground supply wire to the access cover using the green ground screw in the hardware bag.

NOTE: Be careful to connect the wires correctly. Make sure no bare strands of wire extend from the wire nut or other approved wire connectors (not supplied).

Installing the bulb

- Screw the bulb securely into socket.

- Back the bulb out one or two turns, then screw bulb back to insure proper position in socket.

Installing the light sensor

- Make sure the screw in the center of receptacle (on top of fixture) is tight.

- Match up the largest prong on the sensor to the largest slot in the receptacle.

- Push sensor down into receptacle and twist clockwise 1/4 of a turn to lock in place.

- Turn on the main power at the main fuse/breaker box. **NOTE:** When power is initially turned on, the light may come on, even during daylight. However,

the light will turn off after two or three minutes and will only come on at dusk thereafter. If artificial light sources (such as car headlights) come in contact with the photo control, it may activate the photo control and turn off the fixture. If this occurs, the fixture will have to cool down for approximately 5 minutes before it will come on again.

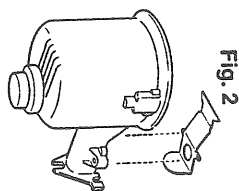


Fig. 2

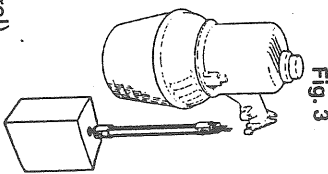


Fig. 3

What to do if...

LIGHT DOES NOT COME ON

OR

LIGHT COMES ON FOR ONLY A FEW SECONDS

- Is there power to the fixture?
- Has the circuit breaker tripped?
- Is the wall switch ON?
- Is the bulb screwed in completely?
- Is the bulb good?
- Is the bulb not to over-tighten.

Is the sensor functioning properly?

- Is the sensor locked in place?
- Is light being reflected into the sensor, causing the fixture to turn off?

Is the wiring to the unit loose? TURN OFF POWER BEFORE CHECKING

- Is the unit properly grounded?

LIGHT STAYS ON

OR

LIGHT CYCLES ON AND OFF

- Is the light sensor receiving enough light?
- Change the direction of the light sensor by loosening the screw in the center of the sensor receptacle. **NOTE:** Do not screw in more than 1 1/2 turns. After loosening screw, carefully turn receptacle in desired direction. Tighten screw and reinstall sensor. Do not rotate more than 360 degrees.

Limited warranty

Regent Lighting Corporation ("the Company") warrants this product (the "product") against defects in material or workmanship for the life of the product (E-70-H) or for a period of five years (NH-1204M) from date of original purchase, and agrees to repair or, at the Company's option, replace a defective product without charge for either replacement parts or labor during such time. This does not include labor to remove or install fixtures.

This warranty is extended only to the original purchaser of the product. A purchaser's receipt or other proof of date of original purchase acceptable to the Company is required before warranty performance shall be rendered.

This warranty only covers product failure due to defects in materials or workmanship which occurs in normal use. It does not cover the bulb or failure of the product caused by accident, misuse, abuse, lack of reasonable care, alteration, faulty installation, subjecting the product to any but the specified electrical service or any other failure not resulting from defects in materials or workmanship. Damage to the product caused by separately purchased, non-Company brand replacement bulbs and corrosion or discoloration of brass components are not covered by this warranty.

There are no express warranties except as described above. THE COMPANY SHALL NOT BE LIABLE FOR INCIDENTAL, SPECIAL OR CONSEQUENTIAL DAMAGES RESULTING FROM THE USE OF THE PRODUCT OR ARISING OUT OF ANY BREACH OF THIS WARRANTY. ALL IMPLIED WARRANTIES, IF ANY, INCLUDING IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE, ARE LIMITED IN DURATION TO THE DURATION OF THIS EXPRESS WARRANTY. Some states do not allow the exclusion or limitation of incidental or consequential damages, or limitations on how long an implied warranty lasts, so the above exclusions or limitations may not apply to you.

(continued)

No other warranty, written or verbal, is authorized by the Company. This warranty gives you specific legal rights and you may also have other rights which vary from state to state.

To obtain warranty service, please write to Regent Lighting Corporation, 2611 La Vista Drive, Burlington, NC 27215. Enclose product model number and problems you are experiencing, along with your address and telephone number. You will then be contacted with a solution, or a Return Goods Authorization number and full instructions for returning the product. All returned products must be accompanied by a Return Goods Authorization Number issued by the Company and must be returned freight prepaid. **Any product received without a Return Goods Authorization Number from the Company will be refused.**

Regent Lighting is not responsible for merchandise damaged in transit. Repaired or replaced products shall be subject to the terms of this warranty and are inspected when packed. Evident or concealed damage that is made in transit should be reported at once to the carrier making the delivery and a claim filed with them.

Regent

REGENT LIGHTING CORPORATION
2611 La Vista Drive, Burlington, NC 27215 USA
1-800-734-3683
www.regentlighting.com

Patents 4,905,132 and D358,226 (NH-1204M only)

Reproductions of this document without prior written approval of Regent Lighting Corporation are strictly prohibited

James G. Mancini, S.E.

P.O Box 4000-160 Windham, ME 04062

(207) 892-9498

May 21, 2001

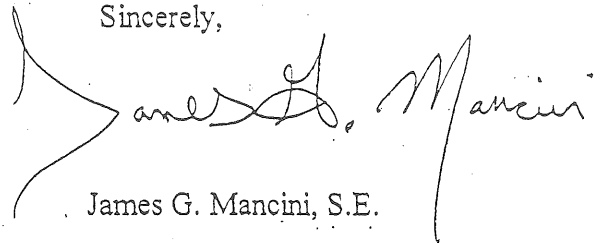
RE: John Bennett Property
3 Newcomb St., Portland

On May 17, 2001, I visited the referenced property to do an on site investigation for subsurface wastewater disposal.

Unfortunately, the site does not meet the minimum required standards as two test pits were excavated with water tables at approximately four (4) inches from soil surface.

The soil on this site as shown in description and classification attached is virtually impermeable to precipitation. I would recommend sanitary facilities using a composting or incinerating toilet for proposed structure.

Sincerely,

A handwritten signature in cursive script that reads "James G. Mancini". The signature is written in dark ink and is positioned above the printed name.

James G. Mancini, S.E.

SITE EVALUATOR

P.O. BOX 4000-160 WINDHAM, MAINE 04062
(207) 892-9498

Town, City, Plantation PORTLAND	Street, Road, Subdivision * 3 NEWCOMB STREET	Owners Name BENNETT, JOHN
---	--	-------------------------------------

SOIL DESCRIPTION AND CLASSIFICATION

Observation Hole TPI ☒ Test Pit ☐ Boring

_____ " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (Inches)	Texture	Consistency	Color	Mottling
0	SANDY LOAM	FRIABLE	DARK BROWN	
5	LOAMY SAND	FIRMA	DARK BROWN	COARSELY DISTINCT
10	CLAY	(CEMENTED)		
15				
20				
30				
40				
50				

Soil
S
Profile

Classification
E
Condition

Slope
_____%

Limiting Factor
A

☒ Ground Water
☐ Restrictive Layer
☐ Bedrock

Observation Hole TPZ ☒ Test Pit ☐ Boring

_____ " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (Inches)	Texture	Consistency	Color	Mottling
0	SANDY LOAM		DARK BROWN	
5	LOAMY SAND	FRIABLE	OLIVE	COARSELY DISTINCT
10	CLAY		GRAY	
15	SANDY LOAM		DARK BROWN	
20	CLAY	FIRMA	GRAY	
30				
40				
50				

Soil
S
Profile

Classification
E
Condition

Slope
_____%

Limiting Factor
A

☒ Ground Water
☐ Restrictive Layer
☐ Bedrock

SOIL DESCRIPTION AND CLASSIFICATION

Observation Hole _____ ☐ Test Pit ☐ Boring

_____ " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (Inches)	Texture	Consistency	Color	Mottling
0				
5				
10				
15				
20				
30				
40				
50				

Soil

Profile

Classification

Condition

Slope
_____%

Limiting Factor

☐ Ground Water
☐ Restrictive Layer
☐ Bedrock

Observation Hole _____ ☐ Test Pit ☐ Boring

_____ " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (Inches)	Texture	Consistency	Color	Mottling
0				
5				
10				
15				
20				
30				
40				
50				

Soil

Profile

Classification

Condition

Slope
_____%

Limiting Factor

☐ Ground Water
☐ Restrictive Layer
☐ Bedrock

James A. Mancini

Site Evaluator

247

SE #

MAY 17, 2001

Date

Model Overview

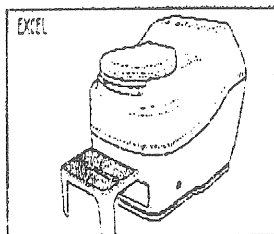
SELF CONTAINED TOILETS Regular and Mobile Units

Description

Composting Capacity
Weekend & Vacation • Residential & Continuous

Voltage

Page #



EXCEL

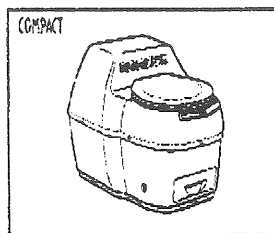
High Capacity
Electric Unit

6 adults or
families of 8

3 adults or
family of 5

115 V

6



COMPACT

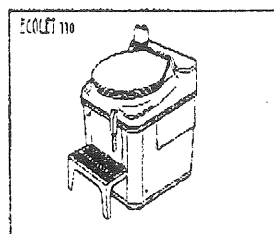
Medium Capacity
Electric Unit

3 adults or
family of 4

1 adult or
family of 2

115 V

7



ECOLET® 110

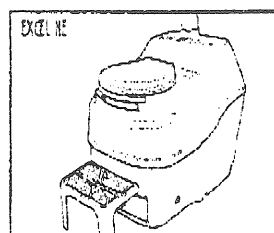
Medium Capacity
Space Saver, Electric Unit

3 adults or
family of 4

1 adult or
family of 2

115 V

8



EXCEL NE

Non-electric Unit

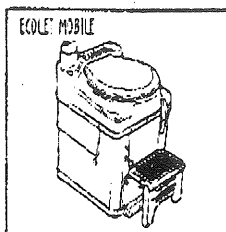
5 adults or
families of 7

2 adults or
family of 3

Optional
12 V fan

7

An AC/DC version of the EXCEL is also available. This is a dual voltage unit, (12 V and 115 V), which has both 2" and 4" vent stacks, and can operate either as a standard electric unit or with a 12 Volt 1.4 Watt DC fan. See page 7.



ECOLET® Mobile

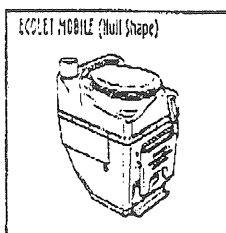
Dual Voltage Unit

3 adults or
family of 4

1 adult or
family of 2

12 V & 115 V
(115V heater
Use Optional)

8



ECOLET® Mobile (Hull Shape)

Dual Voltage Unit

3 adults or
family of 4

1 adult or
family of 2

12 V & 115 V
(115V heater
Use Optional)

8

COMPOSTING IS NATURE'S WAY

Every living organism consumes nutrients and creates waste. To transform waste back to nutrients and complete this cycle, nature uses the processes of **decomposition** and **evaporation**. As is often the case, nature seems to be doing business in the best way possible.

That's why the SUN-MAR toilets are designed to not only harness these natural processes, but to **optimize** and **accelerate** them.

Toilet waste is over 90% water content. This can be evaporated and carried back to the atmosphere through the vent system. The small amount of remaining material is *recycled* into a useful fertilizing soil.



Wherever there is a poorly working septic system, a SUN-MAR can take care of the toilet waste; where there is an **outhouse** we offer the luxury of an indoor facility; and where there is no toilet at all, a SUN-MAR provides the right environmental choice. SUN-MAR units are economical, quick to install and easy to use.

Because **no chemicals** and **no septic systems** are used, fragile environments can be protected. A SUN-MAR composting unit is an environmentally healthy choice for *recycling human waste*.

The SUN-MAR system produces *no pollutants*, while collecting nutrients.

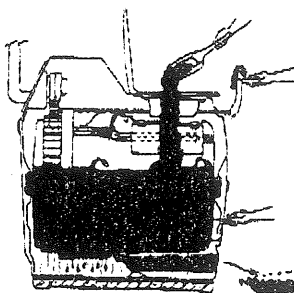
With a SUN-MAR, recycling is made easy!

OPERATING A SUN-MAR

Operating a SUN-MAR is easy. Begin by adding some peat mix bulking material and some top soil and/or SUN-MAR "Microbe Mix" to the Bio-drum™. (Both bulking material and Microbe Mix are included with all units).

Now use your SUN-MAR just as you would a regular toilet. Toilet paper needs no special treatment. It is easily

decomposed in a SUN-MAR.



For ongoing maintenance add a cupful of peat mix periodically at the rate of one cupful per person per day of use. When in use, use the drum handle to rotate the Bio-drum™

4-6 revolutions every third day. For weekend use, just turn the drum when you leave at the end of the weekend.

Removing compost is equally easy. Release the drum lock to rotate the drum backwards. The drum door *remains open*, and compost drops into the finishing drawer. In cottage use, some composted material is usually only taken out in the Spring to make room for next year's operation. In heavy, or residential use, some compost will need to be dropped down into the finishing drawer more often.

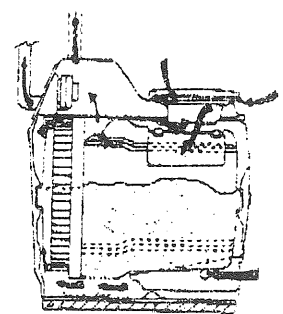
Excess moisture is removed automatically from the drum into the evaporating chamber through a screen in the rear of the drum.

The *superb aeration* in the Bio-drum™ ensures an aerobic and therefore **odorless** breakdown of the compost.

ODOR FREE

As well as ensuring an aerobic breakdown in the Bio-drum™, SUN-MAR ensures an **odor free** environment by engineering the air flow within the unit to maintain a **partial vacuum** at all times.

Air is drawn in by a fan, or on non-electric units by the vent chimney, over the evaporating chamber and up the vent stack. Not only does this **evaporate excess liquid**, but, by continuously pulling air in we ensure **no smell escapes** from the unit.



Evaporation is assisted on electric units by a thermostatically controlled heater in a sealed compartment underneath the evaporating chamber.

the history of SUN-MAR

OVER A QUARTER CENTURY OF TECHNICAL LEADERSHIP

As the world leader for over 25 years,
SUN-MAR's superior technology has left all imitators far behind.

1966

Our first cottage toilet (an incinerating design) is invented in Sweden.

1974

The TROPIC, a new design incorporating several improvements, is first produced in Sweden.

1979

The first three-chamber toilet, using the Bio-drum™ is introduced.
(The forerunner of today's EXCEL unit.)

1987

The WCM NE - the non-electric version of the WCM Central Composting unit - is added to the line.

1991

The first dual-vented unit, the EXCEL AC/DC is designed for use with a non-continuous 110 Volt power supply.

1993

The COMPACT, a lower profile unit with a patented variable diameter Bio-drum™, is introduced.

1994

The ECOLET® MARINE/RV, the first self-contained composting toilet ever designed for marine and RV markets, is introduced.

1997

SUN-MAR takes composting toilets from the cottage to the home with the launch of the CENTREX Plus family of high-capacity units, designed specifically for heavy domestic or light commercial use.

1977

The first self-contained composting toilet is developed by the father of two SUN-MAR partners.

1977

Production moves to North America. The WCM, the first Central Composting unit, is manufactured.

1987

The Bio-drum™ design proves so successful that the non-electric EXCEL NE is introduced.

1989

The EXCEL becomes the first self-contained composting toilet to pass the long-term composting tests of The National Sanitation Foundation.

1993

The CENTREX family of lower-profile, front-vented Central units is introduced.

1996

The CENTREX A/E, a waterless version of the CENTREX, is introduced for use with the SUN-MAR Dry Toilet.

NSF

SUN-MAR has the first self-contained composting toilet in the world to be tested and certified by NSF (The National Sanitation Foundation) NSF Listed EXCEL, 1989.



SEMCO CERTIFIED
for 220 Volt Units

Manufacturing Facilities:
QS 9000 - ISO 9002
REGISTERED



Electrical features are:
CSA APPROVED
LR 35929



UNITED STATES
COAST GUARD
CERTIFIED

25 YEAR WARRANTY

All units carry a Comprehensive 3 Year parts replacement warranty, with a full 25 Year replacement warranty on the fiberglass body.

SUN-MAR CORP.

600 Main Street, Tonawanda N.Y.
14150-0888 U.S.A.

5035 North Service Road, C9-C10
Burlington, Ontario, CANADA L7L 5V2

Tel: (905) 332-1314 Fax: (905) 332-1315

E-mail: compost@sun-mar.com
<http://www.sun-mar.com>

Distributed by:

Note: SUN-MAR reserves the right to make product modifications or technical changes without notice. (01/98)

TOILET



SAFE

SANITARY

SELF-CONTAINED

PORTABLE

WATERLESS

ODORLESS

INSIDE

OUTSIDE

ANYWHERE

*Reliability-
white*

STORBURN®

MODEL 60K SPECIFICATIONS

Unit Dimensions: Covers floor area
17 $\frac{3}{4}$ " x 31 $\frac{1}{4}$ "
Standard seat height.

Unit Weight: Approx. 170 lbs.
(Shipping weight slightly
higher).

**Shipping Carton
Dimensions:** Approx. 20" x 33" x 55"

**Storage/Combustion
Chamber Capacity:**

Gas Rating:

3 gallons (US)
40,000 BTU @ 10"
manifold pressure (LP)
40,000 BTU @ 5"
manifold pressure (Nat.)

Burner Characteristics: Atmospheric type. Ported
Stainless Steel Tube.

Gas Connection: 3/8 NPT female inlet.

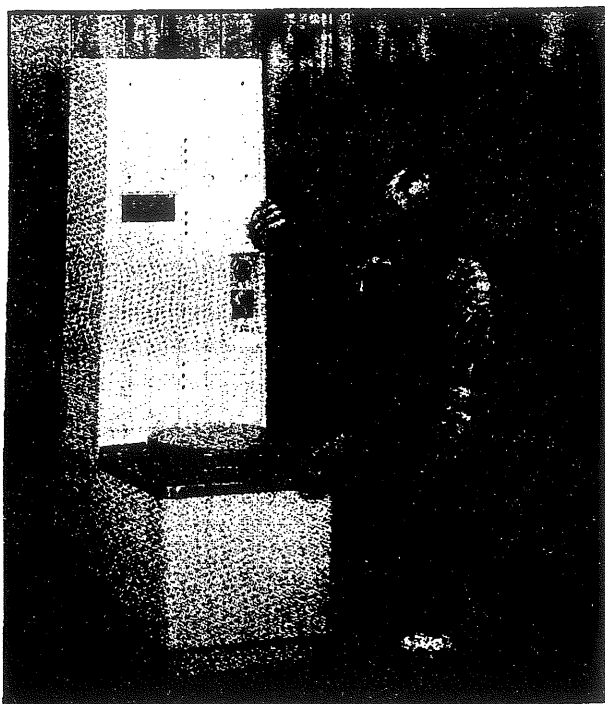
Gas Control: Standard gas controls.

Flue Connection: 6" Male collar. Standard
taper.

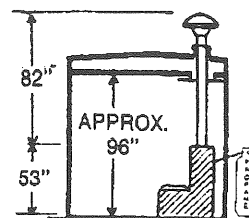
Ignition: Piezo type (no power
supply or open flame
required).

Color: Biege or white.

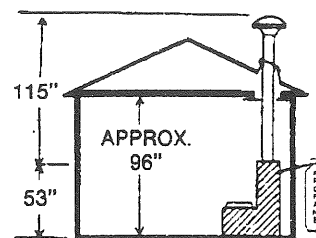
Model No.	Type Fuel	Type Vent
Model 60KPV	Propane	Vertical Outlet
Model 60KNV	Nat. Gas	Vertical Outlet



STANDARD VENT KIT CONFIGURATIONS



Vent Kit No. VKL-1MO



Vent Kit No. VKL-1

(Special Purpose Vent Kits Made To Order On Request)

STORBURN.

HEAD OFFICE:

STORBURN INTERNATIONAL INC.
47 Copernicus Blvd., Unit #3,
Brantford, Ontario, Canada N3P 1N4
Tel.: (519) 752-8521 Fax: (519) 752-5827
1-800-876-2286

MAINE BANK & TRUST

467 CONGRESS ST. P.O. BOX 619 PORTLAND ME 04104
(207) 828-3000

Date 5/04/01 Page 1
Account 120847
Reference B002539
Enclosures 14

John H Bennett
77 Middle Street
Westbrook ME 04092

Exhibit N

CHECKING ACCOUNT

Regular Checking		Enclosures	14
Account Number	120847	Statement Dates	4/06/01 thru 5/06/01
Previous Balance	50,971.76	Days in the statement period	31
2 Deposits/Credits	2,674.30	Average Ledger	50,584.92
14 Checks/Debits	4,089.57	Average Collected	50,498.65
Service Charge	.00		
Interest Paid	.00		
Ending Balance	49,556.49		

DATE	DESCRIPTION	Amount	BALANCE
4/09	CHECK # 477X	354.00-	50,617.76
4/10	Deposit Checking	1,784.10 DP	52,401.86
4/10	CHECK # 485X	43.76-	52,358.10
4/11	CHECK # 483X	135.41-	52,222.69
4/11	CHECK # 486X	1,482.09-	50,740.60
4/12	CHECK # 484X	15.00-	50,725.60
4/17	CHECK # 482X	90.88-	50,634.72
4/23	Deposit Checking	890.20 DP	51,524.92
4/24	CHECK # 488X	8.76-	51,516.16
4/24	CHECK # 490X	85.00-	51,431.16
4/25	CHECK # 487X	120.00-	51,311.16
4/25	CHECK # 489X	243.86-	51,067.30
4/25	CHECK # 491X	15.00-	51,052.30
4/27	CHECK # 469X	948.00-	50,104.30
5/02	CHECK # 492X	197.81-	49,906.49
5/04	CHECK # 494X	350.00-	49,556.49

CHECKS IN NUMBER ORDER

4/27	469	948.00	4/09	477*	354.00	4/17	482*	90.88
4/11	483	135.41	4/12	484	15.00	4/10	485	43.76
4/11	486	1,482.09	4/25	487	120.00	4/24	488	8.76
4/25	489	243.86	4/24	490	85.00	4/25	491	15.00
5/02	492	197.81	5/04	494*	350.00			

Denotes check out of sequence

138.90

1195.39

2140.20

5054.72
5054.72
5054.72

5054.72



Commercial / Residential

1-800-452-1940 FAX: 207-622-7528

P.O. Box 2106 • AUGUSTA • Maine • 04338-2106

Maine's Largest Builders of Prefabricated Structures

**HOME REPAIR
CONTRACT**Date Signed 4-25-01

This agreement between Maine-Wide Construction, Inc., ¹⁰⁻⁸⁵⁻¹ A Maine Corporation whose address is P.O. Box 2106, Augusta, Maine 04338-2106, Telephone: 207/623-3444,

hereinafter referred to as "Contractor" and John Bennetts referred to as "Owner(s)," whose mailing address is 3 Newcomb St Portland ME 04103

The Contractor and the Owner(s) ~~do hereby~~ agree as follows:

Location of Property: The property upon which construction work is to be performed is located at SAME

Work Dates: Contractor estimates that work will commence on 30 days of Approval and that work will be substantially completed by 30 days of start

DESCRIPTION OF WORK: General description of the work and materials to be used is as follows:

Build & Erect Building
As per specs, PLAN A

CONTRACT PRICE: The total contract price is as follows:

\$ 26,948

METHOD OF PAYMENT: Payment of the contract price shall be made as follows:

Down payment (not more than one-third of total contract price):

\$ 948

Balance due upon completion

\$ 26,000

WARRANTY: In addition to any additional warranties agreed to by the parties, the Contractor warrants that the work will be free from faulty materials, constructed according to the standards of the building code applicable to this location; constructed in a skillful manner and fit for habitation or appropriate use. The warranty rights and remedies set forth in the Maine Uniform Commercial Code apply to this contract.

CHANGE ORDERS: Any alteration or deviation from the above contractual specifications that result in a revision of the contract price will be executed only upon the parties entering into a written change order.

WORKERS' COMPENSATION AND LIABILITY COVERAGE: Contractor states that workers' compensation and public liability ☒ are ☐ are not carried for the work described above. Contractor ☐ is ☒ is not qualified by law as self-insurer.

UNFORESEEN DELAYS: Contractor shall not be liable for delays or damage caused by strikes, material or labor shortages, or conditions unavoidable and beyond its control.

By signing this contract, I agree to its terms (including those on the reverse side) and acknowledge receiving a copy.

NOTICE TO OWNER(S): Do not sign this contract in blank. You are entitled to a copy of the contract at the time you sign it. Keep it to protect your legal rights.

CONTRACTOR: MAINE-WIDE CONSTRUCTION, INC.

By: Dale S. [Signature]
ITS DULY AUTHORIZED AGENT

Owner
[Signature]

JANDERSON ELECTRIC
123 MOSHER RD.
GORHAM, ME. 04038

PROPOSAL SUBMITTED TO:

NAME 207 892 4838
ADDRESS REALITY MOTORS
3 NEWCOMB ST
PORTLAND, ME.
PHONE NO.

WORK TO BE PERFORMED AT:

ADDRESS SAME
DATE OF PLANS
ARCHITECT

SHEET NO.
DATE 5-25-01

We hereby propose to furnish the materials and perform the labor necessary for the completion of ELECTRICAL
PREMISE WIRING OF AUTO SHOP PER PLANS
SUBMITTED INCLUDING NEW SERVICE

All material is guaranteed to be as specified, and the above work to be performed in accordance with the drawings and specifications submitted for above work and completed in a substantial workmanlike manner for the sum of THIRTY FIVE
HUNDRED DOLLARS Dollars (\$ 3500⁰⁰)

with payments to be made as follows.

1/2 ON ACCEPTANCE
BALANCE ON COMPLETION

Respectfully submitted

Any alteration or deviation from above specifications involving extra costs will be executed only upon written order, and will become an extra charge over and above the estimate. All agreements contingent upon strikes, accidents, or delays beyond our control.

Per

Kent J. Jander

Note—This proposal may be withdrawn
by us if not accepted within days.

ACCEPTANCE OF PROPOSAL

The above prices, specifications and conditions are satisfactory and are hereby accepted. You are authorized to do the work as specified. Payments will be made as outlined above.

Signature

[Signature]

Signature

Date

5/2/01

GLIDDEN

Excavating - Paving
17 Indian Camp Way
Gorham, ME 04038
Tel: 839-7061

Proposal

SPECIFICATIONS AND ESTIMATE

No.

Page No. of Pages

PROPOSAL SUBMITTED TO John Bennett		PHONE 854-4821	DATE 5/25/01
STREET 77 Middle Street		JOB NAME	
CITY, STATE AND ZIP CODE Westbrook, ME 04092		JOB LOCATION Off Warren Avenue Portland	
ARCHITECT	DATE OF PLANS		JOB PHONE

We hereby propose to furnish materials and labor necessary for the completion of:

Glidden Excavating & Paving Inc. is pleased to quote the following price:

Excavate for 30x50 concrete slab

Regrade for driveway for water runoff control

WE PROPOSE hereby to furnish material and labor — complete in accordance with above specifications, for the sum of:

One Thousand * * * * * dollars (\$) 1,000.00

Payment to be made as follows:

All materials guaranteed to be as specified. All work to be completed in a substantial workmanlike manner according to specifications submitted, per standard practices. Any alteration or deviation from above specifications involving extra costs will be executed only upon written orders, and will become an extra charge over and above the estimate. All agreements contingent upon strikes, accidents or delays beyond our control. Owner to carry fire, tornado and other necessary insurances. Our workers are fully covered by Workmen's Compensation Insurance.

Authorized Signature Earle Glidden Jr

Note: This proposal may be withdrawn by us if not accepted within _____ days

ACCEPTANCE OF PROPOSAL The above prices, specifications and conditions are satisfactory and are hereby accepted. You are authorized to do the work as specified. Payment will be made as outlined above.

Date of Acceptance 5/25/01

Signature Jon Pent
Signature _____

Site Plan Review Application of John Bennett Property at 3 Newcomb Street, Portland

Name of Applicant: John H. Bennett
Mailing Address: 77 Middle Street, Westbrook, Maine 04092
Address of Proposed Site: 3 Newcomb Street, Portland, Maine 04103

Applicant John Bennett seeks site plan review approval to replace an existing 733 square foot commercial garage with a new 1,500 square foot commercial garage on property located at 3 Newcomb Street, Portland. Mr. Bennett has worked for many years at an automotive garage known as the South Portland Filling Station, located at 585 Broadway in South Portland. The owner of that business recently has retired, and Mr. Bennett has purchased the site that is the subject of this application in order to establish his own business.

The property is in the B-4 (Commercial Corridor) Zone. The applicant's source of title is a Warranty Deed from QAD Investors, Inc. to John H. Bennett dated October 31, 2001 and recorded in the Cumberland County Registry of Deeds, Book 15817, Page 287. A copy of said deed is attached hereto, marked as **Exhibit A**. The property is designated on city tax maps as Map 303 Block C Lot 1.

CHECKLIST ITEMS:

A standard boundary survey by Stephen J. Martin, R.L.S., is attached hereto, marked as **Exhibit B**. It shows that the applicant is John Bennett, that the name of the project is merely "Proposed Garage," the scale and north points, and the boundaries of the site. It also shows that the total land area of the site is .31 acres (13,373 square feet). The topographic features of the site also are shown. For reference, the applicant also has attached, marked as **Exhibit C**, a copy of an August, 1998 survey done for the former owner of the property by BH2M of Gorham. The purpose of attaching this plan to the application is to provide more perspective about the location of the site.

The existing soil conditions are set forth in the Stormwater Analysis performed by Ray Wingert, CPESC and Lyle Tracy, P.E., which is attached and marked as **Exhibit D**. In addition, a drawing showing the existing drainage conditions is attached, marked as **Exhibit E**, and a drawing showing the proposed drainage plan is attached, marked as **Exhibit F**. The site does not contain any watercourses, marshes, rock outcroppings or wooded areas of note.

The location and ground floor area of existing and proposed structures are shown on **Exhibit B**. The grade elevations of the proposed garage are shown on a three-page sketch prepared by Maine-Wide Construction, Inc., the manufacturer of the proposed structure, which sketch is attached hereto, marked as **Exhibit G**. Specifications for the proposed building showing details about doors and materials to be used are shown on a plan provided by Maine-Wide, attached hereto and marked as **Exhibit H**.

Shown on the plan is a fence on an abutting property owned by Giroux Oil located across Newcomb Street. Behind the fence is a large lot that Giroux Oil uses for its business, including office space, parking of oil trucks and storage of equipment. Southerly of the applicant's property is a large lot owned by John Vance. On the Newcomb street side of that lot is a large garage-like structure that is partly vacant but houses several small businesses, such as a carpentry business and a security firm (down on the Warren Avenue end). On the Saville Street side of the Vance lot, immediately south of the applicant's property line, there are a number of tractor trailer unit bodies without wheels, apparently used for storage. Southerly of those structures is a small brick house that currently is empty. Across Saville Street from the brick house is another single-family house.

The applicant proposes to locate a dumpster outside of the proposed garage. He did not show it on the plan because he was unsure where the city would prefer it be located. He is willing to locate it in whatever location is preferred by the city, and to enclose it per the code.

No off-site public sewer or water facilities are accessible to this site. In addition, the two streets that it abuts – Newcomb and Saville Streets – are unaccepted by the city. Due to the fact that this site already has been developed, and that site plan review approval was granted in 1994 to a former owner in order to construct the existing garage, Zoning Administrator Marge Schmuckal has ruled that it is not necessary for the applicant to build Newcomb Street up to city standards, per Code §14-403. See attached letter to applicant's counsel from Marge Schmuckal dated May 22, 2001, attached hereto and marked as **Exhibit I**.

Exhibit D shows existing and proposed directions of water flow, along with a proposed drainage system. The Stormwater Analysis concludes the site has no unusual or problematic topographical features. It is essentially a small, flat lot. The applicant proposes to gutter the new building to direct runoff to the rear of the building where a detention swale to be constructed would provide sufficient stoppage to attenuate peak runoff to a level less than existing conditions.

The site is not subject to any easements or rights-of-way of record or other burdens.

As can be seen on **Exhibit B**, two driveways are proposed, one with ingress and egress onto Newcomb Street and the other with ingress and egress onto Saville Street. There are no particular pedestrian accessways. The applicant proposes to park cars in two areas – to the west of the proposed garage, where existing parking has been located, and also in an area at the southeasterly corner of the lot. The spaces are not shown as striped because the area will not be paved and striped. There is adequate space in the designated area for a total of eight cars. The nature of the applicant's business is that in almost all cases, he repairs and returns vehicles to their owners the same day as they are dropped off at his garage. He therefore anticipates that cars will be parked on the site overnight only on rare occasions.

There are no loading facilities associated with the applicant's business. As noted above, ingress and egress will be to and from both Newcomb and Saville Streets. There are no curbs or sidewalks (and, in fact, only rudimentary pavement) on those streets.

The landscaping plan is shown on **Exhibit B**. It will essentially retain the existing trees on the site, add some gravel and grass in areas that are currently bare earth due to the existing use of the site. The applicant does not propose any extensive landscaping, screening or buffering given the site's location, but is willing to follow recommendations of staff in this regard.

The lighting plan is simple – one light outside the door of the building, as shown on a hand-drawn sketch depicting the electrical plan that is attached hereto and marked as **Exhibit J**. Specifications for the light is as follows: 175 watt mercury vapor dusk-to-dawn security lamps, 7,000 lumens at the source, shielded to prevent glare at the house on the site. See specifications, attached hereto, marked as **Exhibit K**.

There are no fire hydrants on Newcomb or Saville Streets. The nearest one is on Warren Avenue. The applicant intends to maintain on site a fire extinguisher adequate for use in an automotive garage.

PROPOSED USES ON THE SITE:

The site currently is developed with a residential structure measuring 693 square feet plus a deck on its easterly side measuring approximately 8 x 15 feet, a storage shed and a 733 square foot structure currently used as a commercial garage.

No change is proposed to the existing residential structure except that the sump-pump drainage that is currently channeled directly onto the ground via a pipe coming out of a cellar window will be channeled into a dry well to be constructed at the rear of the house.

The shed is not useful to the applicant and is proposed for demolition.

The existing garage is of extremely poor construction, and is sited at an awkward angle to the driveway that leads from Newcomb Street to the site. The applicant proposes to demolish the existing garage along with the shed and remove all of the associated debris from the site. He proposes to construct a 1,500 square foot (30' x 50') garage having three bays and a small office area. The new building is sited square to the property line in order to be more easily accessed from the driveway.

The proposed structure is a prefabricated insulated wood structure on a concrete slab. It will have a gabled roof. The building height will be 22 feet. Three 10' x 12' overhead doors will front the bays and a standard door on the easterly end of the front of the building will open into the office area. Heat will be a waste-oil fueled hot-air furnace.

James G. Mancini, S.E., a Maine licensed site evaluator, conducted an on-site investigation of the potential for subsurface wastewater disposal and concluded that the

site cannot support any sort of subsurface system. A copy of a letter from Mr. Mancini and the notes of his findings are attached hereto, marked as **Exhibit L**. Consequently, the applicant proposes to install a self-contained toilet, either a composting or gas-burning model. Copies of specifications for such toilets are attached hereto, marked as **Exhibit M**. The applicant proposes to use waterless hand cleanser. There is an exterior water spigot on the side of the existing house, and the applicant proposes to use that spigot for a water source on the limited number of occasions that he needs water in the course of his business, such as when an automobile radiator needs to be filled.

The applicant estimates it will take three months to demolish the existing garage and complete construction of the new garage and site improvements as shown on the site plan.

No state or federal regulatory approvals are required.

This project is to be financed by the applicant with his own funds. A copy of his bank account summary as of May 4, 2001 is attached hereto, marked as **Exhibit N**, along with bids and price quotes for the necessary site work, purchase and installation of the building and electrical work, marked as **Exhibit O**.

COMPLIANCE WITH ZONING REQUIREMENTS:

The site is located in the B-4 Zone. Code §14-229-11(14) says that facilities for the maintenance and repair of automobiles are a permitted use provided that all repairs are performed in a fully-enclosed structure. The applicant will perform all repairs inside the proposed three-bay garage, which will be fully equipped with lifts.

The plan meets all of the dimensional requirements set out in §14-229.13. Lot size is 13,373 square feet (10,000 square feet is required), it has street frontage of 89.59 square feet (60 feet is required), it is set back more than 60 feet from the front of the lot (20 feet is required), more than 25 feet from the rear line (20 feet is required), eleven feet from the sideline on the north and 53.8 feet from the sideline on the south (10 feet is required.) The lot is 89.59 feet wide at the front and 101.45 feet wide at the rear, (60 feet is the lot width minimum) and the building will be 22 feet high (65 feet is the maximum). The calculations showing acceptable impervious surface and maximum floor area ratios are set forth in **Exhibit D**.

As for the other requirements set forth in §14-229.14, the landscaping is in keeping with the surrounding area, and the zoning administrator has agreed that no curbs or sidewalks need be constructed (See **Exhibit I**). Division 20 of the Code, which sets forth the requirements for off-street parking, does not set a minimum number of parking spaces for an automotive garage (or any business with less than 3,000 square feet of floor area) in the B-4 zone. The business does not require a loading area. The applicant is aware that he must obtain a permit before erecting a sign for his business and that the size, type and location of the sign will be governed by the provisions of Division 22 of the Code. There will be no exterior storage of materials. Overnight parking of vehicles on the site will

occur rarely. No junk vehicles will be maintained on the site. Trash, waste and debris will be disposed of in the dumpster or by recycling, as appropriate. The site is not located in a shoreland or flood plain zone.

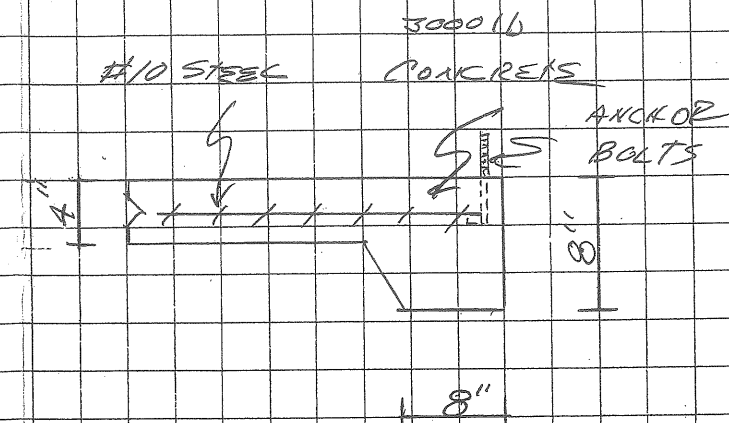
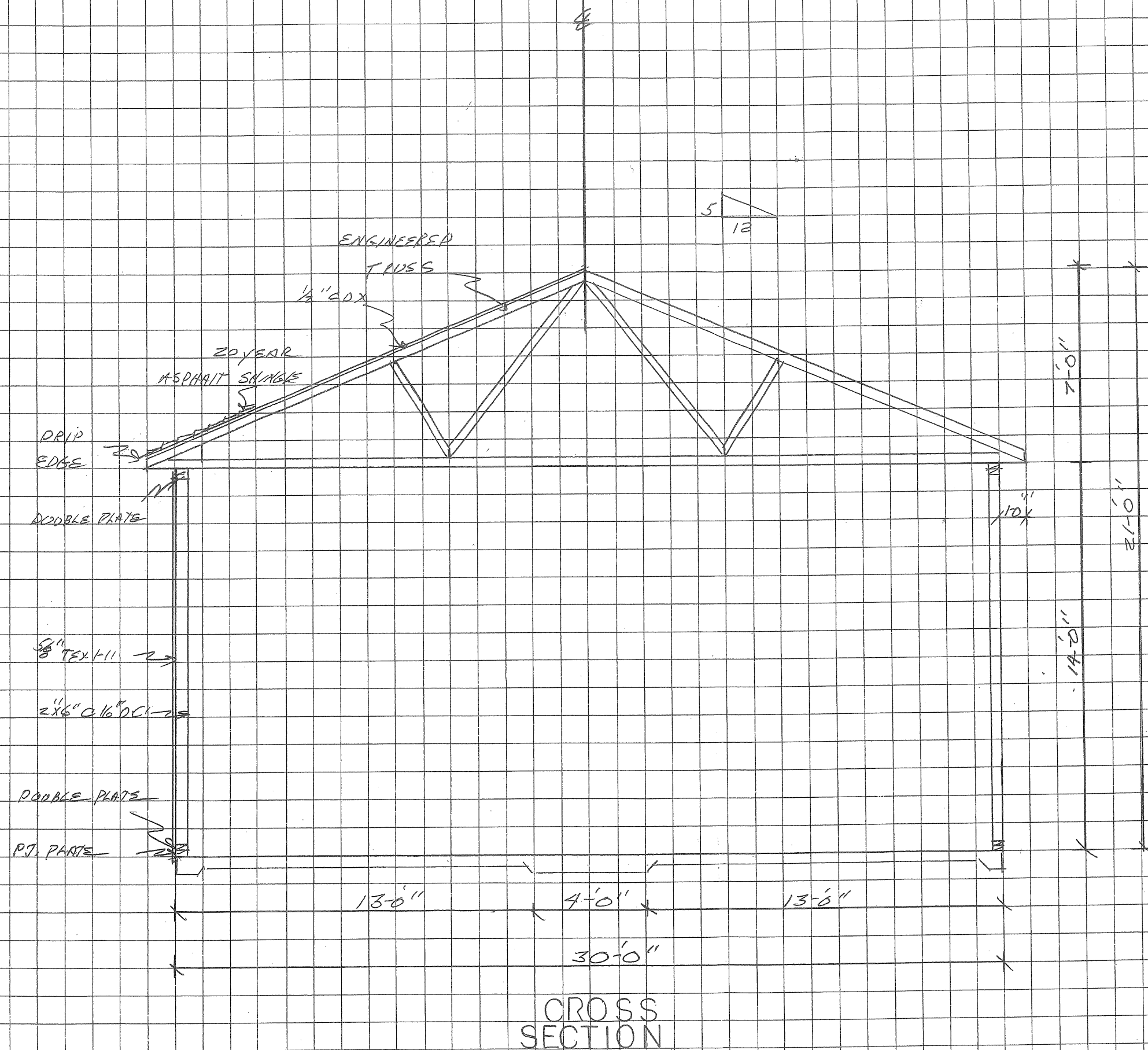
Finally, the applicant does not anticipate any problems with the external effects regulated by §14-229.15. All work will be done within an enclosed structure. The operation will not violate noise level standards, it will not be the source of vibration or heat. The single exterior light will be shielded to prevent glare from reaching the existing house on the site. The business to be operated by the applicant does not involve radiation, or emit fumes or smoke.


Dated this fourteenth day of June, 2001.


By: 
John H. Bennett, Applicant



Brenda M. Buchanan
Attorney for Applicant
Warren, Currier & Buchanan
57 Exchange Street
Portland, Maine 04101
Tel. 772-1262



 MAINE-WIDE CONSTRUCTION, INC.			
Scale 1"=1'-0"	Approved By	Drawn By TC	
Date 5-1-01	SLAB DETAIL	Revised	
Drawn For J BENNETT			
Location PORTLAND - ME	Drawing # 3		

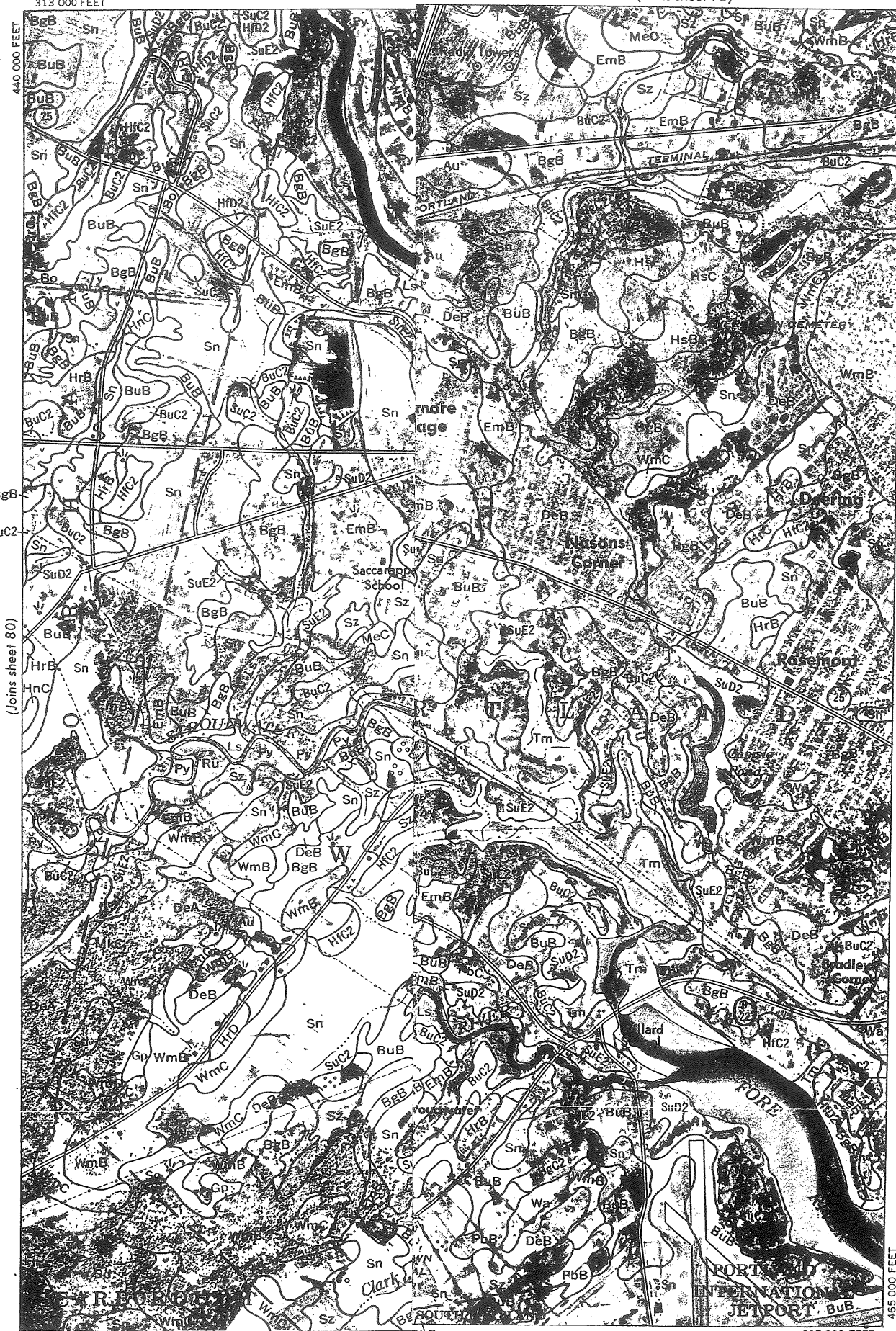
 MAINE-WIDE CONSTRUCTION, INC.			
Scale 1/4"=1'-0"	Approved By	Drawn By TC	
Date 5-1-01		Revised	
Drawn For J BENNETT			
Location PORTLAND, ME	Drawing # 3		

3 000 FEET

440 000 FEET

313 000 FEET

(Joins sheet 75)



(Joins sheet 81)

(Joins sheet 80)

(Joins sheet 82)

(Joins sheet 85)

297 000 FEET