

422-B-B

2000-0155

372 Presumpscot St.

Aero Heating - Metal Shop

Crandall Realty

add to Spreadsheet

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

20000155

I. D. Number

Crandall Realty Inc.

Applicant

372 Presumpscot St, Portland, ME 04103

Applicant's Mailing Address

Sebago Technics Inc./Jim Seymo

Consultant/Agent

856-0277 856-2206

Applicant or Agent Daytime Telephone, Fax

07/26/2000

Application Date

Aero Heating

Project Name/Description

372 - 372 Presumpscot St, Portland Maine 04103

Address of Proposed Site

422 B013

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) **Metal Shop**

15,000 2.17ac IL
 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 Subdivisio Engineer Review \$530.00 Date 09/18/2000

Planning Approval Status:

Reviewer Kandi Talbot

- Approved Approved w/Conditions See Attached Denied

Approval Date 09/12/2000 Approval Expiration 09/12/2001 Extension to Additional Sheets Attached

OK to Issue Building Permi kandi talbot 09/25/2000
 signature date

Performance Guarantee Required* Not Required

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

<input checked="" type="checkbox"/> Performance Guarantee Accepted	<u>09/18/2000</u> date	<u>\$126,900.00</u> amount	<u>09/14/2001</u> expiration date
<input checked="" type="checkbox"/> Inspection Fee Paid	<u>09/18/2000</u> date	<u>\$2,157.30</u> 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	_____ date	<input checked="" type="checkbox"/> Conditions (See Attached)	_____ 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	

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D.R.C. Copy**

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 Zoning Conditional Use (ZBA/PB) Zoning Variance Other

Fees Paid: Site Plan \$400.00 Subdivision Engineer Review \$530.00 Date: 09/18/2000

DRC Approval Status:

Reviewer steve bushey

- Approved Approved w/Conditions see attache Denied

Approval Date 09/12/2000 Approval Expiration 09/12/2001 Extension to Additional Sheets Attached

Condition Compliance kandi talbot 09/25/2000
signature date

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<input type="checkbox"/> Building Permit	<u> </u> date		
<input type="checkbox"/> Performance Guarantee Reduced	<u> </u> date	<u> </u> remaining balance	<u> </u> signature
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<input type="checkbox"/> Final Inspection	<u> </u> date	<u> </u> signature	
<input type="checkbox"/> Certificate Of Occupancy	<u> </u> date		
<input type="checkbox"/> Performance Guarantee Released	<u> </u> date	<u> </u> signature	
<input type="checkbox"/> Defect Guarantee Submitted	<u> </u> submitted date	<u> </u> amount	<u> </u> expiration date
<input type="checkbox"/> Defect Guarantee Released	<u> </u> date	<u> </u> signature	

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

20000155

I. D. Number

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Applicant or Agent Daytime Telephone, Fax

07/26/2000

Application Date

Aero Heating

Project Name/Description

372 - 372 Presumpscot St, Portland Maine 04103

Address of Proposed Site

422 B013

Assessor's Reference: Chart-Block-Lot

DRC Conditions of Approval

Planning Conditions of Approval

1. that the light fixtures be full cut-off fixtures
-

Inspections Conditions of Approval

Fire Conditions of Approval

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

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Aero Heating

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Address of Proposed Site

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Assessor's Reference: Chart-Block-Lot

Conditions of Temporary Certificate Of Occupancy

On December 5, 2000 and December 7, 2000 the site was reviewed for compliance with the conditions of approval. My comments are:

Due to weather, none of this will be completed this year.

It is our opinion that a temporary certificate of occupancy could be issued, assuming neither Code Enforcement nor Public Works has any outstanding issues. However, this site must be thoroughly reviewed and approved prior to the issuance of a permanent certificate of occupancy.



PORTLAND MAINE

Strengthening a Remarkable City, Building a Community for Life • www.portlandmaine.gov

Planning & Urban Development Department

Penny St. Louis Littell, Director

Planning Division

Alexander Jaegerman, Director

TO: Ellen Sanborn, Finance Department

FROM: Alexander Jaegerman, Planning Division Director

DATE: September 23, 2010

SUBJECT: Request for Release of Defect Guarantee
Aero Heating, 372 Presumpscot Street
(ID# 2000-0155 Lead CBL #422 B 013001)

Please release the letter of credit #1704 for the Aero Heating Project located at 372 Presumpscot Street.

Remaining Balance \$12,690.00

Approved:

Alexander Jaegerman
Planning Division Director

cc: Barbara Barhydt, Development Review Services Manager
Philip DiPierro, Development Review Coordinator
File: Urban Insight

MAINE BANK & TRUST

SITE PLANS/SUBDIVISIONS
PERFORMANCE GUARANTEE
LETTER OF CREDIT #1704

September 14, 2000

Joseph E. Gray, Jr. Director
Planning & Urban Development
389 Congress Street
City of Portland
Portland, Maine 04101

Re: Crandall Realty LLC—³⁷⁸~~278~~ Presumpscot Street

Maine Bank & Trust Company hereby issues its Irrevocable Letter of Credit for the account of Crandall Realty LLC, as developer, hereinafter referred to as the Developer; in the name of the City of Portland in the aggregate amount of \$126,900.00.

The City, through its Director of Planning and Urban Development, may draw on this Letter of Credit by presentation of a sight draft and the original Letter of Credit and all amendments thereto, at Maine Bank & Trust Company offices located at 467 Congress Street, Portland, ME stating that:

- (1) the Developer has failed to complete by September 14, 2001 or by the expiration date of any temporary certificate of occupancy issued, whichever date comes first, at the Developer's expense, the work on the roads and other public improvements as set forth in a certain Schedule of Costs of Public Improvements; or
- (2) the Developer has failed to post the ten percent (10%) Defect Bond or Guarantee required by the Portland City Code sections 14-501 and 14-525; or
- (3) the Developer has failed to notify the City for inspections.

In the event of Maine Bank & Trust Company's dishonor of the City of Portland's sight draft, Maine Bank & Trust Company shall inform the City of Portland in writing of the reason or reasons therefor within three (3) working days of the dishonor.

After all underground work in the public right of way has been completed and inspected to the satisfaction of the Department of Public Works, including but not limited to sanitary sewers, storm drains, catch basins, manholes, electrical conduits, and other required improvements constructed chiefly below grade, the City of Portland Director of Planning and Urban Development or the City of Portland Director of Finance as provided in section 14-501 of the Portland City Code may authorize Maine Bank & Trust Company, by written certification, to reduce the available amount of this letter of credit by a specified amount.

Performance Guarantee Letter of Credit

It is a condition of this Letter of Credit that it is deemed to be automatically extended without amendment for period(s) of one year each from the current expiration date hereof, or any future expiration date, unless at least sixty (60) days prior to any expiration date Maine Bank & Trust Company notifies the Director of Planning and Urban Development by registered mail at the above listed address that Maine Bank & Trust Company elects not to consider this Letter of Credit renewed for any such additional period.

In the event of such notice, the City may draw hereunder by presentation of a sight draft drawn on the Bank, accompanied by the original letter of Credit and all amendments thereto, and a statement purportedly signed by the Director of Planning and Urban Development reading as follows:

This drawing results from notification that Maine Bank & Trust Company has elected not to renew its Letter of Credit #1704; or

This drawing results from the Developer's failure to timely complete to the satisfaction of the City the public improvements set forth in a certain Schedule of Costs of Public Improvements; or

This drawing results from the Developer's failure to post a ten percent (10%) Defect Guarantee Bond as provided in S14-501 of the Portland City Code; or

This drawing results from the Developer's failure to notify the City for inspections.

The Letter of Credit will automatically expire upon the earlier of:

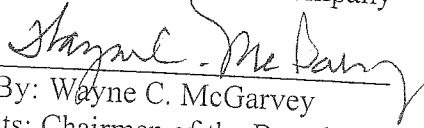
(1) Maine Bank & Trust Company's receipt of a written notification from the City of Portland that said work as outlined in a certain Schedule of costs of Public Improvements between the Developer and the City of Portland has been completed in accordance with the City of Portland specifications and Maine Bank & Trust Company's Letter of Credit #1704 may be canceled; or

(2) The expiration date of September 14, 2001 or any automatically extended date as specified herein.

Partial drawings are permitted.

We engage with you that drafts drawn under and in compliance with the terms of this credit will be duly honored if presented at our offices at 467 Congress Street, Portland, ME on or before May 8, 2001 or any automatically extended date as specified herein.

Very truly yours,
Maine Bank & Trust Company


By: Wayne C. McGarvey
Its: Chairman of the Board
Chief Executive Officer

The City of Portland has accepted the providing of alternative security for the Developer's obligations to be performed pursuant to Section 14-501 and/or Section 14-525 of the Portland City Code.

Date: 9/25/2000

By: Joseph E. Gray, Jr.
Joseph E. Gray, Jr.
Its/duly authorized Director of
Planning and Urban Development

Seen and Agreed to: Company

By: Chai Randall
Date: 9.14.00

Reviewed pursuant to Section 14-501 and/or Section 14-525, Portland City Code

By: _____

Performance Guarantee Letter of Credit

Date: _____
Director of Finance

By: Penny Hittell
Date: 9/18/00
Corporation Counsel

SUBSURFACE WASTEWATER DISPOSAL SYSTEM APPLICATION

Maine Department of Human Services
Division of Health Engineering, Station 10
(207) 287-5672 FAX (207) 287-4172

PROPERTY LOCATION		>> Caution: Permit Required - Attach in Space Below <<
City, Town, or Plantation	PORTLAND, MAINE	
Street or Road	372 PRESUMPSCOT STREET	
Subdivision, Lot #		The Subsurface Wastewater Disposal System <i>shall not</i> be installed until a Permit is attached HERE by the Local Plumbing Inspector. The Permit shall authorize the owner or installer to install the disposal system in accordance with this application and the Maine Subsurface Wastewater Disposal Rules.
OWNER/APPLICANT INFORMATION		
Name (last, first, MI)	CRANDALL REALTY LLC. Owner Applicant	
Mailing Address of	372 PRESUMPSCOT STREET	The Subsurface Wastewater Disposal System <i>shall not</i> be installed until a Permit is attached HERE by the Local Plumbing Inspector. The Permit shall authorize the owner or installer to install the disposal system in accordance with this application and the Maine Subsurface Wastewater Disposal Rules.
<input checked="" type="checkbox"/> Owner <input type="checkbox"/> Applicant	PORTLAND, ME.	
Daytime Tel. #	761-2092	Municipal Tax Map # _____ Lot # _____

<p>Owner or Applicant Statement I state that the information submitted is correct to the best of my knowledge and understand that any falsification is reason for the Department and/or Local Plumbing Inspector to deny a Permit.</p> <p>_____ Signature of Owner or Applicant</p> <p>_____ Date</p>	<p style="text-align: center;">Caution: Inspections Required</p> <p>I have inspected the installation authorized above and found it to be in compliance with the Subsurface Wastewater Disposal Rules Application.</p> <p>_____ Local Plumbing Inspector Signature</p> <p>_____ (1st) Date Approved</p> <p>_____ (2nd) Date Approved</p>
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PERMIT INFORMATION		
<p>TYPE OF APPLICATION</p> <p>1. <input checked="" type="checkbox"/> First Time System 2. <input type="checkbox"/> Replacement System Type Replaced: _____ Year Installed: _____</p> <p>3. <input type="checkbox"/> Expanded System a. <input type="checkbox"/> One-time exempted b. <input type="checkbox"/> Non-exempted</p> <p>4. <input type="checkbox"/> Experimental System 5. <input type="checkbox"/> Seasonal Conversion</p>	<p>THIS APPLICATION REQUIRES</p> <p>1. <input checked="" type="checkbox"/> No Rule Variance 2. <input type="checkbox"/> First Time System Variance a. <input type="checkbox"/> Local Plumbing Inspector Approval b. <input type="checkbox"/> State & Local Plumbing Inspector Approval</p> <p>3. <input type="checkbox"/> Replacement System Variance a. <input type="checkbox"/> Local Plumbing Inspector Approval b. <input type="checkbox"/> State & Local Plumbing Inspector Approval</p> <p>4. <input type="checkbox"/> Minimum Lot Size Variance 5. <input type="checkbox"/> Seasonal Conversion Approval</p>	<p>DISPOSAL SYSTEM COMPONENT(S)</p> <p>1. <input checked="" type="checkbox"/> Complete Non-engineered System 2. <input type="checkbox"/> Primitive System (graywater & alt toilet) 3. <input type="checkbox"/> Alternative Toilet, specify: 4. <input type="checkbox"/> Non-engineered Treatment Tank (only) 5. <input type="checkbox"/> Holding Tank, _____ gallons 6. <input type="checkbox"/> Non-engineered Disposal Field (only) 7. <input type="checkbox"/> Separated Laundry System 8. <input type="checkbox"/> Complete Engineered System (2000 gpd or more) 9. <input type="checkbox"/> Engineered Treatment Tank (only) 10. <input type="checkbox"/> Engineered Disposal Field (only) 11. <input type="checkbox"/> Pre-treatment, specify: 12. <input type="checkbox"/> Miscellaneous components</p>
<p>SIZE OF PROPERTY 3 +/- _____ sq. ft. <input checked="" type="checkbox"/> acres</p> <p>SHORELAND ZONING <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No</p>	<p>DISPOSAL SYSTEM TO SERVE</p> <p>1. <input type="checkbox"/> Single Family Dwelling Unit, No. of Bedrooms: _____ 2. <input type="checkbox"/> Multiple Family Dwelling, No. of Units: _____ 3. <input checked="" type="checkbox"/> Other: <u>AERO HEATING & VENTING, INC.</u> SPECIFY _____</p>	<p>TYPE OF WATER SUPPLY</p> <p>1. <input type="checkbox"/> Drilled Well 2. <input type="checkbox"/> Dug Well 3. <input type="checkbox"/> Private 4. <input checked="" type="checkbox"/> Public 5. <input type="checkbox"/> Other:</p>

DESIGN DETAILS (SYSTEM LAYOUT SHOWN ON PAGE 3)			
<p>TREATMENT TANK</p> <p>1. <input checked="" type="checkbox"/> Concrete a. <input type="checkbox"/> Regular b. <input checked="" type="checkbox"/> Low Profile</p> <p>2. <input type="checkbox"/> Plastic 3. <input type="checkbox"/> Other: _____ CAPACITY <u>1000</u> gallons</p>	<p>DISPOSAL FIELD TYPE & SIZE</p> <p>1. <input type="checkbox"/> Stone Bed 2. <input type="checkbox"/> Stone Trench 3. <input checked="" type="checkbox"/> Proprietary Device a. <input checked="" type="checkbox"/> Cluster array c. <input type="checkbox"/> Linear b. <input type="checkbox"/> Regular load d. <input checked="" type="checkbox"/> H-20 load</p> <p>4. <input type="checkbox"/> Other: _____ SIZE <u>1875</u> <input checked="" type="checkbox"/> sq. ft. <input type="checkbox"/> lin. ft.</p>	<p>GARBAGE DISPOSAL UNIT</p> <p>1. <input checked="" type="checkbox"/> No 3. <input type="checkbox"/> Maybe 2. <input type="checkbox"/> Yes >> Specify one below: a. <input type="checkbox"/> Multi-compartment Tank b. <input type="checkbox"/> Tanks in Series c. <input type="checkbox"/> Increase in Tank Capacity d. <input type="checkbox"/> Filter on Tank Outlet</p>	<p>DESIGN FLOW <u>375</u> gallons per day BASED ON: 1. <input type="checkbox"/> Table 501.1 (dwelling unit(s)) 2. <input checked="" type="checkbox"/> Table 501.2 (other facilities) SHOW CALCULATIONS -- for other facilities --</p>
<p>SOIL DATA & DESIGN CLASS PROFILE CONDITION DESIGN <u>S / C / I</u> at Observation Hole # <u>TP#3 & 4</u> Depth <u>48</u>" Elevation <u>552</u>" OF MOST LIMITING SOIL FACTOR</p>	<p>DISPOSAL FIELD SIZING</p> <p>1. <input type="checkbox"/> Small -- 2.0 sq. ft./gpd 2. <input type="checkbox"/> Medium -- 2.6 sq. ft./gpd 3. <input type="checkbox"/> Medium-Large -- 3.3 sq. ft./gpd 4. <input checked="" type="checkbox"/> Large -- 4.1 sq. ft./gpd 5. <input type="checkbox"/> Extra Large -- 5.0 sq. ft./gpd</p>	<p>PUMPING</p> <p>1. <input type="checkbox"/> Not Required 2. <input checked="" type="checkbox"/> May Be Required 3. <input type="checkbox"/> Required >> Specify only for engineered or experimental systems: DOSE: _____ gallons</p>	<p>25 EMPLOYEES & 15 GPD = 375 GPD</p> <p>3. <input type="checkbox"/> Required >> Specify only for ATTACH WATER-METER DATA</p>

SITE EVALUATOR STATEMENT

I certify that on 9-20-00 (date) I completed a site evaluation on this property and state that the data reported are accurate and that the proposed system is in compliance with the State of Maine Subsurface Wastewater Disposal Rules (10-144A CMR 241).

<p><u>John M. Toothaker</u> Site Evaluator Signature</p> <p>JOHN M. TOOTHAKER Site Evaluator Name Printed</p>	<p># <u>347</u> SE #</p> <p>856-0277 Telephone #</p>	<p><u>9-20-00</u> Date</p>	<p>Sebago Technics <i>Engineering & Planning for the Future</i></p> <p>UPDATED FORMS FOR RELOCATION</p> <p>Page 1 of 3 HHE-200 Rev. 1/99</p>
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SUBSURFACE WASTEWATER DISPOSAL SYSTEM APPLICATION

Maine Department of Human Services
 Division of Health Engineering, Station 10
 (207) 287-5672 FAX (207) 287-4172

Town, City, Plantation
 PORTLAND, MAINE

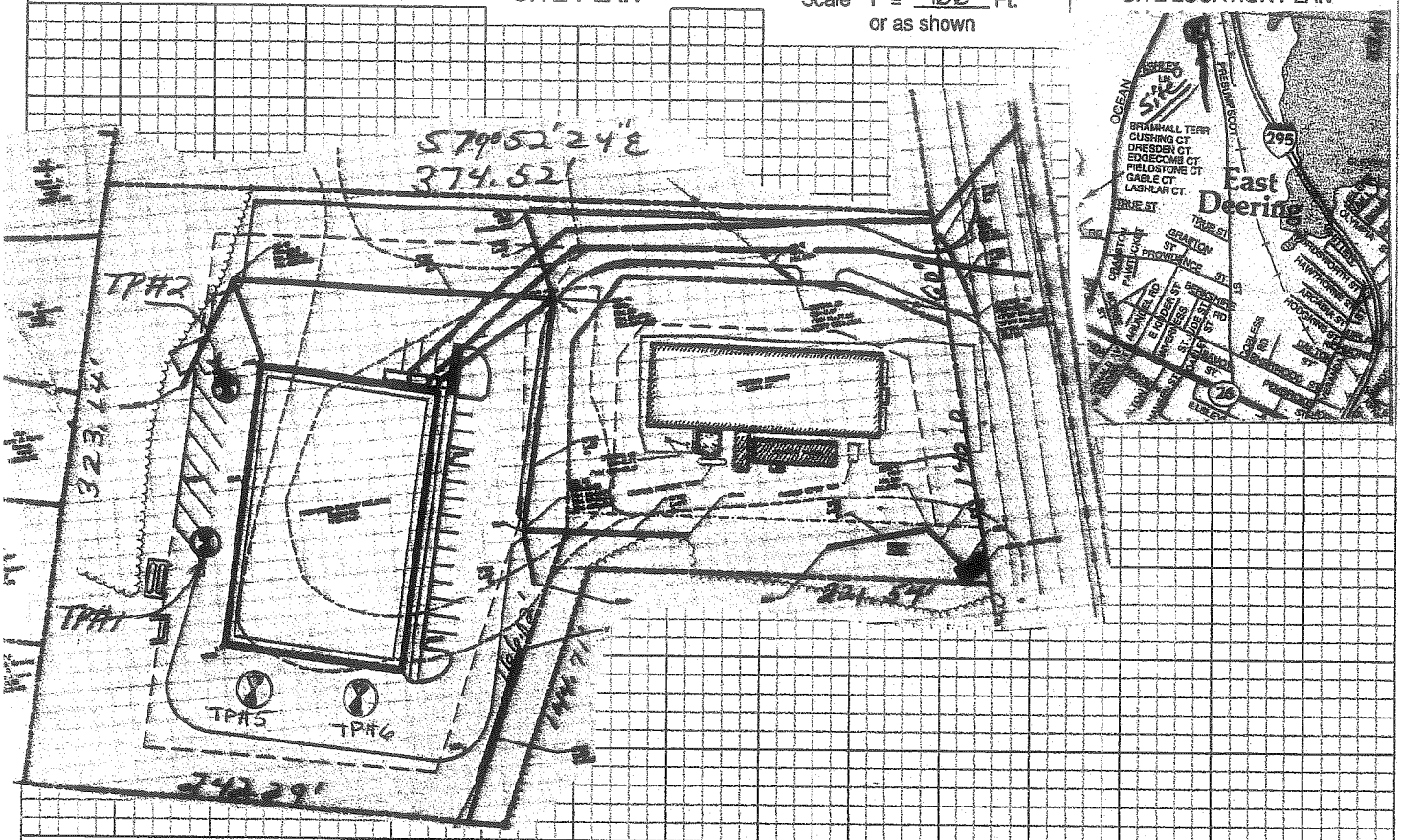
Street, Road, Subdivision
 372 PRESUMPSCOT STREET

Owner's Name
 CRANDALL REALTY

SITE PLAN

Scale 1" = 100 Ft.
 or as shown

SITE LOCATION PLAN



SOIL DESCRIPTION AND CLASSIFICATION (Location of Observation Holes Shown Above)

Observation Hole TP 5 Test pit Boring

0-2 " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (inches)	Texture	Consistency	Color	Mottling
0-10	F. SANDY LOAM	FRIABLE	BROWN	
10-20	REPLACE W/CLEAN GRAVELLY COARSE SAND			
20-40	SILT LOAM	FIRM	PALE	
40-50				

Soil Classification S Profile C Condition	Slope 2-4 %	Limiting Factor 48 "	<input type="checkbox"/> Ground Water <input checked="" type="checkbox"/> Restrictive Layer <input type="checkbox"/> Bedrock <input type="checkbox"/> Pit Depth
--	----------------	-------------------------	--

Observation Hole TP 6 Test pit Boring

0-2 " Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (inches)	Texture	Consistency	Color	Mottling
0-50	SAME DESCRIPTION AS TP#3			

Soil Classification S Profile C Condition	Slope 2-4 %	Limiting Factor 48 "	<input type="checkbox"/> Ground Water <input checked="" type="checkbox"/> Restrictive Layer <input type="checkbox"/> Bedrock <input type="checkbox"/> Pit Depth
--	----------------	-------------------------	--

John M. Touchette
 Site Evaluator Signature

347
 SE #

9-20-00
 Date

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Town, City, Plantation
PORTLAND, MAINE

Street, Road, Subdivision
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Owner's Name
CRANDALL REALTY

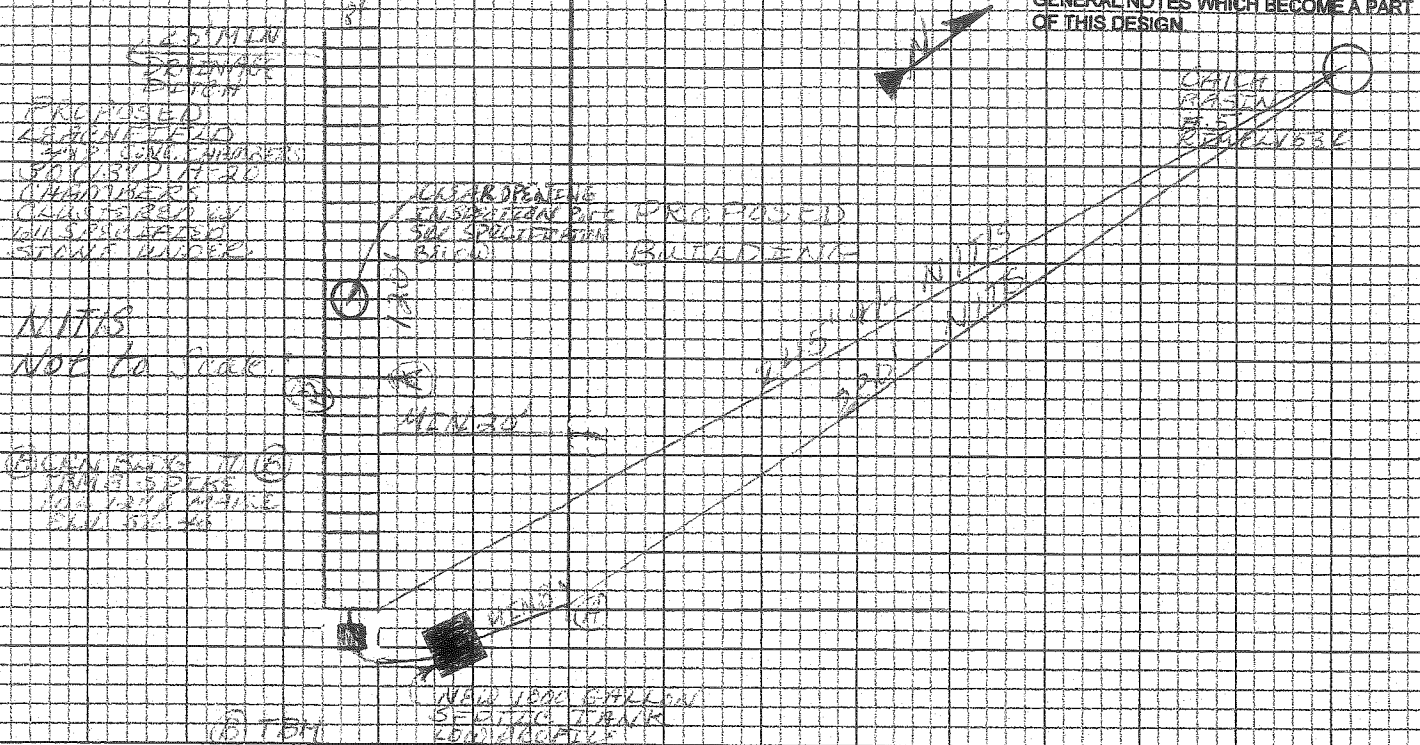
NOTE... IF A GARBAGE DISPOSAL IS USED, THEN CHANGES TO THE DESIGN ARE NECESSARY.

SUBSURFACE WASTEWATER DISPOSAL PLAN

Scale 1" = 40 FT.

NOTE... ALLOW FOR POSITIVE DRAINAGE

NOTE: MATERIALS AND INSTALLATION SHALL BE IN ACCORDANCE WITH MAINE SUBSURFACE WASTEWATER DISPOSAL RULES DATED 6/99, AS AMENDED, AND SUPPLEMENTED BY THE ATTACHED GENERAL NOTES WHICH BECOME A PART OF THIS DESIGN



FILL REQUIREMENTS

Depth of Fill (Upslope)	<u>24"</u>
Depth of Fill (Downslope)	<u>24"</u>

CONSTRUCTION ELEVATIONS

Finished Grade Elevation	<u>55.0</u>
Top of Distribution Pipe or Proprietary Device	<u>52.53</u>
Bottom of Disposal Area	<u>Bottom of pipe is 51</u>

ELEVATION REFERENCE POINT

Location & Description	<u>CB#5</u>
Reference Elevation	<u>Rim 54.530</u>

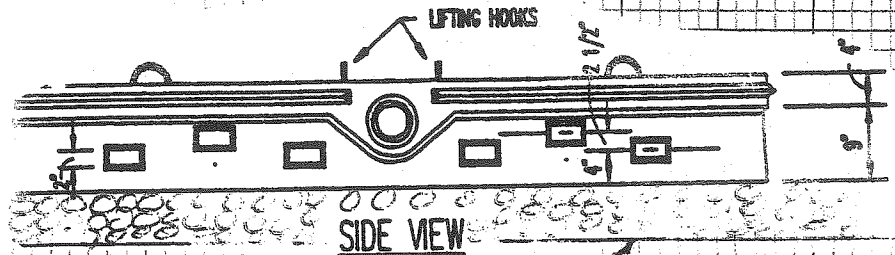
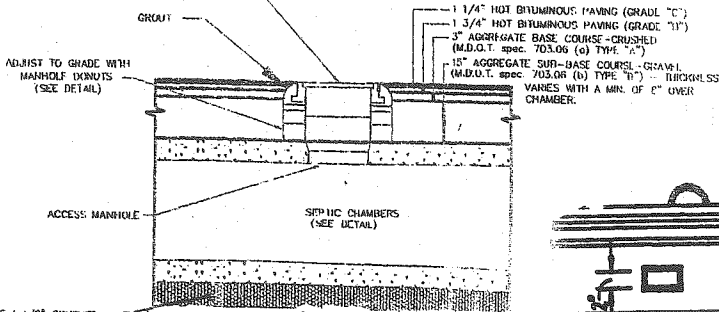
DISPOSAL AREA CROSS SECTION

SCALE:

VERTICAL: 1" = NOT
 HORIZONTAL: 1" = TO SCALE

- NOTE:
 1. CRANFLY COARSE SAND FILL COMPACTED 90% OF STANDARDED PROCTOR PER ASTM D998.
 2. CONTRACTOR SHALL SET GRADE STAKES, MARKING SUB-BASE AND FINISH GRADE ELEVATIONS FOR CONSTRUCTION REFERENCE.

CONFORM TO HAW. RAISED LETTERING, SEE SPECIFIC, 4500 24" CLEAR OPENING, MAX. CLEARANCE 1/8" 1/8" OR EQUAL TO.



John M. [Signature]
 Site Evaluator Signature

#347
 SE #

9-20-00
 Date

General Notes
(attachment to form HHE-200)

00179

1. The nature of the site evaluation profession is one of interpretation of soil and site conditions. We, in the field, attempt to both provide a satisfactory service to the client, and comply by the rules by which we are bound - The Maine State Plumbing Code. If at any time you, the client, are not satisfied with the service provided or the results found, it is your right to hire another site evaluator for a second opinion.
2. Property information is supplied by the owner, applicant or representative. Such information presented herein shall be verified as correct by the owner or applicant prior to signing this application.
3. All work shall be in accordance with the Maine Subsurface Wastewater Disposal Rules dated 6/99, as amended.
4. All work should be performed under dry conditions only (for disposal area).
5. No vehicular or equipment traffic to be allowed on disposal area. Disposal field shall be constructed from outside the corner stakes located in the field. The downslope area is also to be protected in the same manner.
6. Backfill, if required, is to be gravelly coarse sand to coarse sand texture and to be free of foreign debris. If backfill is coarser than original soil, then mix top 4" of backfill and original soil with rototiller.
7. No neighboring wells are apparent (unless so indicated) within 100' of disposal area. Owner or applicant shall verify this prior to signing the application.
8. Minimum separation distances required (unless reduced by variance or special circumstance).
 - a) any well to disposal area: 100'
 - b) any well to septic tank: 100'
 - c) septic tank or disposal area
to lake, river, stream or brook: 100' for major watercourse,
50' for minor water course
 - d) house to treatment tank: 8'
 - e) house to disposal area: 20'

Other separation distances per Plumbing Code.

9. Location of septic system near a wetland may require a separate permit. As such, the owner, prior to construction of the septic system, shall hire a professional to evaluate proximity of adjacent wetlands and prepare necessary permit applications.
10. Garbage disposals are not recommended and, if installed, are done so at the owner's risk. The additional waste load requires increased maintenance frequency, higher potential for failure, and larger septic tanks.
11. Pump stations, when required, shall be installed watertight to prevent infiltration of ground and/or surface water.
12. Force mains and pressure lines shall be flushed of any foreign material and pumps shall be check for proper on/off cycle before being put into service.
13. Force mains, pump stations, and/or gravity piping subject to freezing shall be installed below frost line or adequately insulated.

Sebago Technics, Inc., One Chabot Street,
P. O. Box 1339, Westbrook, ME 04098-1339 (207) 856-0277

Rev. 12/99

CRANDALL REALTY, LLC
372 PRESUMPSCOT STREET
PORTLAND, ME 04103
(207) 761-2092

1055

2,141.00

52-150/112

LORING - MAINE

PAY TO THE
ORDER OF

City of Portland

Two thousand six hundred eighty seven

30/100

\$ 2,687.50

DOLLARS

MAINE BANK & TRUST
a maine bank for maine people

MEMO *Site review - inspection fees*

⑆001055⑆⑆011201500⑆0054386⑆

[Signature]

372
Presumpscoot Street
Job # 20000155

Engineering Fee:

Planning = \$ 390.00
PW = \$ 140.00

Inspection Fee:

Planning = \$ 1929.50
PW = \$ 227.80



CITY OF PORTLAND

September 13, 2000

Mr. Jim Seymour
Sebago Technics
One Chabot Street
Westbrook, ME 04098-1339

RE: Aero Heating & Ventilating, Inc., 372 Presumpscot Street

Dear Jim:

On September 12, 2000 the Portland Planning Authority approved the site plan application for a 15,000 sq. ft. building located at 372 Presumpscot Street with the following conditions:

1. that the light fixtures be full cut-off fixtures

The proposed site plan was found to be in conformance with the Site Plan Ordinance of the Land Use Code.

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

1. A performance guarantee covering the site improvements as well as an inspection fee payment of 1.7% of the guarantee amount must be submitted to and approved by the Planning Division and Public works prior to the recording of the subdivision plat. The subdivision approval is valid for three (3) years.
2. 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. Requests to extend approvals must be received before the expiration date.
3. A defect guarantee, consisting of 10% of the performance guarantee, must be posted before the performance guarantee will be released.

O:\PLAN\DEVREVW\PRESUMP372\APPRVLTR.DOC

Department of Planning and Urban Development
 SUBDIVISION/SITE DEVELOPMENT

COST ESTIMATE OF IMPROVEMENTS TO BE COVERED BY PERFORMANCE GUARANTEE

Date 9-13-00

Name of Project AERO HEATING & VENTILATING

Address Location 372 PRESUMPCOT ST. (CURRENT ADDRESS)

Developer _____

Form of Performance Guarantee _____

Type of Development: _____ Subdivision Site Plan (Major/Minor)

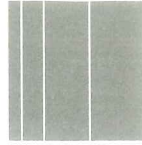
TO BE FILLED OUT BY APPLICANT:

Item	PUBLIC			PRIVATE		
	Quantity	Unit Cost	Subtotal	Quantity	Unit Cost	Subtotal
1 STREET SIDEWALK						
Road		L.S	2000.00	EMERGENCY PAVING (860')	LS.	18,950.-
Granite Curbing		L.S	5,500.00	925' (BIT)	37.5/TON	32,500.-
Sidewalks				4 LF		3700.-
Esplanades						
Monuments						
Street Lighting						
Other						
2 SANITARY SEWER						
Manholes						
Piping						
Connections						
Other				CHAMBER	LS	4550.-
				SUBSPACE		
3 STORM DRAINAGE						
Manholes	1	1500 EA	1500			
Catchbasins	2	1200 EA	2400	5	1200	6000.-
Piping	40'	30. LF	1200	900'	25	22,500.-
Detention Basin					LS	5000.-
Other				LINEAR		1500.-
				25 YD	60/YD	
4 SITE LIGHTING	NA			5	200 EA	1000.-
5 EROSION CONTROL		LS	800.		LS	800.-
6 RECREATION AND OPEN SPACE AMENITIES						

	PUBLIC			PRIVATE		
	Quantity	Unit Cost	Subtotal	Quantity	Unit Cost	Subtotal
* LANDSCAPING (Attach breakdown of plant materials, quantities, and unit costs)	<u>NA</u>			<u>—</u>	<u>LS</u>	<u>6000 —</u>
* MISCELLANEOUS	<u>NA</u>				<u>LS</u>	<u>7000 —</u>
TOTAL:	<u>13,400</u>			<u>113,500 —</u>		
GRAND TOTAL:						

INSPECTION FEE (to be filled out by City)

	PUBLIC	PRIVATE	TOTAL
A: 1.7% of totals:	<u>227.80</u>	<u>1929.50</u>	<u>2157.30</u>
or			
B: Alternative Assessment:	<u> </u>	<u> </u>	<u> </u>
Assessed by:	<u> </u> (name)	<u> </u> (name)	<u> </u>



Sebago Technics
Engineering & Planning for the Future

September 1, 2000
00179

Kandi Talbot, Planner
City of Portland
389 Congress Street
Portland, ME 04101

Aero Ventilating & Heating – Revised Site Plan

Dear Kandi:

Per your staff review comments, we have attached the additional information and revised Site, Grading and Utility Plan for Crandall Realty's minor site plan for the 372 Presumpscot Street site. Please find attached the following:

1. a. Financial capability letter
- b. Copy of the Warranty Deed for the parcel
- c. Elevations had been given on an 8½" x 11" sheet; one full-size sheet has been added for your records.
- d. A photometrics plan will be submitted upon receipt from the lighting manufacturer.

We have responded to Anthony Lombardo's comments from Public Works with the following revisions to the plan:

1. Cape Code bituminous curbing has been added along the entire northern edge of the access driveway which abuts the Lilly property. This will direct flow into Catch Basin #1 and keep any chance of flows off the abutter's property.
2. The level lip spreader has been deleted and a new drain manhole will be connected into the existing Presumpscot Street drain system to accept the detention pond discharge. This is done at the request of Public Works. The spillway will be entirely ripped and direct runoff for storms greater than the 25-year size to the existing ditch line.
3. All storm drain pipes within the City's right-of-way will be an HDPE-ADS Pro-link Ultra Soil Tight, or approved equal.

4. All riprap will be 6" riprap per the detail sheet. The site plan note has been changed to 6" riprap.
5. An HHE-200 form was submitted showing a typical cross-section of the proposed septic system. A note was added to the site plan referencing the HHE-200 form and the contractor's responsibility to build in accordance with that document.

The following is a response to Steve Bushey's review comments dated August 16th:

1. We have revised the pond's discharge to enter directly into the City's storm drain at the request of Anthony Lombardo, P.E. of Public Works. This should alleviate any impact on the ditch or abutting properties. Only storm events in excess of 5.5 inches in 24 hours will create additional flows to that ditch line. Overall, we will be reducing peak rates to the downstream areas and ditches by directing our site drainage to the proposed pond and City storm drain.
2. Currently, there is no curbing or delineated entrances along Presumpscot Street in this area. The proposed site plan will provide a 24 foot wide entrance with a 25' and 40' curbed radii. The existing building at 372 Presumpscot Street will still have access on the southerly side of the building with an area to circulate entirely around the building. Crandall Realty has agreed (as previously shown on the Grading Plan) to provide a paved entrance off the access driveway to the north side of the existing building. We will not curb from the proposed paved entrance to the existing lot to the right-of-way property line where the granite curb starts. This should provide both large vehicles to access the building and utilize the new entrance to Presumpscot Street and drainage to remain the same as it does currently. The Lilly property to the north will be unaffected by the new entrance for their circulation will continue to be wide open along their entire frontage. Drainage will be improved by the addition of an inlet behind the proposed curb line to Catch Basin #1. Currently, ponding is a problem in this area and it will be corrected with this site design.
3. No impacts will be created from this site to Mr. Lilly's property to the north. The uphill runoff is collected and diverted by a catch basin system to a detention pond located on the south of the site's property. The access driveway is fully curbed to direct all runoff to Presumpscot Street. The entrance has been designed to further collect surface runoff generated from the Lilly site into the Presumpscot Street drains via an inlet and culvert on the north side of the entrance. Also, a 6" underdrain from the Lilly property tying into an existing catch basin on the proposed site will remain. The drainage impacts documented on the Lilly site are believed to be from uphill drainage patterns originating on Ocean Avenue to the Lilly property line where it enters a private system and drains either under or adjacent to his building. Our drainage patterns do not enter or impact that system. Furthermore, we are reducing our off-site drainage contribution to any portion of the Lilly property.

4. Due to the topography and existing buffer, we do not see any advantage to adding evergreen trees to the buffer along the Summer Place property line. To effectively screen the residences above our site would require tree plantings against the fence lines of the homes at the top of the hill. However, that is not on the Crandall Realty lot and Summer Place already had to establish a vegetative natural buffer to the Crandall property line. The vegetation removed or not existing was required to be supplemented by the Summer Place development. Evidence exists that some of that buffer has been cut to increase their views to the ocean. Therefore, we feel the buffer will provide no benefit to the residences atop the hill from screening the proposed building.
5. We will accept requirements to install and maintain erosion control and we believe no special condition is needed because the erosion control plan is part of the approved plans.
6. Although not required by Ordinance, we have provided swing ties to property corners for building layout. Furthermore, Sebago Technics will be providing survey services for building layout for Crandall Realty at the time of construction.

We believe that we have addressed all of your concerns and review comments. The owner has a contractor ready to begin next week. We anticipate construction very soon to complete site grading and utility installation prior to frost (early November). Any and all assistance that you could arrange to move this application forward for approval would be very helpful.

Please feel free to call if you need to discuss this letter or application further.

Sincerely,

SEBAGO TECHNICS, INC.



James R. Seymour
Project Engineer

JRS:jc
Enc.

cc: Clair Crandall – Aero Ventilating and Heating
Dennis Watters – Patco Construction

MAINE BANK & TRUST

August 31, 2000

Joseph E. Gray Jr., Director
Planning & Urban Development
City of Portland
389 Congress St.
Portland, ME 04101

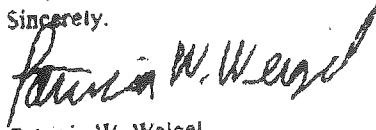
RE: Clair Crandall
Crandall Realty
Aero Heating & Ventilating, Inc.
372 Presumpscot Street
Portland

Dear Mr. Gray:

This letter will serve as confirmation that Maine Bank & Trust has agreed to provide construction dollars in an amount sufficient for Mr. Crandall to proceed with site work and construction of a new 13,000 square foot building located at 372 Presumpscot Street in Portland. Maine Bank & Trust has issued a formal commitment letter to Mr. Crandall that details the specific loan terms. We expect to close this loan in the next 60 days.

If you should have any questions, please don't hesitate to call me.

Sincerely,



Patricia W. Weigel
Vice President

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

** TOTAL PAGE 02 **

19-31-00 04:01P AERO HEAT

041389

WARRANTY DEED

C. D'ALFONSO & SONS, INC., a/k/a C. D'Alfonso and Sons, Inc., a Maine corporation with a place of business in Portland, Maine, for consideration, grants to CRANDALL REALTY, LLC, a Maine limited liability company whose mailing address is 372 Presumpscot Street, Portland, Maine 04103, with Warranty Covenants, certain lots or parcels of land and the buildings and improvements thereon situated on Presumpscot Street in Portland, County of Cumberland and State of Maine, more particularly bounded and described as follows:

Parcel 1

Beginning at an iron stake set in the ground on the westerly side of Presumpscot Street, which iron stake marks the northeasterly corner of land now or formerly of one Ryan; thence in a general northerly direction by the westerly sideline of said Presumpscot Street two hundred (200) feet to a point; thence northwesterly and parallel to the northeasterly sideline of said Ryan land a distance of three hundred seventy (370) feet, more or less, to a point, which point is on the line shown on the current or former zoning map of the City of Portland which now or formerly separates an industrial zone from a residential zone and which line is four hundred (400) feet from, and runs parallel to, the center line of Presumpscot Street; thence in a general southerly direction by said zone line and parallel to the westerly sideline of Presumpscot Street three hundred fifty (350) feet, more or less, to said land of Ryan; thence southeasterly by said Ryan land eighty-seven (87) feet, more or less, to an oak tree marking a corner of said Ryan land; thence northeasterly by said Ryan land one hundred forty-eight and five tenths (148.5) feet, more or less, to an iron marking another corner of said Ryan land; thence southeasterly by said Ryan land two hundred twenty-one and nineteen hundredths (221.19) feet to the point of beginning.

Parcel 2

And also a certain lot or parcel of land located off the Westerly side of Presumpscot Street, City of Portland, County of Cumberland, State of Maine, and bounded and described as follows:

Beginning at a point at the Northwesterly corner of land now of C. D'Alfonso & Sons, Inc. as recorded in Cumberland County Registry of Deeds in Book 2841, Page 317 (being Parcel 1 above), and the Southwesterly corner of land now or formerly of Fels Company, Inc. as recorded in said Registry in Book 2841, Page 319, said point also being perpendicular to, and Four Hundred and 00/100 (400.00) feet from, the center line of Presumpscot Street.

Thence, South 04° 02' 48" East along land of C. D'Alfonso & Sons, Inc. (being Parcel 1 above) and parallel to said street, a distance of Three Hundred Forty and 58/100 (340.58) feet to a point and land now or formerly of Bruce D. Collins as recorded in said Registry in Book 4507, Page 149.

MAINE REAL ESTATE TAX PAID

Thence, North 79° 22' 26" West along land of said Collins and part of a stone wall a distance of One Hundred Seventy-nine and 58/100 (179.58) feet to the Southeasterly corner of land now or formerly of Local 217 Apprenticeship Trust as recorded in said Registry in Book 4901, Page 334.

Thence, North 13° 23' 05" East along land of said Local 217, to the Southwesterly corner of Lot 1 as shown on plan made for Nunzi and Joseph A. D'Alfonso by R. P. Titcomb Associates, Inc., dated June 5, 1985 and recorded in said Registry in Plan Book 148, Page 6, a distance of Three Hundred Twenty-five and 55/100 (325.55) feet to a point.

Thence, South 82° 32' 30" East along said Lot 1 a distance of Seventy-seven and 76/100 (77.76) feet to the point of beginning.

Said parcel being Lot 2 as shown on said plan made for Nunzi and Joseph A. D'Alfonso by R. P. Titcomb Associates, Inc. dated June 5, 1985 and recorded in said Registry in Plan Book 148, Page 6.


The above described Parcel 2 contains 42,173 square feet.

Being the same premises conveyed to Grantor by Warranty Deeds of Nunzi D'Alfonso and Joseph A. D'Alfonso dated July 31, 1964 and recorded in said Registry in Book 2841, Page 317 and dated July 1, 1985 and recorded in Book 6812, Page 86.

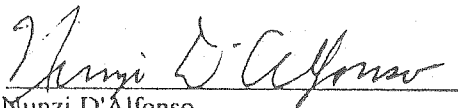
IN WITNESS WHEREOF, C. D'Alfonso & Sons, Inc. has caused this instrument to be executed by Nunzi D'Alfonso, its President, this 29 day of June, 1998.

Signed, Sealed and Delivered
in the presence of:

C. D'ALFONSO & SONS, INC.



Witness

By: 

Nunzi D'Alfonso
Its President

BK 13938PG303

STATE OF MAINE
COUNTY OF CUMBERLAND, ss.

June 29, 1998

Personally appeared the above-named Nunzi D'Alfonso, President of C. D'Alfonso & Sons, 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 C. D'Alfonso & Sons, Inc.

Before me,



Notary Public/Attorney at Law

ALAN ATKINS

Printed Name

My commission expires: _____

P:DCBVD11116WARRDEED.2

RECEIVED
RECORDS & CLERK OF DEEDS

1998 JUN 29 PM 3:06

CUMBERLAND COUNTY

John B. O'Brien

ROBINSON
KRIGER &
MCCALLUM

ATTORNEYS AT LAW

TWELVE PORTLAND PIER
POST OFFICE BOX 568
PORTLAND, MAINE 04112-0568

TELEPHONE (207) 772-6565
FACSIMILE (207) 773-5001
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THOMAS R. McNABOE
RICHARD F. VAN ANTWERP
LAWRENCE B. GOODGLASS
MARGARET PHAIR SACK
JAMES C. HUNT
THOMAS QUARTARARO
DAVID J. BACKER
THOMAS R. KELLY
DOUGLAS J. ALOFS

OF COUNSEL

JAMES S. KRIGER

August 30, 2000

FAX 756-8258

Ms. Sarah Hopkins
City of Portland Planning Department
389 Congress Street
Portland, Maine 04101

Dear Ms. Hopkins:

I represent the D'Alfonzos, who hold a mortgage, which I have been informed to be in the approximate amount of \$245,000 – on some commercial real estate on Presumpscott Street owned by Crandall Realty Company, where Aero Heating and Ventilating has its warehouse. Clair Crandall asked me to write concerning the anticipated plans for development of the back lot as a new building for the business, which I understand to be under Planning staff review.

Assuming that all of the details can be worked out, the D'Alfonzos will be releasing their mortgage on the front portion of the lot, which is to be sold, and eventually permitting Aero or Crandall full use of the sales proceeds from the front lot, in exchange for substitute security. The D'Alfonzos' loan will not be paid off through the sale, but instead, the new building on the back lot will act as security for the continued payment of the loan. We understand that Maine Bank & Trust will be taking a second mortgage on the property.

If you have any questions, please call.

Sincerely,


Thomas R. Kelly

TRK/

cc: Jaimie Schwartz, Esq.
Clair Crandall
Nunzi D'Alfonso
Joseph D'Alfonso



CITY OF PORTLAND

August 21, 2000

Mr. Jim Seymour
Sebago Technics
One Chabot Street
P.O. Box 1339
Westbrook, ME 04098-1339

RE: 372 Presumpscot Street

Dear Jim:

After review of the site plan submitted regarding Aero Heating and Ventilation, 372 Presumpscot Street, the following comments have been generated.

1. The following information should be submitted:
 - Financial capability
 - Right, title and interest
 - Lighting information - any new lighting proposed? If so, catalogue cuts and a photometric plan will be required.
 - Elevations of the building
2. Tony Lombardo and Steve Bushey's memos are attached for your review.

If you have any questions, please do not hesitate to contact me at 874-8901.

Sincerely,

Kandice Talbot
Planner

From: "Steve Bushey" <srbushey@maine.rr.com>
To: "Kandi Talbot" <KCOTE@ci.portland.me.us>
Date: Wed, Aug 16, 2000 8:33 AM
Subject: Aero Heating

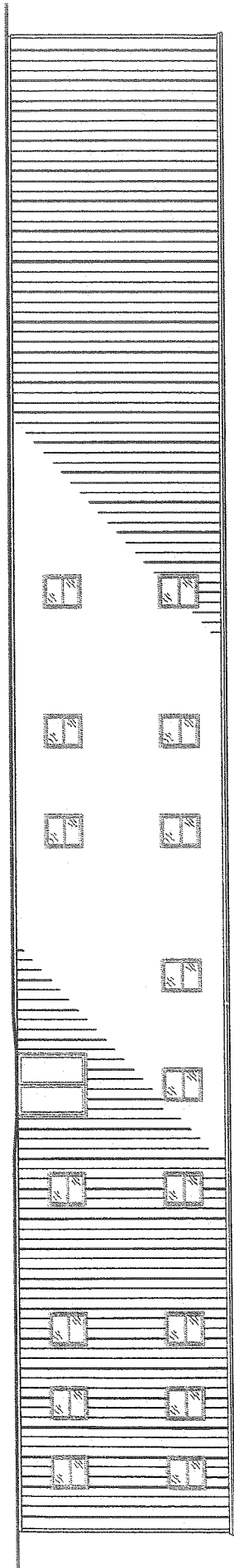
Kandi,

I have reviewed the materials submitted by Sebago Technics dated 7-25 and 8-8-00 for the proposed site plan of aero Heating. I offer the following comments:

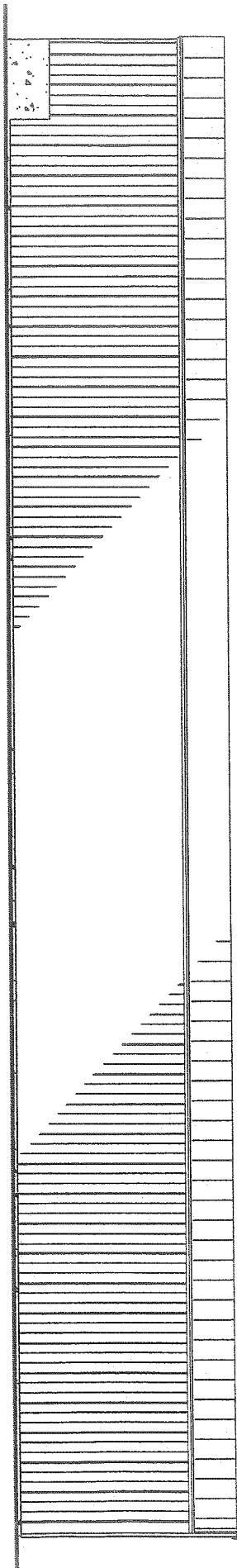
1. The applicant has submitted a stormwater management plan which is complete and acceptable. However, I do have some concerns about the drainage at the discharge point adjacent Presumpscot street. It appears that the proposed site discharge will be over a level spreader onto an abutting property and into a low area that currently doesn't appear to drain very well. This low area is presently a small wetland area. Further down the street drainage passes through a ditch along the street and into a stream crossing beneath Presumpscot Street. This whole area has been prone to poor drainage conditions in the past and the Public Works Dept. may want to consider additional measures along this area. I think it would be beneficial that the applicant review these conditions and make a statement as to their rights to discharge onto the adjacent property and addressing downstream drainage conditions.
2. The existing Aero Heating building shares a very wide expanse of driveway opening along presumpscot street. The Applicant should address how the proposed driveway will work with the other existing buildings located on each side of the proposed. I think Larry Ash should review the driveway configuration and comment.
3. The applicant should address what will happen to drainage along the Daniel Lilly property since a fair amount of fill will be placed along that property and the drainage from that lot will be impacted. In the past Mr. Lilly has pressed City representatives on drainage impacts to his property from above and I assume the proposed project will likely cause similar concern from Mr. Lilly.
4. Although the lot's rear has a good Deciduous buffer during the summer I think you will find that residents of Summer Place will view directly down onto the proposed building in the winter. This is a consideration and perhaps some evergreen plantings might be warranted perhaps on the top of the slope. However, their effective will still be limited until they mature.
5. Any conditions of approval should include specific requirements for the installation and maintenance of erosion control measures. The applicant has included measures on their plans, however, implementation is always a concern.
6. The layout plan should be provided with additional layout control such as a baseline or coordinates.

If you have any questions please call.

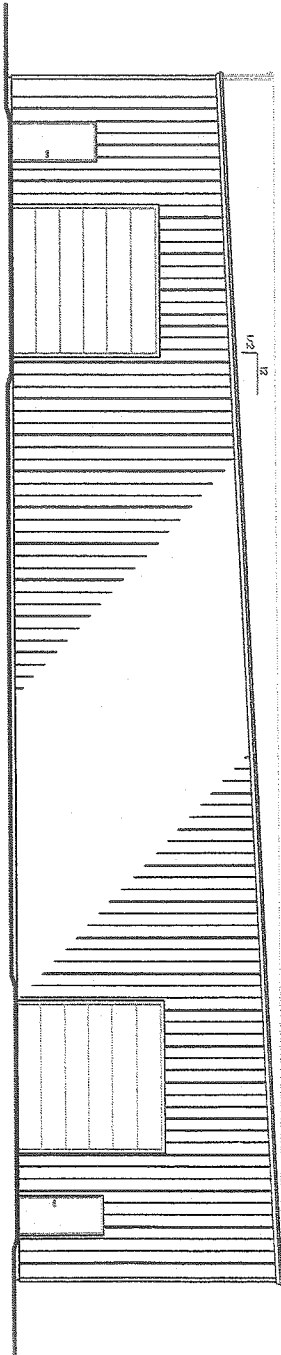
Steve Bushey Acting Development Review Coordinator



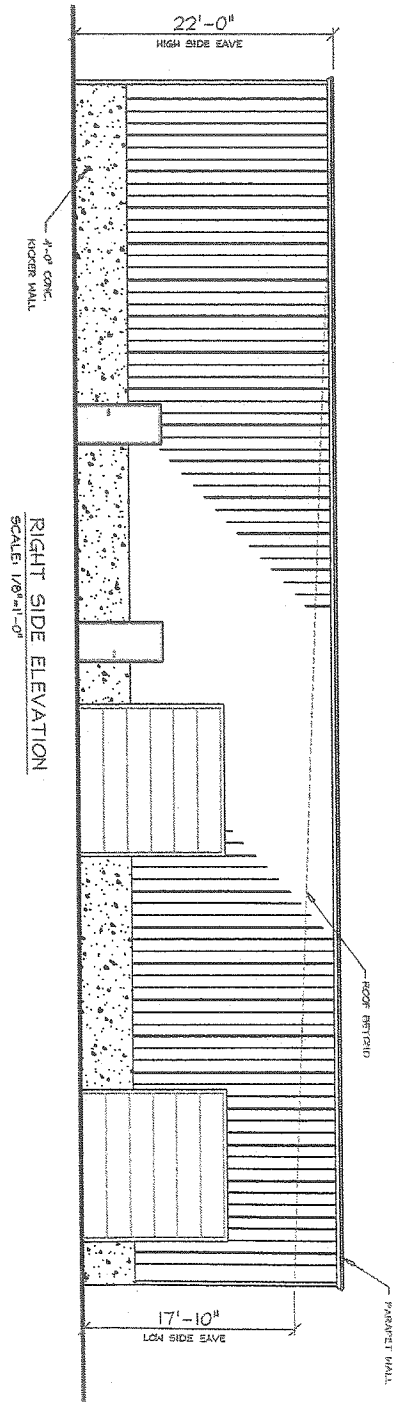
FRONT ELEVATION
SCALE: 1/8"=1'-0"



REAR ELEVATION
SCALE: 1/8"=1'-0"



LEFT SIDE ELEVATION
SCALE: 1/8"=1'-0"



RIGHT SIDE ELEVATION
SCALE: 1/8"=1'-0"

Uplight/Downlight with Minimal Light Trespass

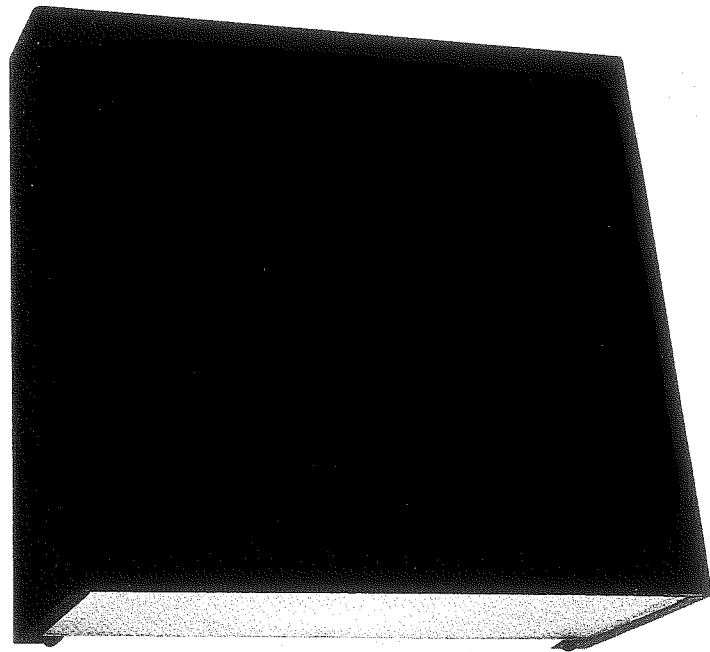
SUNDOWNER™ 12

Sundowner is an environmentally friendly luminaire series that delivers a sharp 85-degree light cutoff making it ideal for accentuating a building's form and presence, without the light pollution common to most outdoor lighting. Sundowner's light-control design meets stringent light trespass code compliances for down lighting, and is available in wattages from 50 to 175 watt.

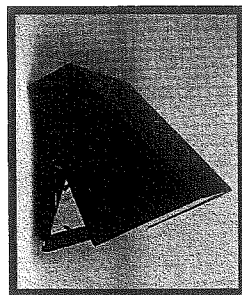
The unique optical system includes a specular aluminum reflector and canopy design that achieves a precise light cutoff and distribution pattern through an etched, 5/32" tempered diffused glass lens.

Design features include a tapered, corrosion resistant aluminum canopy which is Listed for Wet Locations for downlighting.

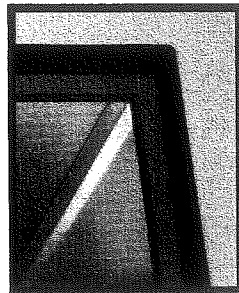
All exterior hardware is stainless steel to resist the elements, and canopy is gasketed to back plate to prevent water entry and minimize infiltration by insects. Sundowner – a precise answer to precise outdoor lighting needs.



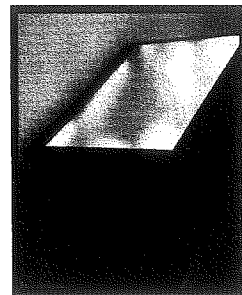
Canopy hinges for lamp or electrical maintenance and easily removes from backplate.



Fixture canopy seals to backplate with quality silicone gasketing.



Diffusing glass lens is silicone sealed in canopy to resist moisture and insect infiltration.



Specifications/Features

GENERAL

- Sharp cutoff, wall mounted HID luminaire suitable for low glare applications and light trespass code compliance.
- Utilizes Metal Halide and High Pressure Sodium HID lamps up to 175W for best design options available.
- Wet location applications.
- Uplight mounting available. (Damp Location)

CONSTRUCTION

- Corrosion resistant .05" low copper content aluminum canopy and back plate finished in baked bronze polyester powder coat.
- Easy one man installation with cast aluminum backplate. Backplate mounts to electrical box with box strap and nipple supplied. Canopy hinged and easily removable from back plate; enhances ease of installation and maintenance.
- Specular aluminum reflectors produce front cutoff at 85 degree and S/MH 2.7:1.
- Canopy sealed to back plate with extruded, high temperature, silicone gasket.

- Corrosion resistant stainless steel external hardware.
- 5/32" tempered diffused glass lens silicone sealed to prevent entrance of water, and minimize insect infiltration.
- Canopy secured by two captive stainless steel screws; optional tamper resistant screws.

LISTINGS

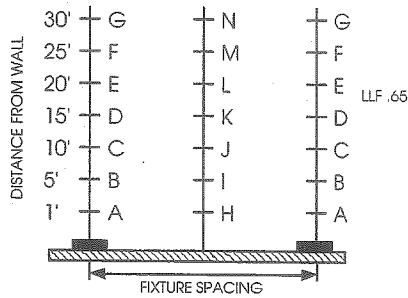
- Listed 1572 Wet location for downlight and damp location for uplight versions.

ELECTRICAL

- Standard ballasts are 120V, HPF, maximum 175W medium base HID lamp in vertical position.
- Ground wire attached to backplate for positive grounding and quick installation.
- Optional button type photocell mounts in top of canopy.
- All fixtures are IBEW, Union made to ensure quality.

GUTH
LIGHTING

Photometrics



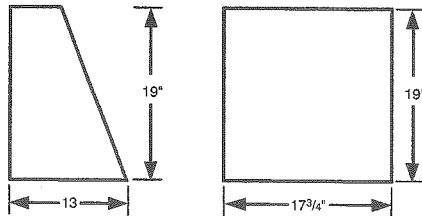
SND 19-400MH-1 Fixture Spacing 15'

	A	B	C	D	E	F	G	H	I	J	K	L	M	N
15'	20.2	17.8	11.9	4.7	1.9	.7	.2	34.4	31.6	16.1	7.2	2.7	.9	.4
MTG. 20'	13.5	13.8	9.8	6.5	3.1	1.6	.7	18.3	18.7	12.3	7.6	4.0	2.0	.8
HEIGHT 25'	9.8	10.5	8.1	5.7	3.8	2.1	1.2	11.1	10.9	8.1	6.3	4.2	2.4	1.4
30'	7.2	7.7	6.3	4.8	3.6	2.4	1.5	7.4	7.2	5.6	4.7	3.8	2.6	1.6

Fixture Spacing 45'

	A	B	C	D	E	F	G	H	I	J	K	L	M	N
15'	12.2	10.8	7.4	2.9	1.2	.4	.2	7.6	6.4	4.1	2.1	.9	.5	.2
MTG. 20'	7.2	7.6	5.2	3.7	1.7	.9	.4	7.6	7.1	5.6	3.5	1.8	.9	.5
HEIGHT 25'	5.0	5.5	4.0	3.1	2.2	1.2	.7	7.0	6.7	5.8	4.2	2.7	1.6	.9
30'	3.8	4.2	3.3	2.7	2.2	1.4	.7	5.8	6.0	5.6	4.4	3.2	2.1	1.3

Dimensions



NOTE: 7" minimum clearance from hinge side of fixture for canopy removal.

Sundowner™ 19 Catalog Numbers

CATALOG NUMBER	DESCRIPTION	TOTAL WATTS
SND19-150HP-1	Downlight Version, 150W HPS, 120V	188
SND19-250HP-1	Downlight Version, 250W HPS, 120V	300
SND19-400HP-1	Downlight Version, 400W HPS, 120V	457
SND19-175MH-1	Downlight Version, 175W MH, 120V	215
SND19-250MH-1	Downlight Version, 250W MH, 120V	295
SND19-400MH-1	Downlight Version, 400W MH, 120V	458
SNU19-150HP-1	Uplighting Version, 150W HPS, 120V	188
SNU19-250HP-1	Uplighting Version, 250W HPS, 120V	300
SNU19-400HP-1	Uplighting Version, 400W HPS, 120V	457
SNU19-175MH-1	Uplighting Version, 175W MH, 120V	215
SNU19-250MH-1	Uplighting Version, 250W MH, 120V	295
SNU19-400MH-1	Uplighting Version, 400W MH, 120V	458

Note: All include a Mogul Base

Accessories

OPTIONS	ADD/CHANGE	EXAMPLE
Units listed for 120volt. For 277V	change last "1" to "2"	SND19-150HP-2
Tamper Resistant Screws	add "/TP"	SND19-150HP-1/TP
Button Photo-electric cell	add "/PEC"	SND19-150HP-1/PEC
Cast Aluminum Outlet Box	add "/CAB"	SND19-150HP-1/CAB
For lamps included	add "/L"	SND19-150HP-1/L
Fixture Fuse	add "/FF"	SND19-150HP-1/FF
Surface wiring collar	add "/OBC"	SND19-150HP-1/OBC
For Quartz Restrike 250W Maximum	add "/ISL"	SND19-150HP-1/ISL

Specifications and data are subject to change without notice.
Guth utilizes the services of both U.L. and ETL for listings.



A DIVISION OF JJI LIGHTING GROUP, INC.

Uplight/Downlight with Minimal Light Trespass

B

SUNDOWNER™ 19

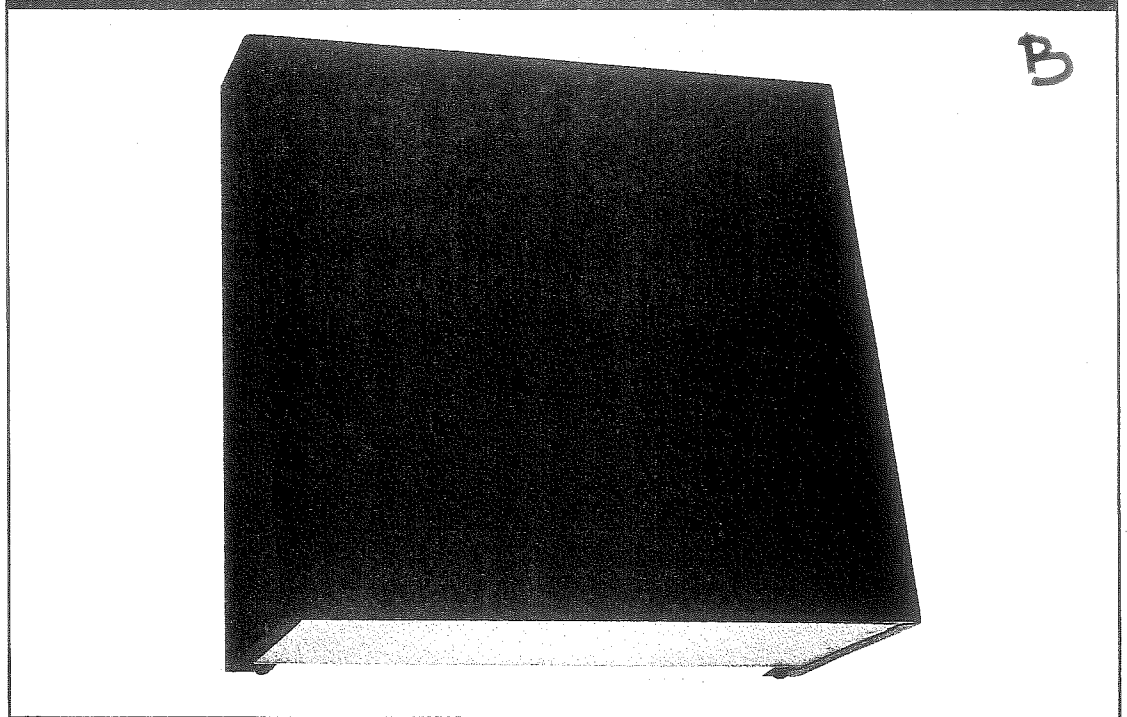
Sundowner offers light sculpturing and indirect lighting with controls that dramatizes walls, ceilings and surfaces with unparalleled uniformity... both indoor and outdoor.

Available in wattages from 150-400 watt, Sundowner's vertical lamp position and optical system develops a sharp 85-degree light cutoff and uniform light distribution that is unique for uplight applications. Ideal for lighting exterior walls, soffits and overhangs, tunnels, walkways, garages, stepwells and canopies.

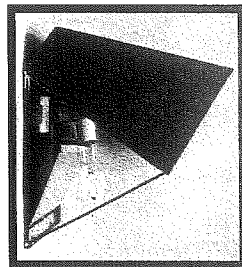
Indoor applications include shopping malls, auditoriums and convention centers. Double-up Sundowner units to create an uplight/downlight combination that is architecturally arresting.

The corrosion resistant canopy is sealed to the mounting plate, and the tempered diffused glass lens is silicone sealed in fixture canopy to prevent water and minimize insect infiltration. Units are Listed for Damp Locations for uplighting.

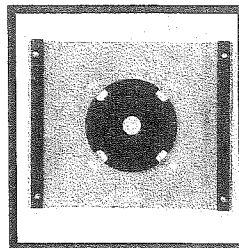
Sundowner - Another unique lighting tool for conquering demanding lighting requirements from Guth.



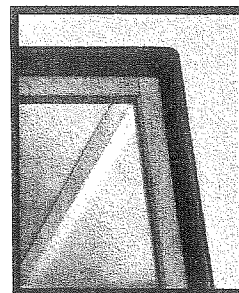
Canopy hinges for lamp or electrical maintenance and easily removes from backplate.



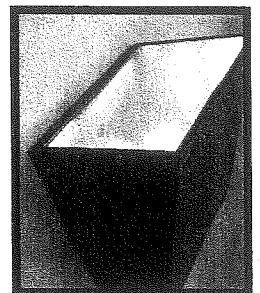
One-man hanging of SND 19 with adjustable mounting and leveling plate for conventional junction box.



Fixture canopy seals to backplate with quality silicone gasketing.



Diffusing glass lens is silicone sealed in canopy to resist moisture and insect infiltration.



Specifications/Features

GENERAL

- Sharp cutoff, wall mounted HID luminaire suitable for low glare applications and light trespass code compliance.
- Utilizes Metal Halide and High Pressure Sodium HID lamps up to 400W for best design options available.
- Wet location applications.
- Uplight mounting available. (Damp Location)

CONSTRUCTION

- Corrosion resistant .06" low copper content aluminum canopy and .09" back plate finished in baked bronze polyester powder coat.
- Easy one man installation with quick leveling, gasketed 18 ga 304 stainless steel mounting bracket; has extra holes for additional wall anchors; fixture simply attaches to 4 threaded studs on mounting plate.
- Canopy hinged and easily removable from back plate; enhances ease of installation.
- Prop rod included to hold fixture open and free hands for lamp replacement and maintenance.
- Specular aluminum reflectors produce front cutoff at 85 degree and S/MH 2.75:1.

- Canopy sealed to back plate with extruded, high temperature, silicone gasket.
- Corrosion resistant stainless steel external hardware.
- 5/32" tempered diffused glass lens silicone sealed to prevent entrance of water, and minimize insect infiltration.
- Canopy secured by two captive stainless steel screws; optional tamper resistant screws.

LISTINGS

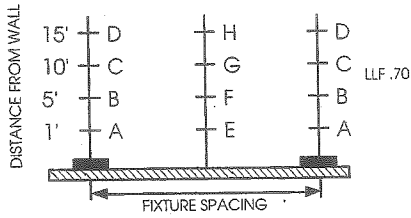
- Listed 1572 Wet location for downlight and damp location for uplight versions.

ELECTRICAL

- Standard ballasts are 120V, HPF, maximum 400W mogul base HID lamp in vertical position.
- Ballast mounted to backplate with stake-in screws for positive grounding and secure mounting.
- Ground wire attached to backplate for positive grounding and quick installation.
- Optional button type photocell mounts in top of housing.
- All fixtures are IBEW, Union made to ensure quality.

GUTH
LIGHTING

Photometrics



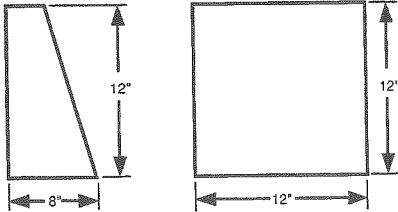
SND 12-100HP-1 Fixture Spacing 15'

	A	B	C	D	E	F	G	H
8'	7.4	10.3	4.5	1.1	13.0	12.4	4.9	1.4
MTG. 10'	6.4	7.9	5.6	2.0	10.7	11.3	6.6	2.3
HEIGHT 12'	5.8	6.4	5.9	2.7	8.4	9.5	7.3	3.2
14'	5.2	5.4	5.7	3.3	6.6	7.7	7.3	3.9

Fixture Spacing 35'

	A	B	C	D	E	F	G	H
8'	4.9	8.5	3.1	.5	1.5	1.4	.9	.4
MTG. 10'	3.3	4.9	3.7	1.0	2.0	2.0	1.2	.8
HEIGHT 12'	2.5	3.1	3.4	1.4	2.4	2.4	1.8	1.1
14'	2.0	2.1	2.9	1.7	2.6	2.5	2.2	1.3

Dimensions



NOTE: 4" minimum clearance from hinge side of fixture for canopy removal.

Sundowner™ 12 Catalog Numbers

CATALOG NUMBER	DESCRIPTION	TOTAL WATTS
SND12-50HP-1	Downlight Version, 50W HPS, 120V	66
SND12-70HP-1	Downlight Version, 70W HPS, 120V	88
SND12-100HP-1	Downlight Version, 100W HPS, 120V	138
SND12-150HP-1	Downlight Version, 150W HPS, 120V	188
SND12-70MH-1	Downlight Version, 70W MH, 120V	95
SND12-100MH-1	Downlight Version, 100W MH, 120V	125
SND12-150MH-1	Downlight Version, 150W MH, 120V	185
SND12-175MH-1	Downlight Version, 175W MH, 120V	215
SNU12-50HP-1	Uplight Version, 50W HPS, 120V	66
SNU12-70HP-1	Uplight Version, 70W HPS, 120V	88
SNU12-100HP-1	Uplight Version, 100W HPS, 120V	138
SNU12-150HP-1	Uplight Version, 150W HPS, 120V	188
SNU12-70MH-1	Uplight Version, 70W MH, 120V	95
SNU12-100MH-1	Uplight Version, 100W MH, 120V	125
SNU12-150MH-1	Uplight Version, 150W MH, 120V	185
SNU12-175MH-1	Uplight Version, 175W MH, 120V	215

Note: All include a Medium Base. 150 W MH units for use with (1) M 107 Venture Lamp only

Accessories

OPTIONS	ADD/CHANGE	EXAMPLE
Units listed for 120volt. For 277V	change last "1" to "2"	SND12-50HP-2
Tamper Resistant Screws	add "/TP"	SND12-50HP-1/TP
Button Photo-electric cell	add "/PEC"	SND12-50HP-1/PEC
Cast Aluminum Outlet Box	add "/CAB"	SND12-50HP-1/CAB
For lamps included	add "/L"	SND12-50HP-1/L
Fixture Fuse	add "/FF"	SND12-50HP-1/FF
Surface wiring collar	add "/OBC"	SND12-50HP-1/OBC
For Quartz Restrike 100 W Maximum	add "/ISL"	SDN 12-50HP-1/ISL

Specifications and data are subject to change without notice. Guth utilizes the services of both U.L. and ETL for listings.

GUTH
A DIVISION OF JJI LIGHTING GROUP, INC.

SEC. F1a

3/95

Energy Efficient Sign And Facade Lighting Offers Unsurpassed Uniformity

SIGNLITER

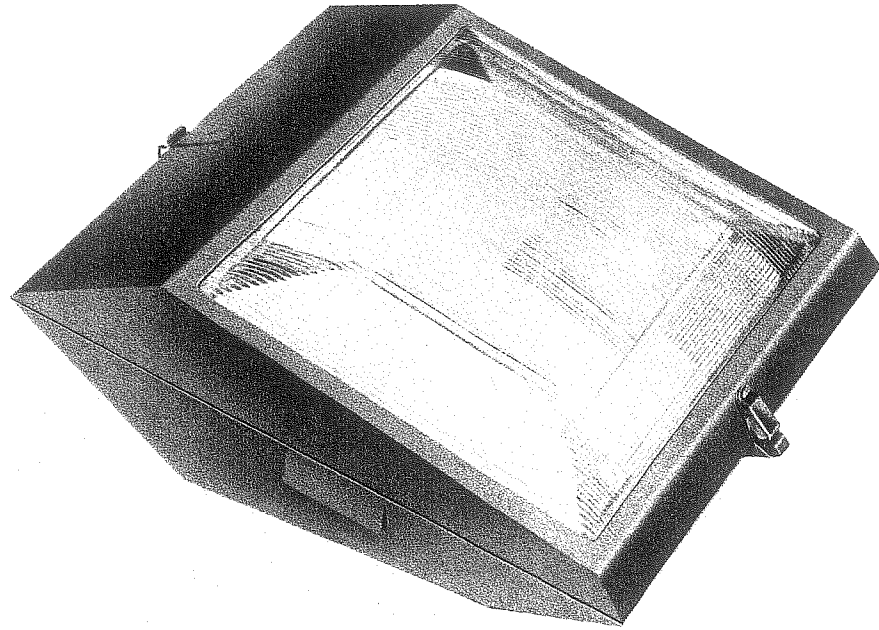
Designed for highway sign lighting, Signliter is now available for the balanced illumination of corporate identity signage systems, exterior building facades and any subject where pin-point control is desired.

Signliter features a computer-enhanced optic system that produces wide, efficient light control with a balanced foot candle distribution for uniform illumination.

Compared to quartz units, Signliter with coated or diffuse lamp eliminates harsh striations and hot spots. Furthermore, Signliter uses conventional H.I.D. lamps for longer lamp life and is capable for reducing energy consumption with better optical control from lower wattage sources.

Signliter features rugged construction. Fixture housing is two-piece cast aluminum construction with stainless steel hardware to withstand virtually any corrosive environment. The lens is of borosilicate glass to resist heat and thermal shock. Molded prismatic convex lens design interfaces with hydroformed Alzak aluminum reflector for extra wide light distribution.

Hinged door permits fast servicing and weep holes eliminate any condensation. Rugged unit is virtually vibration proof and is U.L. Listed, "Suitable for Wet Locations."

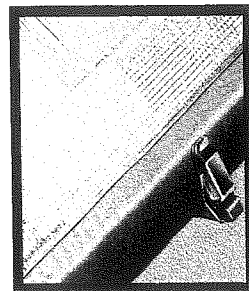


Computer designed semi-specular Alzak reflector delivers more brilliance and greater uniformity from conventional H.I.D. lamps. Alzak aluminum finishes won't pit or corrode for consistent performance.



Low, sleek profile is two-piece cast aluminum construction. Heavy-gauge wall thickness acts as heat sink for extra-cool operation and longer lamp and ballast life. Stainless steel hardware is of tamperproof design.

Signliter is weather proof with the lens hermetically sealed into door frame; with door frame neoprene gasketed to fixture body, and drawn tight with stainless steel trunk latches that positively fasten and seal the optical chamber from the exterior elements.



Borosilicate glass lens is extra-thick and features computer enhanced prismatic control for striation-free, extra-wide light distribution. Lens is resistant to heat and thermal shock.

Specifications/Features

GENERAL

- Low profile exterior wall wash H.I.D. unit.
- Fixed asymmetric light pattern confined to a vertical and horizontal based quarter sphere. Maximum intensity at 58° above horizontal.

CONSTRUCTION

- Two piece cast aluminum. (Baked Gray Powder Coat.)
- Lower section will have "stand-off" lugs for pad mounting, weep holes, and isolation of components during relamping.
- Ballast shall be "seated" to prevent movement during shipment or other vibrations, heat-sink for maximum cooling and secured by stainless steel hardware.

REFLECTOR

- Made of hydroformed Alzak aluminum.

LENS

- Borosilicate glass lens features computer enhanced prismatic controls for striation-free light distribution.

LISTINGS

- U.L. Listed, "Suitable for Wet Locations."

ELECTRICAL

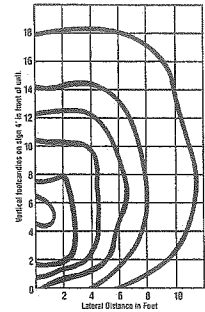
- Ballasts are CWA for a maximum of 250W with voltage as selected.
- All fixtures are IBEW, Union Made.

GÜTH
LIGHTING

Photometrics

Footcandles on Signage 2-B17632/120

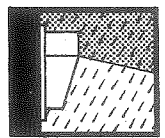
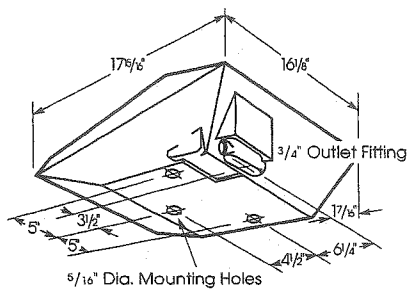
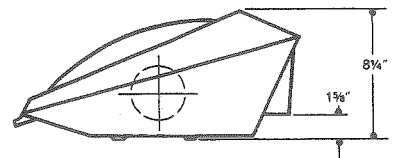
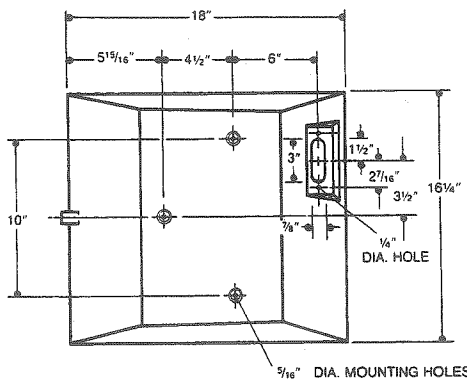
35	35	30	31	32	44	50	50	43	30	31	32	36	35	
45	49	43	44	45	59	62	57	60	57	43	44	45	51	47
52	65	56	56	59	76	70	53	68	74	56	56	59	67	54
46	73	67	65	69	83	67	48	63	82	67	65	69	74	50
36	75	78	72	78	88	58	50	54	85	78	72	78	78	40
36	68	84	68	82	82	53	55	52	77	84	68	82	73	37
43	54	69	61	64	61	54	48	53	60	69	61	64	55	44
42	63	56	59	56	71	54	37	51	68	56	59	56	66	45
30	56	65	61	65	65	41	33	38	61	65	61	65	60	33



ISOLUX CHART made by I.T.L. for the B17-632 Signlighter with 250 watt clear Mercury Vapor lamp. Readings are the vertical Foot Candles on the sign.

Total Lamp Lumens 10,700
Fixture Efficiency 42%

Dimensions



EXTERIOR BUILDING

H.I.D.

U.L. LISTED
WET LOCATIONS

OUTDOOR SIGN
WALL-WASH

CAST HOUSING

ALZAK REFLECTOR

PRISMATIC GLASS LENS

Signliter Catalog Numbers

Catalog Number	Description	Total Watts
B17630/120	100W MV, E-23-1/2 or BT28 Lamp Coated	100
B17631/120	175W MV, E28 or BT28 Lamp Coated	200
B17632/120	250W MV, E28 or BT28 Lamp Coated	285
B17633/120	175W MH, E28 or BT28 Lamp Coated	210
B17634/120	250W MH, E28 or BT28 Lamp Coated	294
B17635/120	70W HPS, E-23-1/2 or BT28 Diffused Lamps only	88
B17636/120	100W HPS, E-23-1/2 or BT28 Diffused Lamps only	130
B17637/120	150W HPS, E-23-1/2 or BT28 Diffused Lamps only	188
B17638/120	250W HPS, E18 Diffused Lamps only	300

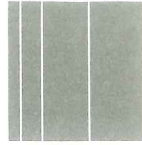
Options

Description	ADD/CHANGE	EXAMPLE
Units listed for 120V, for 277V, 208V, 240V, or 480V	change "/120" to "/277", "/208", "/240", or "/480"	B17630/277
Fixture Fuse	add "/FF"	B17630/120/FF
Lexan Shield w/Mounting Screws	add "/LS"	B17630/120/LS
Anti-glare Shield w/Mounting Screws	add "/GS"	B17630/120/GS
Signliter Fixture without Ballast	change "/120" to "/LB"	B17632/LB
Remote Weatherproof Ballast	Contact Guth Representative	

Specifications and data are subject to change without notice.



SEC. F7a



Sebago Technics

Engineering & Planning for the Future

Stormwater Runoff Evaluation Site Plan

**Aero Heating & Ventilating, Inc.
Portland, Maine**

prepared for

Crandall Realty, LLC

August 2000

STORMWATER RUNOFF EVALUATION/

Aero Heating & Ventilating, Inc. – Site Plan Portland, Maine

General

The following stormwater runoff evaluation has been prepared for Crandall Realty, LLC to evaluate stormwater runoff and erosion control for the proposed Aero Heating & Ventilating, Inc. in Portland, Maine. The project will be a 15,000 square foot building and light industrial development with an associated roadway utility infrastructure. The proposed site will encompass a land area of approximately 2.2 acres. Access to the site will be from a driveway off the westerly side of Presumpscot Street.

Site Characteristics

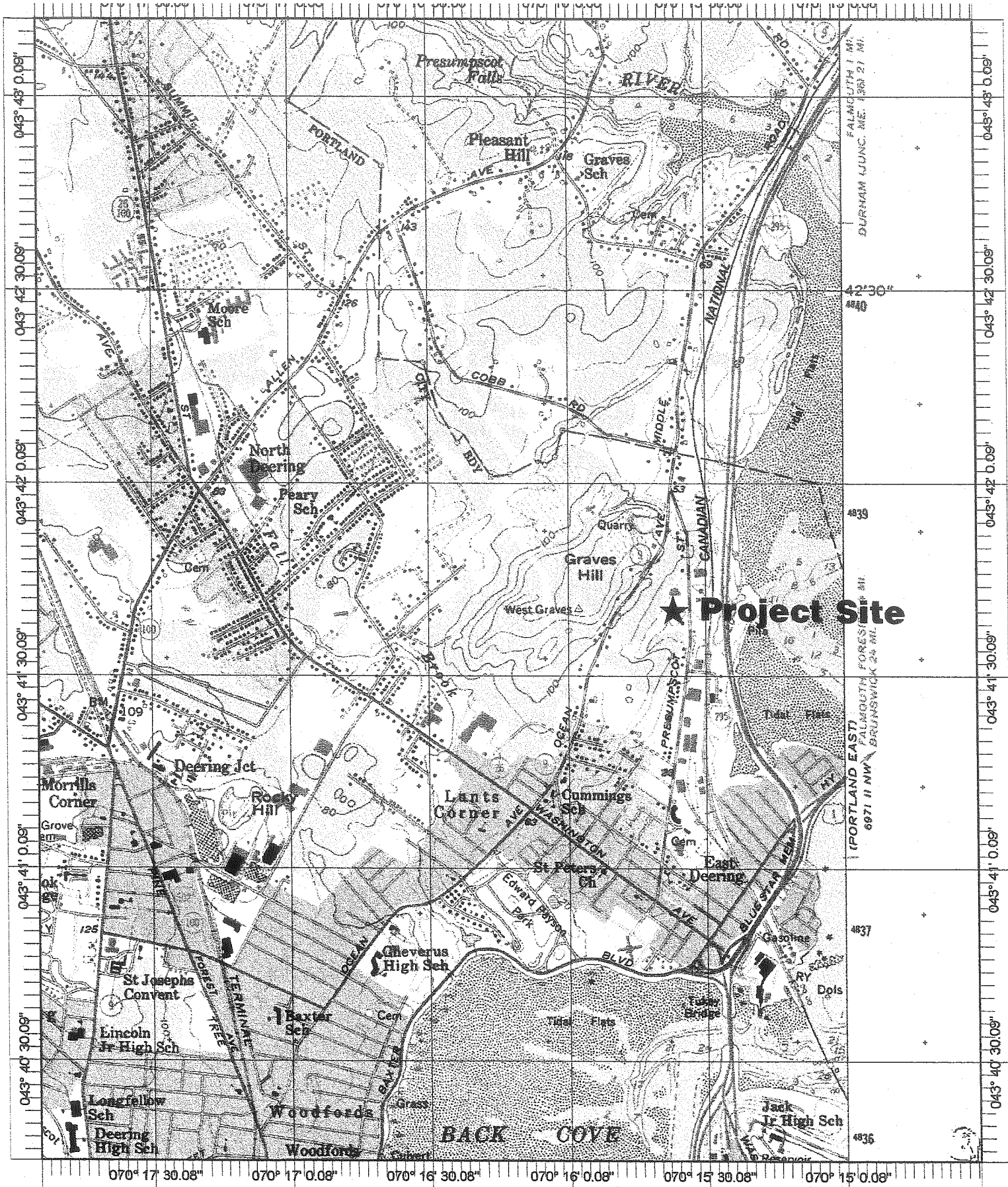
The project area is predominately an open gravel surfaced site with some areas of woods consisting of hardwood tree growth and some open brush/meadow areas near the southern side of the project site. The surrounding area includes residential house lots on a hillside above the site, along the western portion of the property. The remainder of abutters include developed industrial and commercial properties. Terrain in the development area varies from steep slopes at the westerly end to near level slopes at Presumpscot Street. The site drains in an easterly direction toward Presumpscot Street. A residential subdivision located on the steep hill west of the site is self contained and infiltrates stormwater or directs it toward the northerly end of the subdivision away from the proposed site. The current site drainage eventually enters the City's catch basin and ditch system and discharges into a stream east of the site which crosses Presumpscot Street and flows into the mouth of the Presumpscot River and Casco Bay.

The enclosed pre-development watershed map and USGS topographical map depict the general drainage characteristics and infrastructure in the project area.

Soils

Soil classifications within the project area were referenced from the Cumberland County Medium Intensity Soil Survey. The majority of the site is comprised of Hollis fine sandy loam soils and construction fill.

The Hollis soil series consists of dark brown, fine sandy loam. The soils are somewhat excessively drained and are generally shallow to bedrock. Permeability for the Hollis soil series is medium and the soil is noted for its limited water capacity. The soil is classified as a hydrologic Group "D". Some Paxton soils series are located on site along the southerly end of the site and are classified as "C" soils



Name: PORTLAND WEST
 Date: 8/2/100
 Scale: 1 inch equals 2000 feet

Location: 043° 41' 43.3" N 070° 16' 12.8" W
 Caption: Location Map
 Aero Heating_Ventilating Inc
 372 Presumpscot St.
 Portland ME

Medium Intensity Soil Survey



Stormwater Management

In order to evaluate drainage characteristics in pre and post-development conditions, a quantitative analysis was performed to determine peak rates of runoff for the 2, 10 and 25-year storm events. Runoff calculations were performed following the methodology outlined in the USDA Soil Conservation Service's "Urban Hydrology for Small Watersheds, Technical Release #55" and HydroCAD Stormwater Management Systems.

As described in the following, three subwatersheds were analyzed in the pre-development condition and six subwatersheds in the post-developed condition. Common discharge points were selected for both the pre and post-developed conditions. The two points chosen to study were the side of the property which drains into a common ditch with the abutter to the south, and the second was the storm drain and ditch collection system that the site contributes to along Presumpscot Street.

The pre-developed condition watersheds are described as follows:

WS-10 includes a portion of the site along the southern side of the property which drains to a common ditch with the abutter. The area is tall grass, brush, and some trees. The higher elevation of the site consists of brush among concrete and rock debris.

WS-20 comprises the middle of the site which drains toward the existing building of Aero Heating & Ventilating. Runoff is collected at the back of the building and then conveyed by a catch basin and piped by a 4" drain toward the Presumpscot Street ditch system. During large storms, the system overflows the parking lot to the south and enters the same ditch system by shallow flows.

WS-30 is the northeastern end of the site that flows from the steep hill/trees to the Presumpscot Street storm drain/catch basin system. Flows sheet across the proposed site which is "plateau" shaped. After sheeting across the first level, it then collects into a shallow flow where it is collected into a catch basin located on the northern side of the existing building. From the catch basin, it is conveyed by a 12" pipe into the Presumpscot Street catch basin/storm drain system. The City-owned system discharges by a 15" pipe into the same ditch mentioned above in WS-20.

In the developed condition, drainage patterns are maintained in the same direction. However, more of the proposed site is directed away from the Presumpscot Street drain system and graded such that it will go through a long, slender detention pond and discharge to the ditch system. The six subwatersheds are as follows:

WS-10 – A small sliver of land consisting of grass and brush which drains to the common ditch system and eventually empties into the Presumpscot Street ditch.

WS-20 consists of the proposed southern half of the proposed building and southern side access lane around the building. Flows travel from the hill to the west into a ditch system and culvert around the paved area, and enter the storm drain system from the north side. The combined flows enter the proposed detention pond within the shared drainage easement.

WS-21 comprises the central portion of the site which collects runoff from the hillside and the proposed building. The proposed building sheets roof water to the rear. The combined flows are directed by a ditch behind the rear parking area to a storm drain/catch basin system which conveys runoff to the front of the lot and eventually to the detention pond.

WS-22 consists of half of the existing building and gravel parking area to the south inclusive of the detention pond. Flows consist of sheet flow over the lot and roof. Due to the reshaping of the lot, the existing catch basin will not collect as much runoff as it did previously, and runoff will travel along the parking lot shoulder to the street ditch.

WS-30 is the portion of the site inclusive of the proposed front and northerly parking area. Flows are directed by sheet flow and curbing to enter catch basins that direct runoff toward the detention pond system.

WS-31 is the remainder of the existing lot which drains easterly into the street's storm drain. The proposed access drive will collect runoff by curbing and catch basins and convey drainage into the existing drain system. The surface of this area is mostly impervious, sloping easterly toward the street. The new catch basins and existing structures will be connected together by pipe and send runoff toward the ditch system below where the pond system will discharge.

Stormwater Runoff Summary					
Watershed	Area (Acres)	Wgt'd Cn	2-Year Peak Runoff (cfs)	10-Year Peak Runoff (cfs)	25-year Peak Runoff (cfs)
Pre-Development					
10	.50	72	0.31	0.83	1.10
20	1.58	87	2.31	4.31	5.25
30	1.20	88	1.85	3.38	4.11
			2-Year Peak Discharge	10-Year Peak Discharge	25-Year Peak Discharge
(Reach 10) Discharge @ Combined Ditch			0.31	0.83	1.10
(Reach 100) Discharge at Street Ditch			4.21	7.70	9.38
Total Site Discharge			4.52	8.53	10.48

Stormwater Runoff Summary					
Watershed	Area (Acres)	Wgt'd Cn	2-Year Peak Runoff (cfs)	10-Year Peak Runoff (cfs)	25-year Peak Runoff (cfs)
Post-Development					
10	0.10	72	0.08	0.20	0.26
20	0.67	89	1.26	2.27	2.74
21	0.66	85	1.05	2.02	2.49
22	0.65	86	1.22	2.33	2.85
30	0.64	97	1.81	2.89	3.39
31	0.56	94	1.22	2.02	2.39
			2-Year Peak Discharge	10-Year Peak Discharge	25-Year Peak Discharge
(Reach 10) Discharge @ Combined Ditch			0.08	0.20	0.26
(Reach 100) Discharge at Street Ditch			3.88	6.80	9.09
Total Site Discharge			3.96	7.00	9.35
Net Change and % Decrease of Peak Rate Above Pre-Developed Condition			-0.56 cfs/ 12%	-1.53 cfs/ 18%	-1.13 cfs/ 11%

Stormwater runoff modeling suggests that the peak rates of runoff in the developed condition will be slightly below the pre-developed runoff rate as noted in the table above. The overall decrease of the site's peak discharge runoff rate, as noted, was approximately 11%, or 1.13 cfs in a 25-year storm; 18%, or 1.53 cfs in a 10-year storm; and 12%, or 0.56 cfs in a 2-year storm. The construction of a detention pond and catch basin collection system enables the applicant to meet the necessary quantity standards per City requirements. Additionally, these design features will provide adequate measures for allowing sediment to settle prior to reaching the City's Presumpscot Street storm drain and catch basin drainage systems. Reshaping of the lot, rerouting drainage, and detaining have provided means to reduce the site's impact on the drainage facilities located in Presumpscot Street. The drainage will outlet to the same point it does currently. To further promote erosion control along Presumpscot Street, we have designed a level lip spreader to reduce discharge velocities and discourage scouring and erosion prior to entering an existing stabilized ditch.

Detention Pond Summary					
Pond	Spillway Elev.	Top of Berm Elev.	Peak Discharge/Peak Elevation		
			2-Year	10-Year	25-Year
230	43.5	44.5	2.01 cfs/42.2	4.16 cfs/43.3	5.06 cfs/43.5

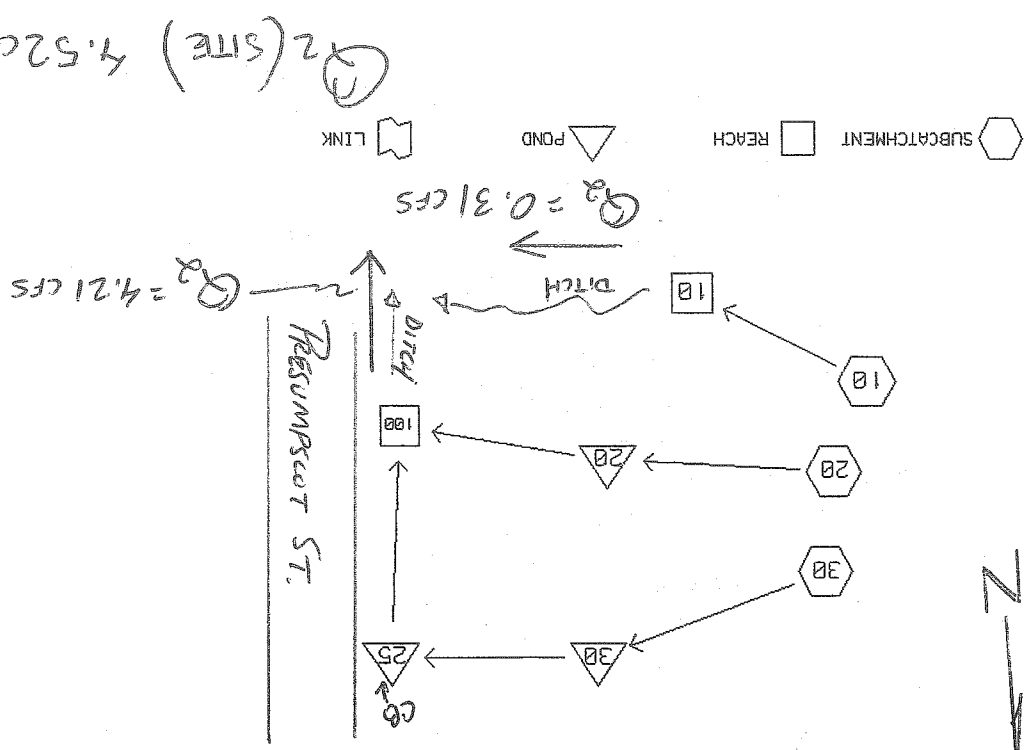
The Stormwater Management Plan for the site plan also includes an Erosion and Sedimentation Control Plan which places emphasis on the installation of sedimentation barriers and revegetation to minimize erosion potential from development activities during and after construction. The Erosion Control Plan has been placed directly on the design plans to include locations of erosion control provisions (i.e., silt fence, hay bale barriers, riprap aprons, embankment), along with a narrative and construction details for reference by the contractor during construction. In an effort to emphasize the requirements, a pre-construction meeting will be required as indicated in the erosion control notes between the owner, City and engineer to review critical aspects and sequencing of construction activities. The erosion control measures are to be monitored throughout construction by the contractor, with maintenance and repairs performed on a regular basis as directed by the erosion control plan.

Summary

The preceding stormwater runoff evaluation has been prepared to evaluate pre and post-development conditions of the proposed Aero Heating & Ventilating site plan project located off Presumpscot Street in Portland. The analysis reviewed pre and post-development watersheds and compared peak rates of runoff at common discharge points to assess stormwater infrastructure needs. The roadway drainage infrastructure near the proposed intersection of the site's entrance and Presumpscot Street would be designed to assist drainage by collection to culverts and field catch basins. The discharge would be directed southerly to the existing City ditch system and outlet into the adjacent stream. The site's drainage system would allow for collection of runoff and decrease the discharge to the ditch outletting along Presumpscot Street by a minimum of 11%, and simultaneously increase the capacity of the storm drain and catch basin system in all the design storm events. Based upon the analysis and review of the site, we make the following recommendations:

1. Implementation of a site specific erosion and sedimentation control plan placing emphasis on times of disturbance and, during construction, installation of appropriate erosion control measures and revegetation of the site and project completion. A specific erosion control plan with notation has been placed directly on the subdivision plans along with supporting details. These measures should be followed by the selected contractor throughout project construction.
2. A pre-construction meeting should be held between the owner, contractor and City representative to review scheduling and critical components of the stormwater management and erosion control plan. The contractor should provide the owner and City with a construction schedule outlining the sequence of events.
3. The applicant is not required to apply for a Stormwater Permit under MDEP Chapter 500 rules because the site has not created over one acre of new non-vegetated surface, such as paving or gravel surface. The site plan also does not exceed 25 spaces and, therefore, does not require stormwater treatment under the City's site plan standards. However, all construction methods shall conform with the DEP's Best Management Practices for erosion control methods during soil disturbance from construction activities and shall maintain permanent measures which promote erosion and sedimentation control.

WATERSHED ROUTING 2 yr Pre



Q2 (SITE) 4.52 CFS

Data for Aero Heating-Presumpscot St.PORT.ME exist cond

TYPE III 24-HOUR RAINFALL= 3.00 IN

Prepared by sebago technics

27 Jul 00

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RUNOFF BY SCS TR-20 METHOD: TYPE III 24-HOUR RAINFALL= 3.00 IN, SCS U.H.

RUNOFF SPAN = 10-20 HRS, dt= .10 HRS, 101 POINTS

SUBCAT NUMBER	AREA (ACRE)	Tc (MIN)	--GROUND COVERS (%CN)--				WGT'D CN	C	PEAK (CFS)	Tpeak (HRS)	VOL (AF)
10	.50	14.9	36%73	64%71		72	-	.31	12.20	.03	
20	1.58	15.9	32%80	7%98	8%77	53%91	87	-	2.31	12.18	.21
30	1.20	15.2	23%77	10%84	56%91	12%98	88	-	1.85	12.17	.17

Data for Aero Heating-Presumpscot St.PORT.ME exist cond

TYPE III 24-HOUR RAINFALL= 3.00 IN

Prepared by sebago technics

27 Jul 00

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REACH ROUTING BY STOR-IND+TRANS METHOD

REACH NO.	DIAM (IN)	BOTTOM WIDTH (FT)	DEPTH (FT)	SIDE SLOPES (FT/FT)	n	LENGTH (FT)	SLOPE (FT/FT)	PEAK VEL. (FPS)	TRAVEL TIME (MIN)	PEAK Qout (CFS)
10	-	-	-	-	-	-	-	0.0	0.0	.31 N
100	-	-	-	-	-	-	-	0.0	0.0	4.21 N

Data for Aero Heating-Presumpscot St.PORT.ME exist cond
 TYPE III 24-HOUR RAINFALL= 3.00 IN

Prepared by sebago technics

27 Jul 00

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POND ROUTING BY STOR-IND METHOD

POND NO.	START ELEV. (FT)	FLOOD ELEV. (FT)	PEAK ELEV. (FT)	PEAK STORAGE (AF)	PEAK FLOW				---Qout---	
					Qin (CFS)	Qout (CFS)	Qpri (CFS)	Qsec (CFS)	ATTEN. (%)	LAG (MIN)
20	39.2	41.8	41.8	0.00	2.31	2.36			0	.3
25	34.6	40.5	35.3	0.00	1.85	1.86			0	.1
30	37.5	41.1	38.2	0.00	1.85	1.85			0	.1

Data for Aero Heating-Presumpscot St.PORT.ME exist cond
 TYPE III 24-HOUR RAINFALL= 3.00 IN

Prepared by sebago technics

27 Jul 00

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SUBCATCHMENT 10 Southwestern sideline

PEAK= .31 CFS @ 12.20 HRS, VOLUME= .03 AF

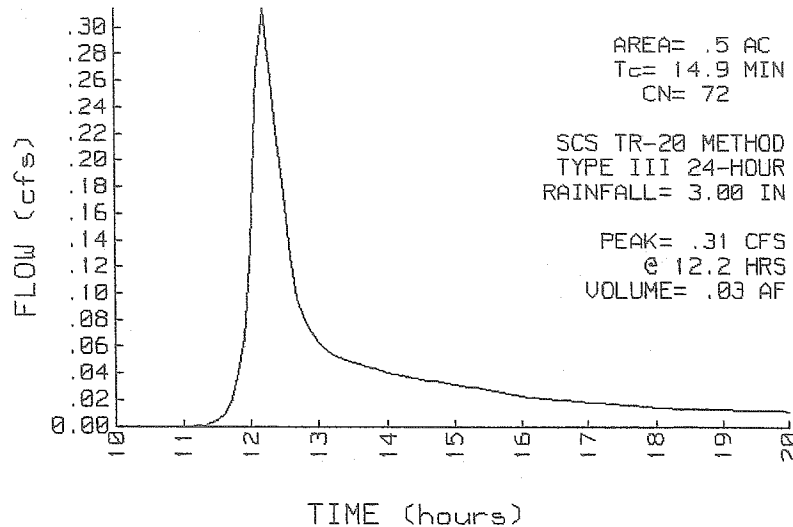
ACRES	CN
.18	73
.32	71
.50	72

brush grass good D-soil
 meadow good C-soil

SCS TR-20 METHOD
 TYPE III 24-HOUR
 RAINFALL= 3.00 IN
 SPAN= 10-20 HRS, dt=.1 HRS

Method	Comment	Tc (min)
TR-55 SHEET FLOW	sheet hill flow	6.8
Grass: Dense n=.24 L=100' P2=3 in s=.14 '/'		
TR-55 SHEET FLOW	sheet (level) flow	7.2
Grass: Dense n=.24 L=50' P2=3 in s=.03 '/'		
SHALLOW CONCENTRATED/UPLAND FLOW	shallow flow	.9
Grassed Waterway Kv=15 L=145' s=.033 '/' V=2.72 fps		
Total Length= 295 ft		Total Tc= 14.9

SUBCATCHMENT 10 RUNOFF
 Southwestern sideline



Data for Aero Heating-Presumpscot St.PORT.ME exist cond
 TYPE III 24-HOUR RAINFALL= 3.00 IN

Prepared by sebage technics

27 Jul 00

HydroCAD 5.01 000643 (c) 1986-1998 Applied Microcomputer Systems

SUBCATCHMENT 20 Southern half lot to Street

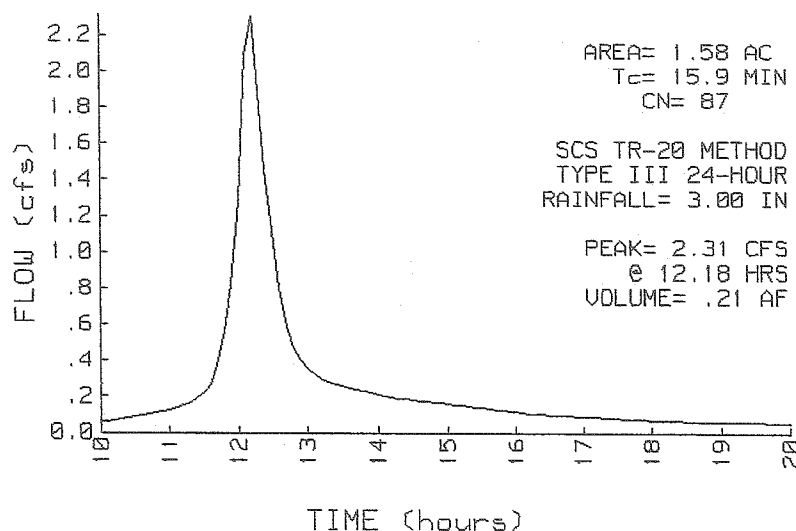
PEAK= 2.31 CFS @ 12.18 HRS, VOLUME= .21 AF

ACRES	CN		SCS TR-20 METHOD
.50	80	Grass good D-soil	TYPE III 24-HOUR
.11	98	impervious	RAINFALL= 3.00 IN
.13	77	woods good D-soil	SPAN= 10-20 HRS; dt=.1 HRS
.84	91	gravel surface	
1.58	87		

Method	Comment	Tc (min)
TR-55 SHEET FLOW	hill sheet flow	8.5
Woods: Light underbrush n=.4 L=80' P2=3 in s=.14 '/'		
TR-55 SHEET FLOW	gravel lot sheet flow	6.4
Grass: Short n=.15 L=80' P2=3 in s=.04 '/'		
SHALLOW CONCENTRATED/UPLAND FLOW	shallow flow	.8
Unpaved Kv=16.1345 L=165' s=.05 '/' V=3.61 fps		
CHANNEL FLOW	gravel access rd channel flow	.2
a=.5 sq-ft Pw=2' r=.25'		
s=.06 '/' n=.015 V=9.63 fps L=100' Capacity=4.8 cfs		

Total Length= 425 ft Total Tc= 15.9

SUBCATCHMENT 20 RUNOFF
 Southern half lot to Street



Data for Aero Heating-Presumpscot St.PORT.ME exist cond
 TYPE III 24-HOUR RAINFALL= 3.00 IN

Prepared by sebage technics

27 Jul 00

HydroCAD 5.01 000643 (c) 1986-1998 Applied Microcomputer Systems

SUBCATCHMENT 30

Northern half to Street

PEAK= 1.85 CFS @ 12.17 HRS, VOLUME= .17 AF

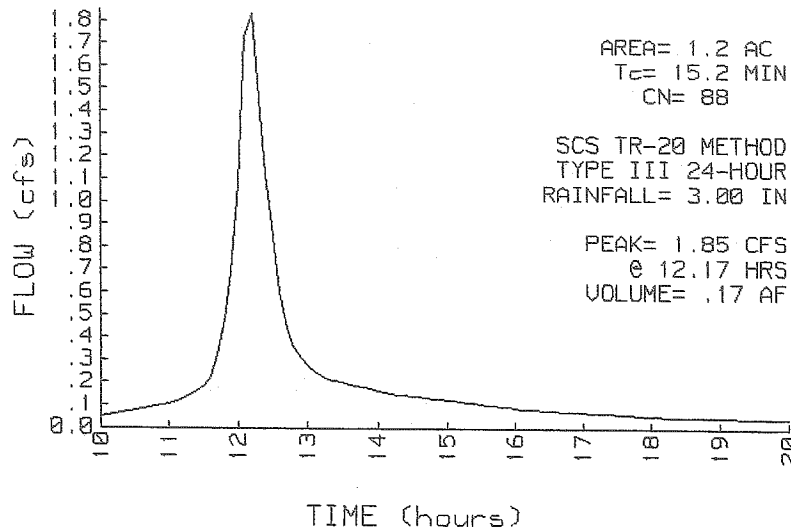
ACRES	CN	
.27	77	woods good D-soil
.12	84	grass fair D-soil
.67	91	gravel
.14	98	imperviuos
1.20	88	

SCS TR-20 METHOD
 TYPE III 24-HOUR
 RAINFALL= 3.00 IN
 SPAN= 10-20 HRS, dt=.1 HRS

Method	Comment	Tc (min)
TR-55 SHEET FLOW	hill sheet flow	9.9
Woods: Light underbrush n=.4 L=100' P2=3 in s=.15 '/'		
TR-55 SHEET FLOW	sheet flow	4.3
Grass: Short n=.15 L=55' P2=3 in s=.05 '/'		
SHALLOW CONCENTRATED/UPLAND FLOW	shallow flow	1.0
Paved Kv=20.3282 L=260' s=.042 '/' V=4.17 fps		

Total Length= 415 ft Total Tc= 15.2

SUBCATCHMENT 30 RUNOFF
 Northern half to Street



Data for Aero Heating-Presumpscot St.PORT.ME exist cond
TYPE III 24-HOUR RAINFALL= 3.00 IN

Prepared by sebago technics

27 Jul 00

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REACH 10

Not described

Qin = .31 CFS @ 12.20 HRS, VOLUME= .03 AF

Qout= .31 CFS @ 12.20 HRS, VOLUME= .03 AF, ATTEN= 0%, LAG= 0.0 MIN

DEPTH (FT)	END AREA (SQ-FT)	DISCH (CFS)
---------------	---------------------	----------------

- METHOD

PEAK DEPTH= 0.00 FT

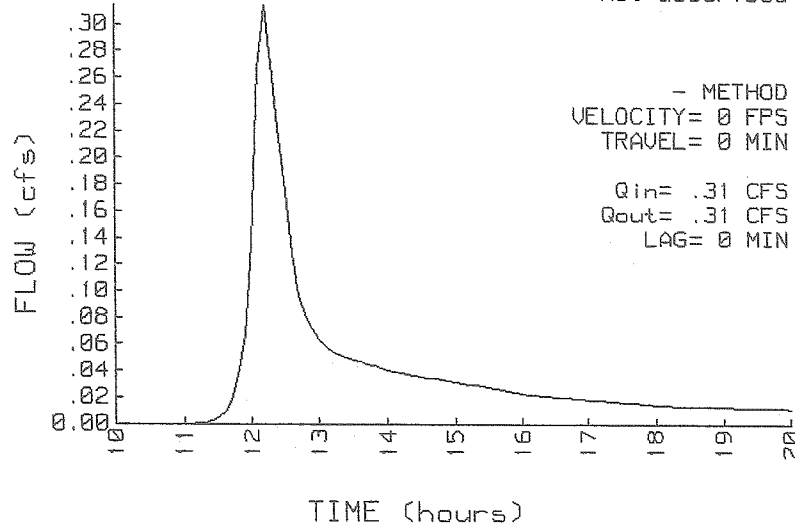
PEAK VELOCITY= 0.0 FPS

TRAVEL TIME = 0.0 MIN

SPAN= 10-20 HRS, dt=.1 HRS

REACH 10 INFLOW & OUTFLOW

Not described



Data for Aero Heating-Presumpscot St.PORT.ME exist cond

TYPE III 24-HOUR RAINFALL= 3.00 IN

Prepared by sebago technics

27 Jul 00

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REACH 100

Not described

Qin = 4.21 CFS @ 12.18 HRS, VOLUME= .38 AF

Qout= 4.21 CFS @ 12.18 HRS, VOLUME= .38 AF, ATTEN= 0%, LAG= 0.0 MIN

DEPTH END AREA DISCH
(FT) (SQ-FT) (CFS)

- METHOD

PEAK DEPTH= 0.00 FT

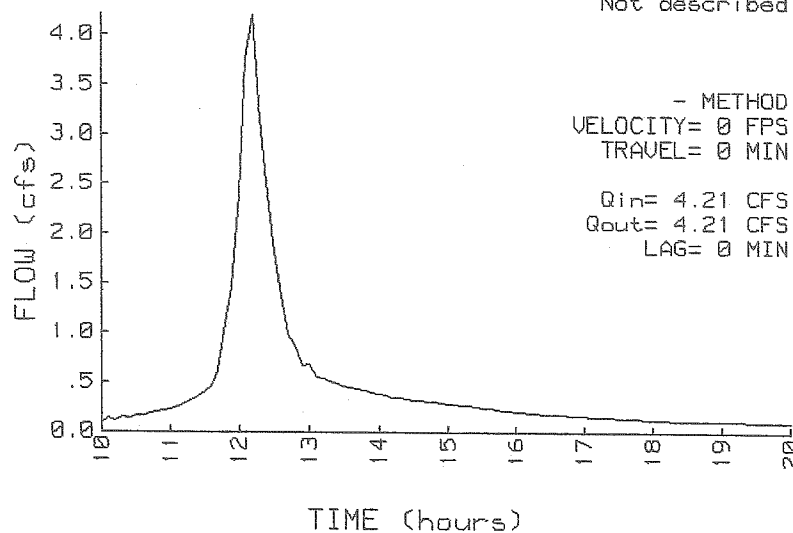
PEAK VELOCITY= 0.0 FPS

TRAVEL TIME = 0.0 MIN

SPAN= 10-20 HRS, dt=.1 HRS

REACH 100 INFLOW & OUTFLOW

Not described



Data for Aero Heating-Presumpscot St.PORT.ME exist cond
 TYPE III 24-HOUR RAINFALL= 3.00 IN

Prepared by sebage technics

27 Jul 00

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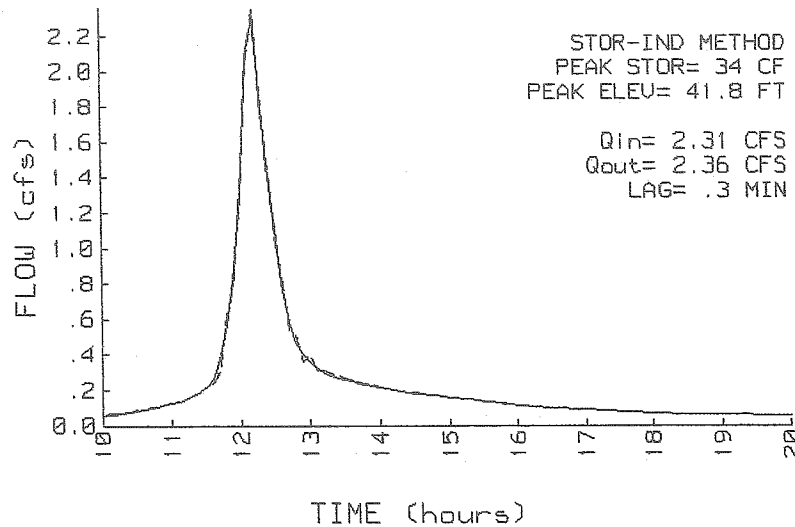
POND 20 rear bldg CB

Qin = 2.31 CFS @ 12.18 HRS, VOLUME= .21 AF
 Qout= 2.36 CFS @ 12.19 HRS, VOLUME= .21 AF, ATTEN= 0%, LAG= .3 MIN

ELEVATION (FT)	AREA (SF)	INC.STOR (CF)	CUM.STOR (CF)	STOR-IND METHOD
39.2	13	0	0	PEAK STORAGE = 34 CF
41.7	13	31	31	PEAK ELEVATION= 41.8 FT
41.8	40	3	34	FLOOD ELEVATION= 41.8 FT
				START ELEVATION= 39.2 FT
				SPAN= 10-20 HRS, dt=.1 HRS
				Tdet= .5 MIN (.21 AF)

#	ROUTE	INVERT	OUTLET DEVICES
1	P	39.2'	4" CULVERT n=.011 L=195' S=.01'/' Ke=.5 Cc=.9 Cd=.6
2	P	41.7'	20' BROAD-CRESTED RECTANGULAR WEIR X 1.81 Q=C L H^1.5 C=1.58, 1.62, 1.72, 0, 0, 0, 0

POND 20 INFLOW & OUTFLOW
 rear bldg CB



Data for Aero Heating-Presumpscot St.PORT.ME exist cond
 TYPE III 24-HOUR RAINFALL= 3.00 IN

Prepared by sebage technics

27 Jul 00

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POND 25 roadside CB

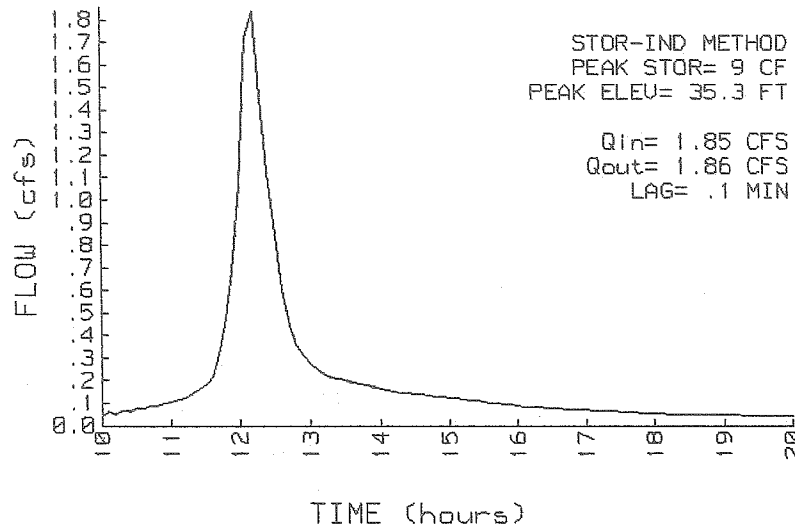
Qin = 1.85 CFS @ 12.17 HRS, VOLUME= .17 AF
 Qout= 1.86 CFS @ 12.17 HRS, VOLUME= .17 AF, ATTEN= 0%, LAG= .1 MIN

ELEVATION (FT)	AREA (SF)	INC.STOR (CF)	CUM.STOR (CF)
34.6	13	0	0
40.5	13	74	74

STOR-IND METHOD
 PEAK STORAGE = 9 CF
 PEAK ELEVATION= 35.3 FT
 FLOOD ELEVATION= 40.5 FT
 START ELEVATION= 34.6 FT
 SPAN= 10-20 HRS, dt=.1 HRS
 Tdet= .2 MIN (.16 AF)

#	ROUTE	INVERT	OUTLET DEVICES
1	P	34.6'	15" CULVERT n=.02 L=155' S=.016'/' Ke=.5 Cc=.9 Cd=.6

POND 25 INFLOW & OUTFLOW
 roadside CB



Data for Aero Heating-Presumpscot St.PORT.ME exist cond
TYPE III 24-HOUR RAINFALL= 3.00 IN

Prepared by sebago technics

27 Jul 00

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POND 30 gravel area CB

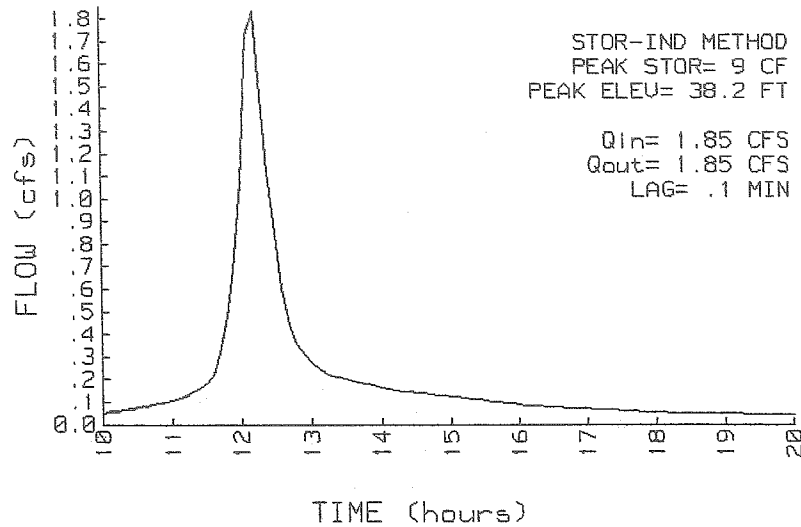
Qin = 1.85 CFS @ 12.17 HRS, VOLUME= .17 AF
Qout= 1.85 CFS @ 12.17 HRS, VOLUME= .17 AF, ATTEN= 0%, LAG= .1 MIN

ELEVATION (FT)	AREA (SF)	INC.STOR (CF)	CUM.STOR (CF)
37.5	13	0	0
41.0	13	44	44

STOR-IND METHOD
PEAK STORAGE = 9 CF
PEAK ELEVATION= 38.2 FT
FLOOD ELEVATION= 41.1 FT
START ELEVATION= 37.5 FT
SPAN= 10-20 HRS, dt=.1 HRS
Tdet= .2 MIN (.17 AF)

#	ROUTE	INVERT	OUTLET DEVICES
1	P	37.5'	12" CULVERT n=.012 L=100' S=.014'/' Ke=.5 Cc=.9 Cd=.6

POND 30 INFLOW & OUTFLOW
gravel area CB



Data for Aero Heating-Presumpscot St. PORT.ME exist cond
TYPE III 24-HOUR RAINFALL= 4.70 IN

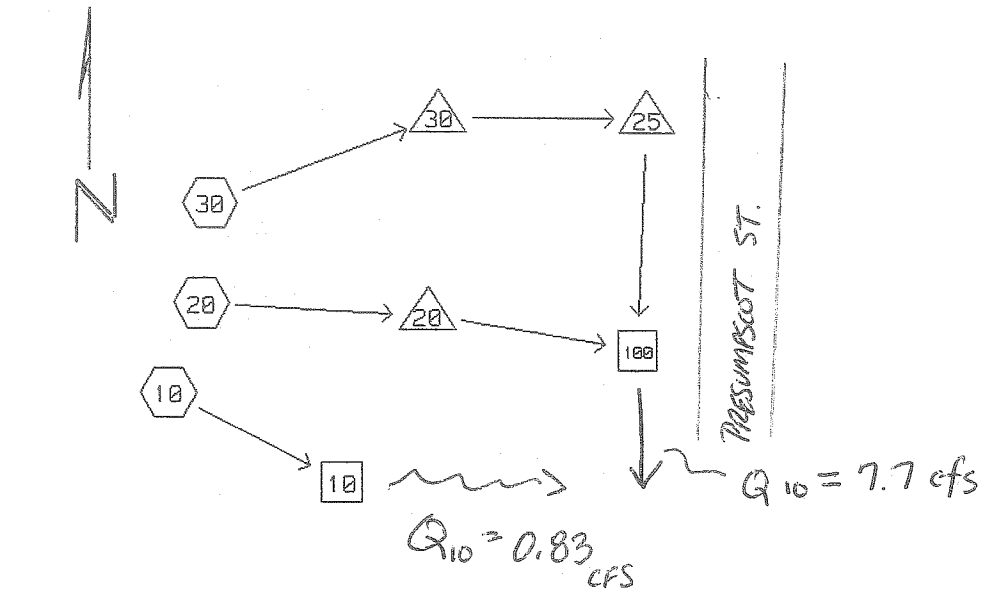
Prepared by sebage technics

27 Jul 00

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WATERSHED ROUTING

10 yr PRE



Hexagon SUBCATCHMENT Square REACH Triangle POND Link LINK

$$Q_{10}(\text{SITE}) = 8.53 \text{ cfs}$$

Data for Aero Heating-Presumpscot St.PORT.ME exist cond
TYPE III 24-HOUR RAINFALL= 4.70 IN

Prepared by sebage technics

27 Jul 00

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RUNOFF BY SCS TR-20 METHOD: TYPE III 24-HOUR RAINFALL= 4.70 IN, SCS U.H.

RUNOFF SPAN = 10-20 HRS, dt= .10 HRS, 101 POINTS

SUBCAT NUMBER	AREA (ACRE)	Tc (MIN)	--GROUND COVERS (%CN)--	WGT'D CN	C	PEAK (CFS)	Tpeak (HRS)	VOL (AF)
10	.50	14.9	36%73 64%71	72	-	.83	12.18	.08
20	1.58	15.9	32%80 7%98 8%77 53%91	87	-	4.31	12.18	.39
30	1.20	15.2	23%77 10%84 56%91 12%98	88	-	3.38	12.16	.30

Data for Aero Heating-Presumpscot St.PORT.ME exist cond

TYPE III 24-HOUR RAINFALL= 4.70 IN

Prepared by sebago technics

27 Jul 00

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REACH ROUTING BY STOR-IND+TRANS METHOD

REACH NO.	DIAM (IN)	BOTTOM WIDTH (FT)	DEPTH (FT)	SIDE SLOPES (FT/FT)	n	LENGTH (FT)	SLOPE (FT/FT)	PEAK VEL. (FPS)	TRAVEL TIME (MIN)	PEAK Qout (CFS)
10	-	-	-	-	-	-	-	0.0	0.0	.83 N
100	-	-	-	-	-	-	-	0.0	0.0	7.70 N

Data for Aero Heating-Presumpscot St.PORT.ME exist cond
TYPE III 24-HOUR RAINFALL= 4.70 IN

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POND ROUTING BY STOR-IND METHOD

POND NO.	START ELEV. (FT)	FLOOD ELEV. (FT)	PEAK ELEV. (FT)	PEAK STORAGE (AF)	----- PEAK FLOW -----				---Qout---	
					Qin (CFS)	Qout (CFS)	Qpri (CFS)	Qsec (CFS)	ATTEN. (%)	LAG (MIN)
20	39.2	41.8	41.9	0.00	4.31	4.30			0	0.0
25	34.6	40.5	35.6	0.00	3.39	3.40			0	.1
30	37.5	41.1	38.8	0.00	3.38	3.39			0	.2

Data for Aero Heating-Presumpscot St.PORT.ME exist cond
 TYPE III 24-HOUR RAINFALL= 4.70 IN

Prepared by sebage technics

27 Jul 00

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SUBCATCHMENT 20

Southern half lot to Street

PEAK= 4.31 CFS @ 12.18 HRS, VOLUME= .39 AF

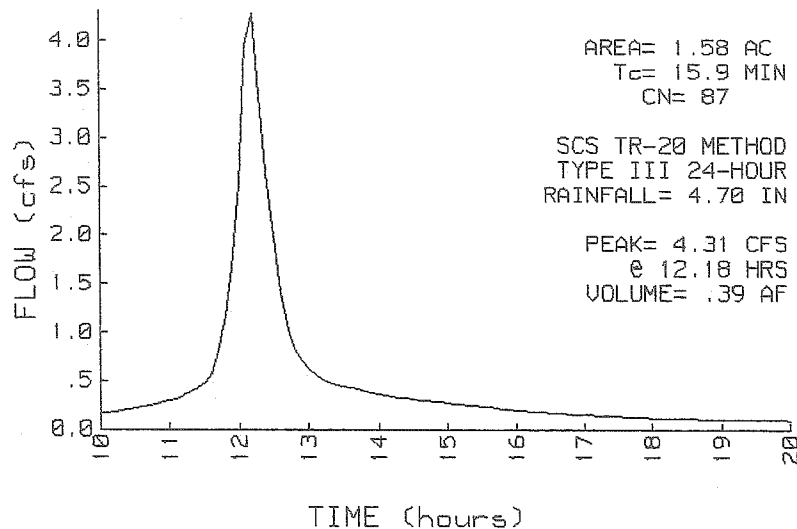
ACRES	CN
.50	80
.11	98
.13	77
.84	91
1.58	87

Grass good D-soil
 impervious
 woods good D-soil
 gravel surface

SCS TR-20 METHOD
 TYPE III 24-HOUR
 RAINFALL= 4.70 IN
 SPAN= 10-20 HRS, dt=.1 HRS

Method	Comment	Tc (min)
TR-55 SHEET FLOW	hill sheet flow	8.5
Woods: Light underbrush n=.4 L=80' P2=3 in s=.14 '/'		
TR-55 SHEET FLOW	gravel lot sheet flow	6.4
Grass: Short n=.15 L=80' P2=3 in s=.04 '/'		
SHALLOW CONCENTRATED/UPLAND FLOW	shallow flow	.8
Unpaved Kv=16.1345 L=165' s=.05 '/' V=3.61 fps		
CHANNEL FLOW	gravel access rd channel flow	.2
a=.5 sq-ft Pw=2' r=.25'		
s=.06 '/' n=.015 V=9.63 fps L=100' Capacity=4.8 cfs		
Total Length= 425 ft		Total Tc= 15.9

SUBCATCHMENT 20 RUNOFF
 Southern half lot to Street



Data for Aero Heating-Presumpscot St.PORT.ME exist cond
 TYPE III 24-HOUR RAINFALL= 4.70 IN

Prepared by sebagotechnics

27 Jul 00

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SUBCATCHMENT 30

Northern half to Street

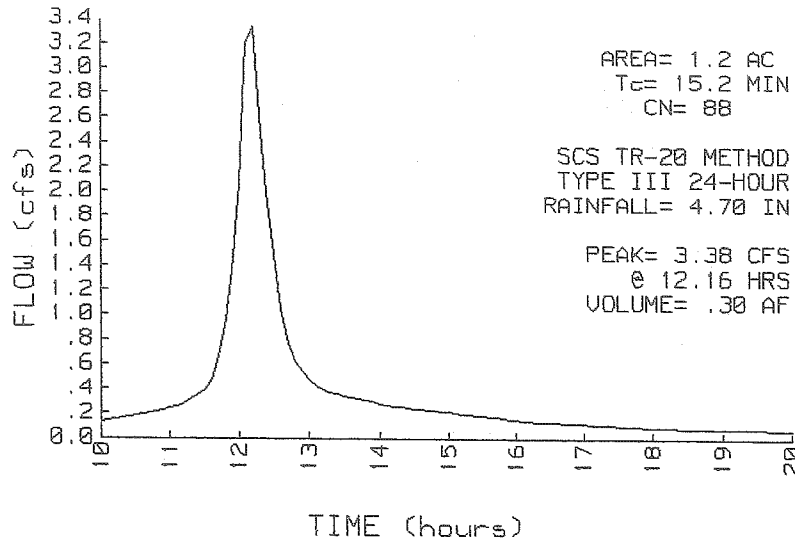
PEAK= 3.38 CFS @ 12.16 HRS, VOLUME= .30 AF

ACRES	CN	
.27	77	woods good D-soil
.12	84	grass fair D-soil
.67	91	gravel
.14	98	imperviuos
1.20	88	

SCS TR-20 METHOD
 TYPE III 24-HOUR
 RAINFALL= 4.70 IN
 SPAN= 10-20 HRS, dt=.1 HRS

Method	Comment	Tc (min)
TR-55 SHEET FLOW	hill sheet flow	9.9
Woods: Light underbrush	n=.4 L=100' P2=3 in s=.15 '/'	
TR-55 SHEET FLOW	sheet flow	4.3
Grass: Short	n=.15 L=55' P2=3 in s=.05 '/'	
SHALLOW CONCENTRATED/UPLAND FLOW	shallow flow	1.0
Paved	Kv=20.3282 L=260' s=.042 '/' V=4.17 fps	
Total Length= 415 ft		Total Tc= 15.2

SUBCATCHMENT 30 RUNOFF
 Northern half to Street



Data for Aero Heating-Presumpscot St.PORT.ME exist cond
TYPE III 24-HOUR RAINFALL= 4.70 IN

Prepared by sebage technics

27 Jul 00

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REACH 10

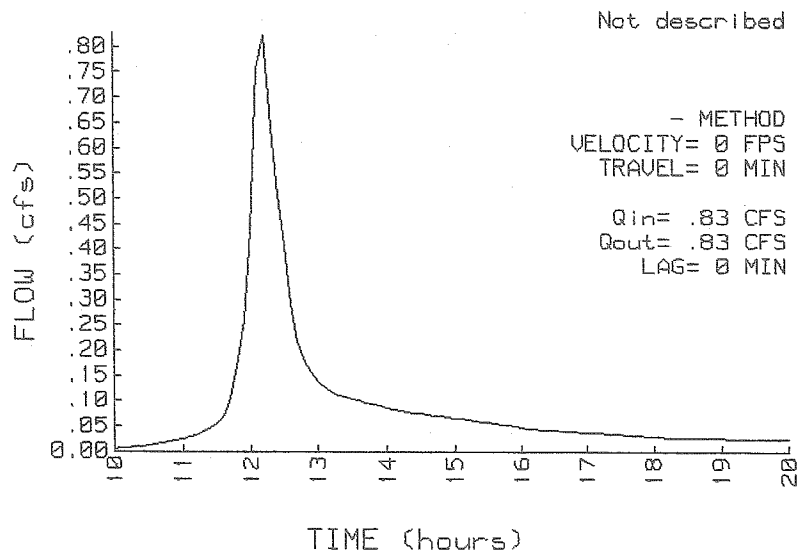
Not described

Qin = .83 CFS @ 12.18 HRS, VOLUME= .08 AF
Qout= .83 CFS @ 12.18 HRS, VOLUME= .08 AF, ATTEN= 0%, LAG= 0.0 MIN

DEPTH END AREA DISCH
(FT) (SQ-FT) (CFS)

- METHOD
PEAK DEPTH= 0.00 FT
PEAK VELOCITY= 0.0 FPS
TRAVEL TIME = 0.0 MIN
SPAN= 10-20 HRS, dt=.1 HRS

REACH 10 INFLOW & OUTFLOW



Data for Aero Heating-Presumpscot St.PORT.ME exist cond
TYPE III 24-HOUR RAINFALL= 4.70 IN

Prepared by sebage technics

27 Jul 00

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REACH 100

Not described

Qin = 7.70 CFS @ 12.17 HRS, VOLUME= .69 AF

Qout= 7.70 CFS @ 12.17 HRS, VOLUME= .69 AF, ATTEN= 0%, LAG= 0.0 MIN

DEPTH (FT)	END AREA (SQ-FT)	DISCH (CFS)
---------------	---------------------	----------------

- METHOD

PEAK DEPTH= 0.00 FT

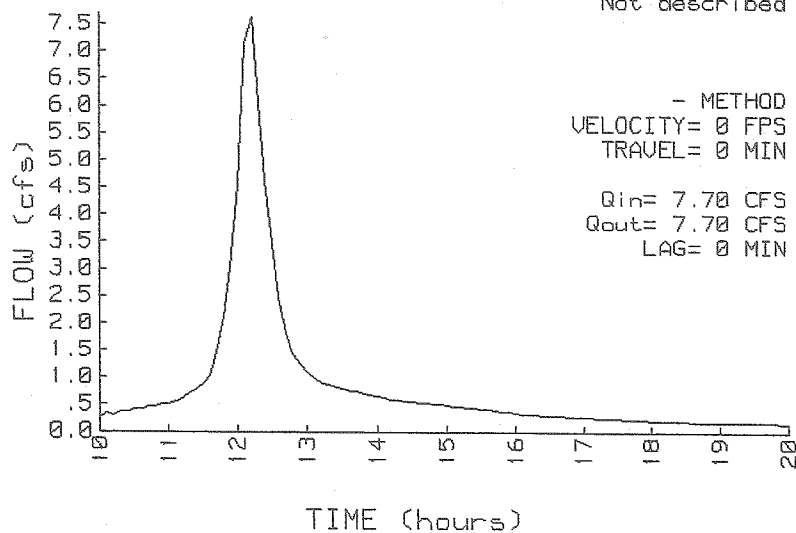
PEAK VELOCITY= 0.0 FPS

TRAVEL TIME = 0.0 MIN

SPAN= 10-20 HRS, dt=.1 HRS

REACH 100 INFLOW & OUTFLOW

Not described



Data for Aero Heating-Presumpscot St.PORT.ME exist cond
 TYPE III 24-HOUR RAINFALL= 4.70 IN

Prepared by sebago technics

27 Jul 00

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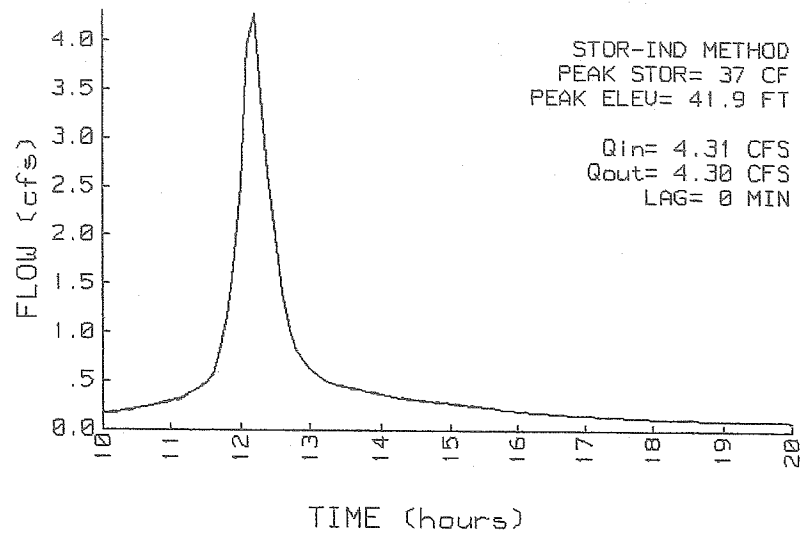
POND 20 rear bldg CB

Qin = 4.31 CFS @ 12.18 HRS, VOLUME= .39 AF
 Qout= 4.30 CFS @ 12.18 HRS, VOLUME= .39 AF, ATTEN= 0%, LAG= 0.0 MIN

ELEVATION (FT)	AREA (SF)	INC.STOR (CF)	CUM.STOR (CF)	STOR-IND METHOD
39.2	13	0	0	PEAK STORAGE = 37 CF
41.7	13	31	31	PEAK ELEVATION= 41.9 FT
41.8	40	3	34	FLOOD ELEVATION= 41.8 FT
				START ELEVATION= 39.2 FT
				SPAN= 10-20 HRS, dt=.1 HRS
				Tdet= .6 MIN (.39 AF)

#	ROUTE	INVERT	OUTLET DEVICES
1	P	39.2'	4" CULVERT n=.011 L=195' S=.01'/' Ke=.5 Cc=.9 Cd=.6
2	P	41.7'	20' BROAD-CRESTED RECTANGULAR WEIR X 1.81 Q=C L H^1.5 C=1.58, 1.62, 1.72, 0, 0, 0, 0, 0

POND 20 INFLOW & OUTFLOW
 rear bldg CB



Data for Aero Heating-Presumpscot St.PORT.ME exist cond
 TYPE III 24-HOUR RAINFALL= 4.70 IN

Prepared by sebage technics

27 Jul 00

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POND 25 roadside CB

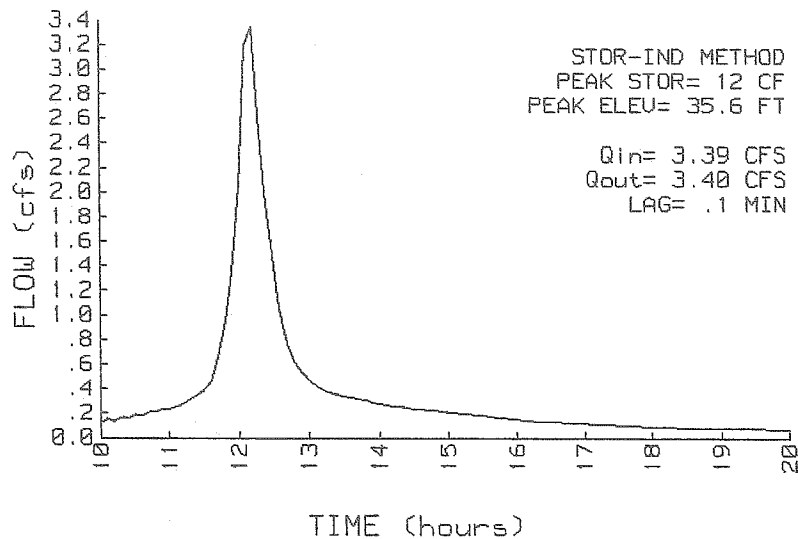
Qin = 3.39 CFS @ 12.17 HRS, VOLUME= .30 AF
 Qout= 3.40 CFS @ 12.17 HRS, VOLUME= .30 AF, ATTEN= 0%, LAG= .1 MIN

ELEVATION (FT)	AREA (SF)	INC.STOR (CF)	CUM.STOR (CF)
34.6	13	0	0
40.5	13	74	74

STOR-IND METHOD
 PEAK STORAGE = 12 CF
 PEAK ELEVATION= 35.6 FT
 FLOOD ELEVATION= 40.5 FT
 START ELEVATION= 34.6 FT
 SPAN= 10-20 HRS, dt=.1 HRS
 Tdet= .1 MIN (.3 AF)

#	ROUTE	INVERT	OUTLET DEVICES
1	P	34.6'	15" CULVERT n=.02 L=155' S=.016'/' Ke=.5 Cc=.9 Cd=.6

POND 25 INFLOW & OUTFLOW
 roadside CB



Data for Aero Heating-Presumpscot St.PORT.ME exist cond
 TYPE III 24-HOUR RAINFALL= 4.70 IN

Prepared by sebage technics

27 Jul 00

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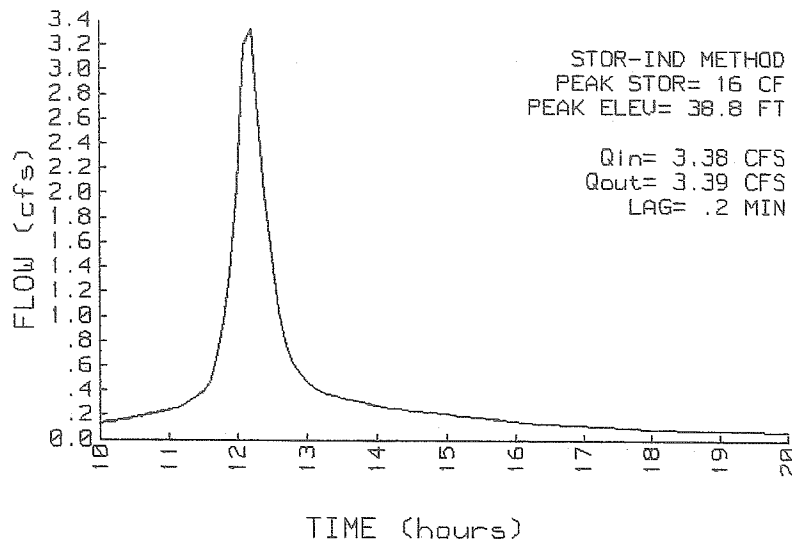
POND 30 gravel area CB

Qin = 3.38 CFS @ 12.16 HRS, VOLUME= .30 AF
 Qout= 3.39 CFS @ 12.17 HRS, VOLUME= .30 AF, ATTEN= 0%, LAG= .2 MIN

ELEVATION (FT)	AREA (SF)	INC.STOR (CF)	CUM.STOR (CF)	STOR-IND METHOD
37.5	13	0	0	PEAK STORAGE = 16 CF
41.0	13	44	44	PEAK ELEVATION= 38.8 FT
				FLOOD ELEVATION= 41.1 FT
				START ELEVATION= 37.5 FT
				SPAN= 10-20 HRS, dt=.1 HRS
				Tdet= .1 MIN (.3 AF)

#	ROUTE	INVERT	OUTLET DEVICES
1	P	37.5'	12" CULVERT n=.012 L=100' S=.014'/' Ke=.5 Cc=.9 Cd=.6

POND 30 INFLOW & OUTFLOW
 gravel area CB



Data for Aero Heating-Presumpscot St. PORT. ME exist cond
TYPE III 24-HOUR RAINFALL= 5.50 IN

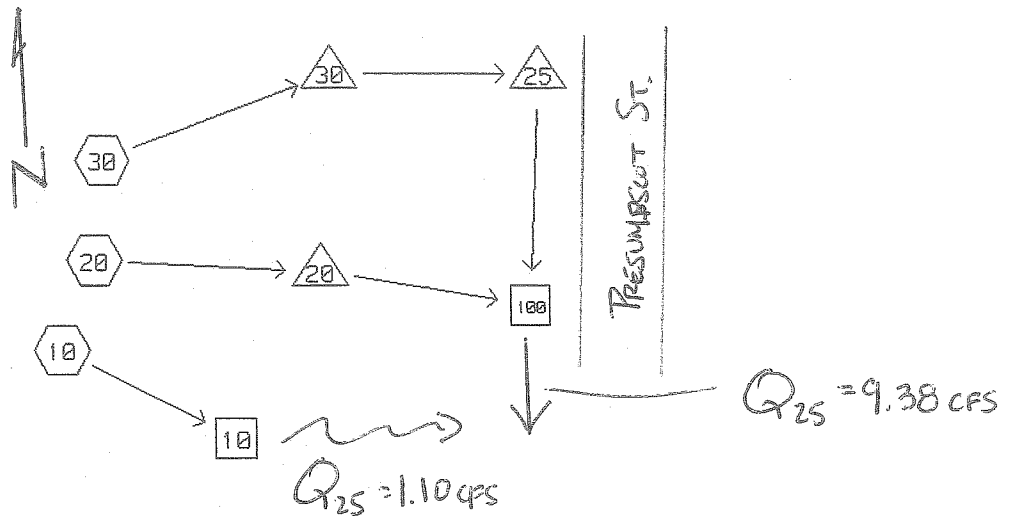
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25 PRE

WATERSHED ROUTING



$$Q_{25}(\text{SITE}) = \underline{\underline{10.48 \text{ cfs}}}$$

Data for Aero Heating-Presumpscot St.PORT.ME exist cond

TYPE III 24-HOUR RAINFALL= 5.50 IN

Prepared by sebage technics

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RUNOFF BY SCS TR-20 METHOD: TYPE III 24-HOUR RAINFALL= 5.50 IN, SCS U.H.

RUNOFF SPAN = 10-20 HRS, dt= .10 HRS, 101 POINTS

SUBCAT NUMBER	AREA (ACRE)	Tc (MIN)	--GROUND COVERS (%CN)--				WGT'D CN	C	PEAK (CFS)	Tpeak (HRS)	VOL (AF)
10	.50	14.9	36%73	64%71		72	-	1.10	12.18	.10	
20	1.58	15.9	32%80	7%98	8%77	53%91	87	-	5.25	12.17	.47
30	1.20	15.2	23%77	10%84	56%91	12%98	88	-	4.11	12.16	.37

Data for Aero Heating-Presumpscot St.PORT.ME exist cond
TYPE III 24-HOUR RAINFALL= 5.50 IN

Prepared by sebago technics

27 Jul 00

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REACH ROUTING BY STOR-IND+TRANS METHOD

REACH NO.	DIAM (IN)	BOTTOM WIDTH (FT)	DEPTH (FT)	SIDE SLOPES (FT/FT)	n	LENGTH (FT)	SLOPE (FT/FT)	PEAK VEL. (FPS)	TRAVEL TIME (MIN)	PEAK Qout (CFS)
10	-	-	-	-	-	-	-	0.0	0.0	1.10 N
100	-	-	-	-	-	-	-	0.0	0.0	9.38 N

Data for Aero Heating-Presumpscot St.PORT.ME exist cond

TYPE III 24-HOUR RAINFALL= 5.50 IN

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POND ROUTING BY STOR-IND METHOD

POND NO.	START ELEV. (FT)	FLOOD ELEV. (FT)	PEAK ELEV. (FT)	PEAK STORAGE (AF)	----- PEAK FLOW -----				---Qout---	
					Qin (CFS)	Qout (CFS)	Qpri (CFS)	Qsec (CFS)	ATTEN. (%)	LAG (MIN)
20	39.2	41.8	42.0	0.00	5.25	5.26			0	.1
25	34.6	40.5	35.7	0.00	4.12	4.12			0	.1
30	37.5	41.1	39.2	0.00	4.11	4.12			0	.2

Data for Aero Heating-Presumpscot St.PORT.ME exist cond

TYPE III 24-HOUR RAINFALL= 5.50 IN

Prepared by sebago technics

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SUBCATCHMENT 10 Southwestern sideline

PEAK= 1.10 CFS @ 12.18 HRS, VOLUME= .10 AF

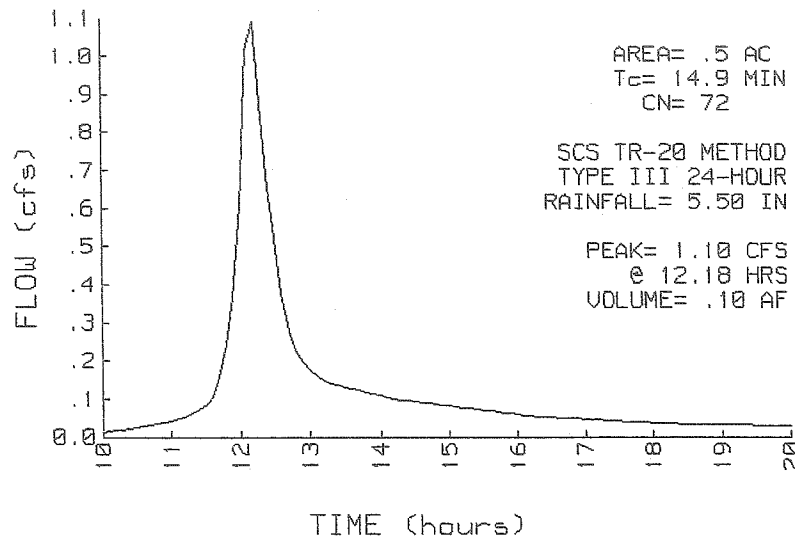
ACRES	CN
.18	73
.32	71
.50	72

brush grass good D-soil
meadow good C-soil

SCS TR-20 METHOD
TYPE III 24-HOUR
RAINFALL= 5.50 IN
SPAN= 10-20 HRS, dt=.1 HRS

Method	Comment	Tc (min)
TR-55 SHEET FLOW	sheet hill flow	6.8
Grass: Dense n=.24 L=100' P2=3 in s=.14 '/'		
TR-55 SHEET FLOW	sheet (level) flow	7.2
Grass: Dense n=.24 L=50' P2=3 in s=.03 '/'		
SHALLOW CONCENTRATED/UPLAND FLOW	shallow flow	.9
Grassed Waterway Kv=15 L=145' s=.033 '/' V=2.72 fps		
Total Length= 295 ft		Total Tc= 14.9

SUBCATCHMENT 10 RUNOFF
Southwestern sideline



Data for Aero Heating-Presumpscot St.PORT.ME exist cond
 TYPE III 24-HOUR RAINFALL= 5.50 IN

Prepared by sebage technics

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SUBCATCHMENT 20 Southern half lot to Street

PEAK= 5.25 CFS @ 12.17 HRS, VOLUME= .47 AF

ACRES	CN
.50	80
.11	98
.13	77
.84	91
1.58	87

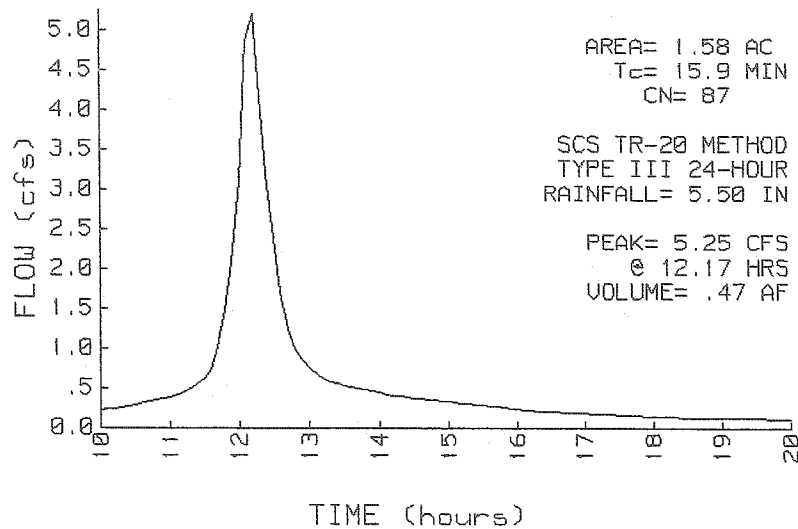
Grass good D-soil
 impervious
 woods good D-soil
 gravel surface

SCS TR-20 METHOD
 TYPE III 24-HOUR
 RAINFALL= 5.50 IN
 SPAN= 10-20 HRS, dt=.1 HRS

Method	Comment	Tc (min)
TR-55 SHEET FLOW	hill sheet flow	8.5
Woods: Light underbrush n=.4 L=80' P2=3 in s=.14 '/'		
TR-55 SHEET FLOW	gravel lot sheet flow	6.4
Grass: Short n=.15 L=80' P2=3 in s=.04 '/'		
SHALLOW CONCENTRATED/UPLAND FLOW	shallow flow	.8
Unpaved Kv=16.1345 L=165' s=.05 '/' V=3.61 fps		
CHANNEL FLOW	gravel access rd channel flow	.2
a=.5 sq-ft Pw=2' r=.25'		
s=.06 '/' n=.015 V=9.63 fps L=100' Capacity=4.8 cfs		

Total Length= 425 ft Total Tc= 15.9

SUBCATCHMENT 20 RUNOFF
 Southern half lot to Street



Data for Aero Heating-Presumpscot St.PORT.ME exist cond

TYPE III 24-HOUR RAINFALL= 5.50 IN

Prepared by sebago technics

27 Jul 00

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SUBCATCHMENT 30

Northern half to Street

PEAK= 4.11 CFS @ 12.16 HRS, VOLUME= .37 AF

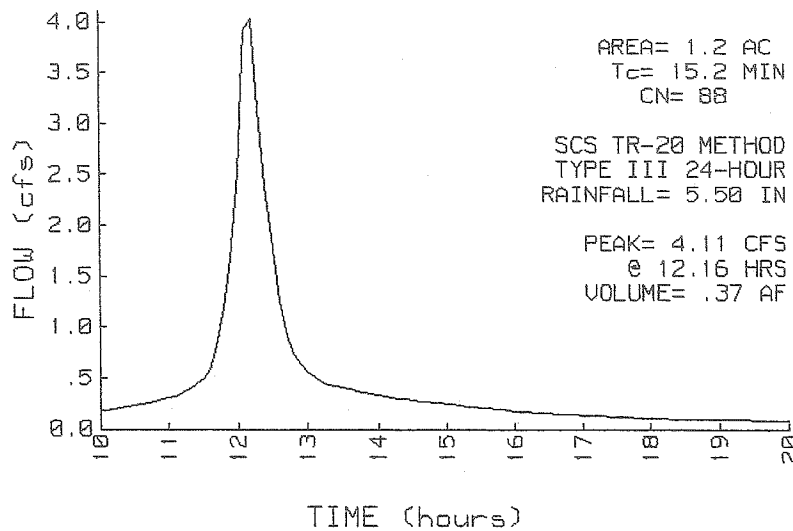
ACRES	CN
.27	77
.12	84
.67	91
.14	98
1.20	88

woods good D-soil
grass fair D-soil
gravel
imperviuos

SCS TR-20 METHOD
TYPE III 24-HOUR
RAINFALL= 5.50 IN
SPAN= 10-20 HRS, dt=.1 HRS

Method	Comment	Tc (min)
TR-55 SHEET FLOW	hill sheet flow	9.9
Woods: Light underbrush n=.4 L=100' P2=3 in s=.15 '/'		
TR-55 SHEET FLOW	sheet flow	4.3
Grass: Short n=.15 L=55' P2=3 in s=.05 '/'		
SHALLOW CONCENTRATED/UPLAND FLOW	shallow flow	1.0
Paved Kv=20.3282 L=260' s=.042 '/' V=4.17 fps		
Total Length= 415 ft		Total Tc= 15.2

SUBCATCHMENT 30 RUNOFF
Northern half to Street



Data for Aero Heating-Presumpscot St.PORT.ME exist cond

TYPE III 24-HOUR RAINFALL= 5.50 IN

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27 Jul 00

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REACH 10

Not described

Qin = 1.10 CFS @ 12.18 HRS, VOLUME= .10 AF

Qout= 1.10 CFS @ 12.18 HRS, VOLUME= .10 AF, ATTEN= 0%, LAG= 0.0 MIN

DEPTH END AREA DISCH
(FT) (SQ-FT) (CFS)

- METHOD

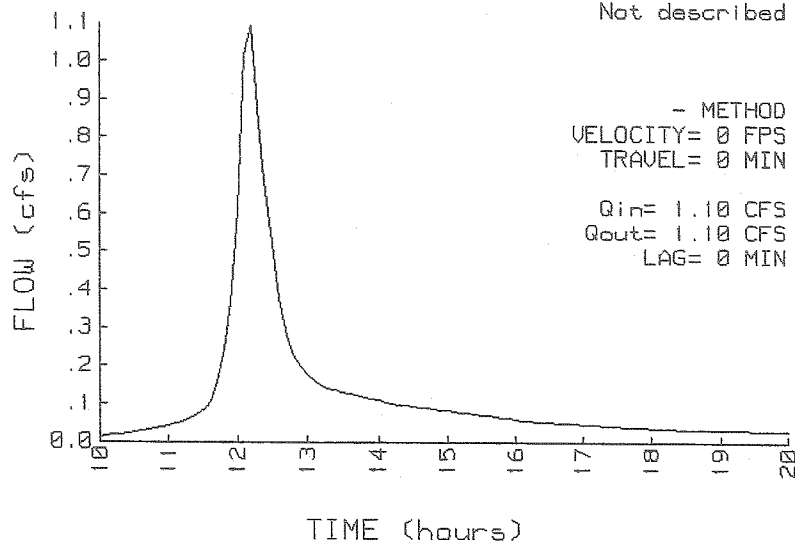
PEAK DEPTH= 0.00 FT

PEAK VELOCITY= 0.0 FPS

TRAVEL TIME = 0.0 MIN

SPAN= 10-20 HRS, dt=.1 HRS

REACH 10 INFLOW & OUTFLOW



Data for Aero Heating-Presumpscot St.PORT.ME exist cond
TYPE III 24-HOUR RAINFALL= 5.50 IN

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27 Jul 00

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REACH 100

Not described

Qin = 9.38 CFS @ 12.17 HRS, VOLUME= .84 AF

Qout= 9.38 CFS @ 12.17 HRS, VOLUME= .84 AF, ATTEN= 0%, LAG= 0.0 MIN

DEPTH END AREA DISCH
(FT) (SQ-FT) (CFS)

- METHOD

PEAK DEPTH= 0.00 FT

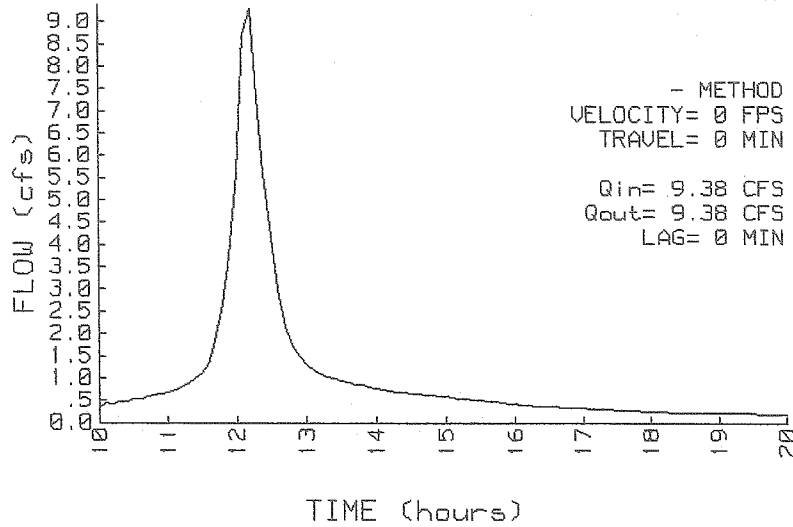
PEAK VELOCITY= 0.0 FPS

TRAVEL TIME = 0.0 MIN

SPAN= 10-20 HRS, dt=.1 HRS

REACH 100 INFLOW & OUTFLOW

Not described



Data for Aero Heating-Presumpscot St.PORT.ME exist cond

TYPE III 24-HOUR RAINFALL= 5.50 IN

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POND 20

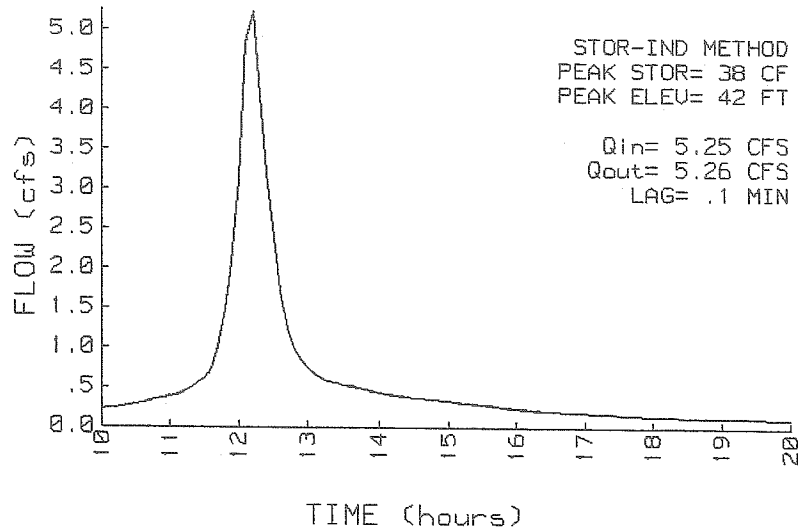
rear bldg CB

Qin = 5.25 CFS @ 12.17 HRS, VOLUME= .47 AF
 Qout= 5.26 CFS @ 12.18 HRS, VOLUME= .47 AF, ATTEN= 0%, LAG= .1 MIN

ELEVATION (FT)	AREA (SF)	INC.STOR (CF)	CUM.STOR (CF)	STOR-IND METHOD
39.2	13	0	0	PEAK STORAGE = 38 CF
41.7	13	31	31	PEAK ELEVATION= 42.0 FT
41.8	40	3	34	FLOOD ELEVATION= 41.8 FT
				START ELEVATION= 39.2 FT
				SPAN= 10-20 HRS, dt=.1 HRS
				Tdet= .5 MIN (.47 AF)

#	ROUTE	INVERT	OUTLET DEVICES
1	P	39.2'	4" CULVERT n=.011 L=195' S=.01'/' Ke=.5 Cc=.9 Cd=.6
2	P	41.7'	20' BROAD-CRESTED RECTANGULAR WEIR X 1.81 Q=C L H^1.5 C=1.58, 1.62, 1.72, 0, 0, 0, 0, 0

POND 20 INFLOW & OUTFLOW
rear bldg CB



Data for Aero Heating-Presumpscot St.PORT.ME exist cond

TYPE III 24-HOUR RAINFALL= 5.50 IN

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POND 25

roadside CB

Qin = 4.12 CFS @ 12.17 HRS, VOLUME= .37 AF

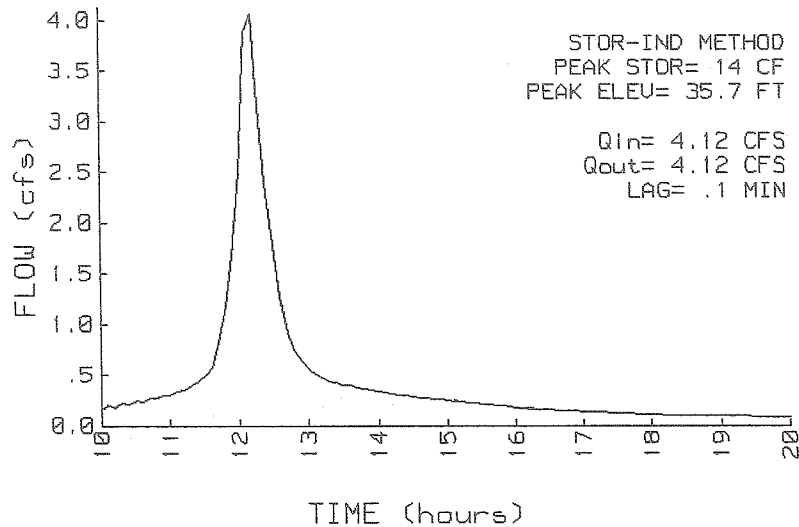
Qout= 4.12 CFS @ 12.17 HRS, VOLUME= .37 AF, ATTEN= 0%, LAG= .1 MIN

ELEVATION (FT)	AREA (SF)	INC.STOR (CF)	CUM.STOR (CF)
34.6	13	0	0
40.5	13	74	74

STOR-IND METHOD
PEAK STORAGE = 14 CF
PEAK ELEVATION= 35.7 FT
FLOOD ELEVATION= 40.5 FT
START ELEVATION= 34.6 FT
SPAN= 10-20 HRS, dt=.1 HRS
Tdet= .1 MIN (.36 AF)

#	ROUTE	INVERT	OUTLET DEVICES
1	P	34.6'	15" CULVERT n=.02 L=155' S=.016'/' Ke=.5 Cc=.9 Cd=.6

POND 25 INFLOW & OUTFLOW
roadside CB



Data for Aero Heating-Presumpscot St.PORT.ME exist cond

TYPE III 24-HOUR RAINFALL= 5.50 IN

Prepared by seabago technics

27 Jul 00

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POND 30

gravel area CB

Qin = 4.11 CFS @ 12.16 HRS, VOLUME= .37 AF

Qout= 4.12 CFS @ 12.17 HRS, VOLUME= .37 AF, ATTEN= 0%, LAG= .2 MIN

ELEVATION (FT)	AREA (SF)	INC.STOR (CF)	CUM.STOR (CF)
37.5	13	0	0
41.0	13	44	44

STOR-IND METHOD

PEAK STORAGE = 21 CF

PEAK ELEVATION= 39.2 FT

FLOOD ELEVATION= 41.1 FT

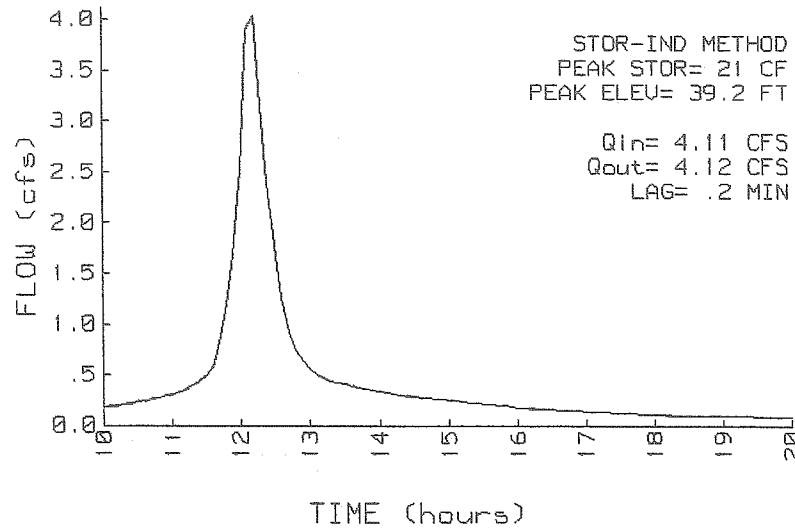
START ELEVATION= 37.5 FT

SPAN= 10-20 HRS, dt=.1 HRS

Tdet= .1 MIN (.36 AF)

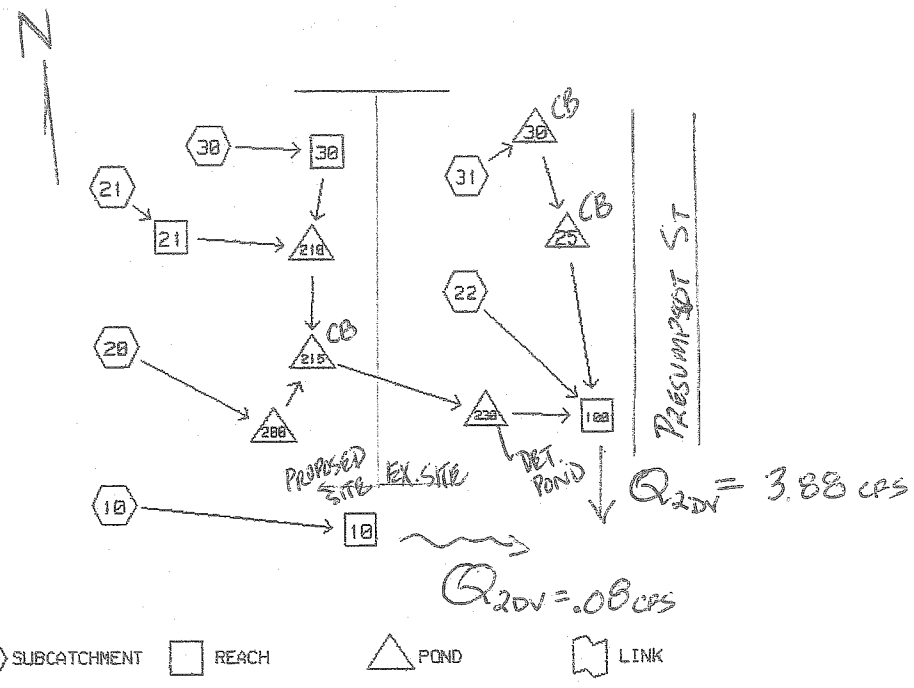
#	ROUTE	INVERT	OUTLET DEVICES
1	P	37.5'	12" CULVERT
			n=.012 L=100' S=.014'/' Ke=.5 Cc=.9 Cd=.6

POND 30 INFLOW & OUTFLOW
gravel area CB



2 YR DEV

WATERSHED ROUTING



- SUBCATCHMENT
- REACH
- POND
- LINK

$Q_{2YR}(\text{SITE}) = \underline{\underline{3.96 \text{ cfs}}}$

Data for Aero Heating-Presumpscot St.PORT.ME proposed

TYPE III 24-HOUR RAINFALL= 3.00 IN

Prepared by sebago technics

27 Jul 00

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RUNOFF BY SCS TR-20 METHOD: TYPE III 24-HOUR RAINFALL= 3.00 IN, SCS U.H.

RUNOFF SPAN = 10-20 HRS, dt= .10 HRS, 101 POINTS

SUBCAT NUMBER	AREA (ACRE)	Tc (MIN)	--GROUND COVERS (%CN)--	WGT'D CN	C	PEAK (CFS)	Tpeak (HRS)	VOL (AF)
10	.10	7.4	40%73 60%71	72	-	.08	12.09	.01
20	.67	9.1	45%80 52%98 3%77	89	-	1.26	12.09	.10
21	.66	7.6	35%98 53%77 12%80	85	-	1.05	12.08	.08
22	.65	4.4	17%98 26%91 57%80	86	-	1.22	12.02	.08
30	.64	1.4	94%98 6%80	97	-	1.81	11.99	.12
31	.56	11.2	54%98 36%91 11%80	94	-	1.22	12.11	.10

Data for Aero Heating-Presumpscot St.PORT.ME proposed

TYPE III 24-HOUR RAINFALL= 3.00 IN

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7 Aug 00

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REACH ROUTING BY STOR-IND+TRANS METHOD

REACH NO.	DIAM (IN)	BOTTOM WIDTH (FT)	DEPTH (FT)	SIDE SLOPES (FT/FT)	n	LENGTH (FT)	SLOPE (FT/FT)	PEAK VEL. (FPS)	TRAVEL TIME (MIN)	PEAK Qout (CFS)
10	-	-	-	-	-	-	-	0.0	0.0	.08 N
21	12.0	-	-	-	.011	180	.0200	5.7	.5	1.02
30	12.0	-	-	-	.011	44	.0100	5.3	.1	1.80
100	-	3.0	4.0	.50 .50	.030	60	.0100	2.4	.4	3.85

Data for Aero Heating-Presumpscot St.PORT.ME proposed
 TYPE III 24-HOUR RAINFALL= 3.00 IN

Prepared by SEBAGO TECHNICS

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POND ROUTING BY STOR-IND METHOD

POND NO.	START ELEV. (FT)	FLOOD ELEV. (FT)	PEAK ELEV. (FT)	PEAK STORAGE (AF)	PEAK FLOW				---Qout---	
					Qin (CFS)	Qout (CFS)	Qpri (CFS)	Qsec (CFS)	ATTEN. (%)	LAG (MIN)
25	34.6	40.5	35.1	0.00	1.19	1.19			0	.1
30	39.8	41.0	40.4	0.00	1.21	1.19			2	.8
200	49.8	52.0	50.6	.01	1.26	.95			25	6.6
210	46.1	51.0	47.2	0.00	2.63	2.61			1	.1
215	42.8	52.0	43.8	0.00	3.18	3.17			0	.1
230	39.8	43.5	42.2	.05	3.17	2.01			37	15.5

Data for Aero Heating-Presumpscot St.PORT.ME proposed
 TYPE III 24-HOUR RAINFALL= 3.00 IN

Prepared by sebage technics

27 Jul 00

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SUBCATCHMENT 10 Southwestern sideline

PEAK= .08 CFS @ 12.09 HRS, VOLUME= .01 AF

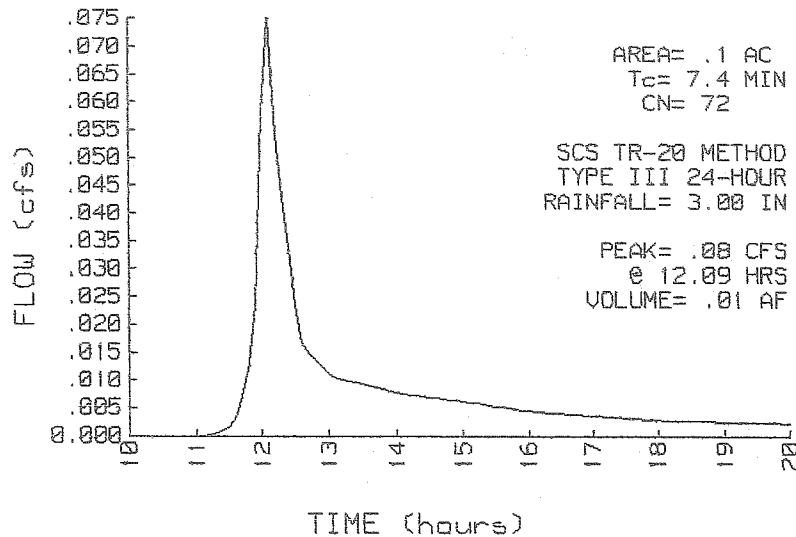
ACRES	CN
.04	73
.06	71
.10	72

brush grass good D-soil
 meadow good C-soil

SCS TR-20 METHOD
 TYPE III 24-HOUR
 RAINFALL= 3.00 IN
 SPAN= 10-20 HRS, dt=.1 HRS

Method	Comment	Tc (min)
TR-55 SHEET FLOW	sheet hill flow	6.8
Grass: Dense n=.24 L=100' P2=3 in s=.14 '/'		
SHALLOW CONCENTRATED/UPLAND FLOW	shallow flow	.6
Grassed Waterway Kv=15 L=95' s=.033 '/' V=2.72 fps		
Total Length= 195 ft		Total Tc= 7.4

SUBCATCHMENT 10 RUNOFF
 Southwestern sideline



Data for Aero Heating-Presumpscot St.PORT.ME proposed

TYPE III 24-HOUR RAINFALL= 3.00 IN

Prepared by sebago technics

27 Jul 00

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SUBCATCHMENT 20

Southern half lot to detention depression

PEAK= 1.26 CFS @ 12.09 HRS, VOLUME= .10 AF

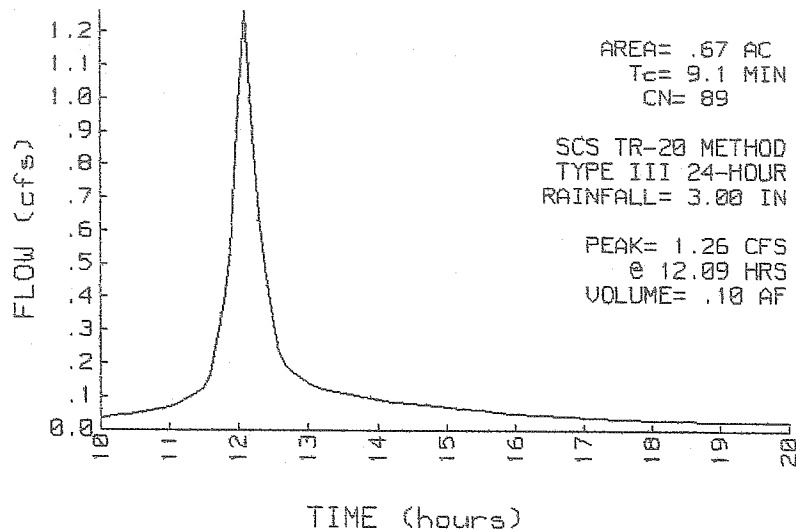
ACRES	CN
.30	80
.35	98
.02	77
.67	89

Grass good D-soil
impervious
woods good D-soil

SCS TR-20 METHOD
TYPE III 24-HOUR
RAINFALL= 3.00 IN
SPAN= 10-20 HRS, dt=.1 HRS

Method	Comment	Tc (min)
TR-55 SHEET FLOW	hill sheet flow	8.5
Woods: Light underbrush n=.4 L=80' P2=3 in s=.14 '/'		
SHALLOW CONCENTRATED/UPLAND FLOW	grass shoulder/swale flow	.4
Grassed Waterway Kv=15 L=65' s=.03 '/' V=2.6 fps		
CHANNEL FLOW	Ditch to ponding area	.2
a=12 sq-ft Pw=14' r=.857'		
s=.035 '/' n=.035 V=7.17 fps L=100' Capacity=86 cfs		
Total Length= 245 ft		Total Tc= 9.1

SUBCATCHMENT 20 RUNOFF
Southern half lot to detention depression



Data for Aero Heating-Presumpscot St. PORT.ME proposed
 TYPE III 24-HOUR RAINFALL= 3.00 IN

Prepared by sebage technics
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27 Jul 00

SUBCATCHMENT 21 building & rear hill section

PEAK= 1.05 CFS @ 12.08 HRS, VOLUME= .08 AF

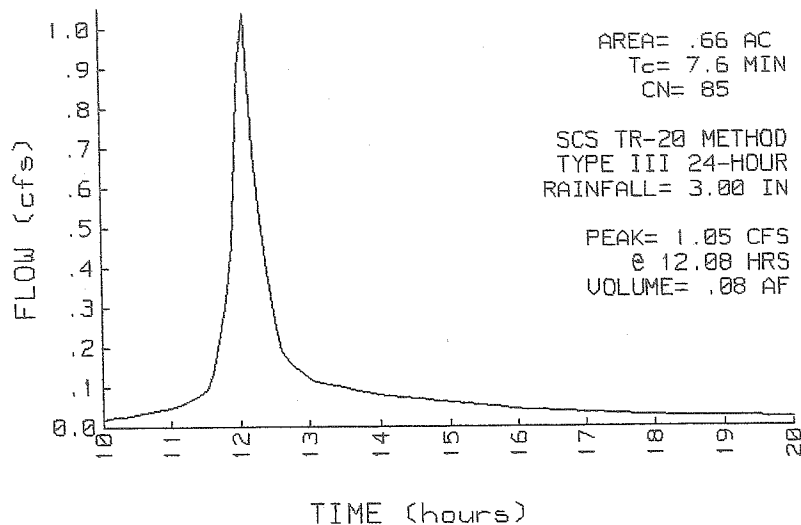
ACRES	CN
.23	98
.35	77
.08	80
.66	85

impervious
 woods good D-soil
 grass good D-soil

SCS TR-20 METHOD
 TYPE III 24-HOUR
 RAINFALL= 3.00 IN
 SPAN= 10-20 HRS, dt=.1 HRS

Method	Comment	Tc (min)
TR-55 SHEET FLOW	hill sheet flow	7.3
Woods: Light underbrush n=.4	L=70' P2=3 in s=.16 '/'	
SHALLOW CONCENTRATED/UPLAND FLOW	shallow ditch flow	.2
Grassed Waterway Kv=15 L=60'	s=.083 '/' V=4.32 fps	
CIRCULAR CHANNEL	culvert flow	.1
12" Diameter a=.79 sq-ft Pw=3.1' r=.25'		
s=.032 '/' n=.011 V=9.59 fps L=62' Capacity=7.5 cfs		
Total Length= 192 ft		Total Tc= 7.6

SUBCATCHMENT 21 RUNOFF
 building & rear hill section



Data for Aero Heating-Presumpscot St.PORT.ME proposed
 TYPE III 24-HOUR RAINFALL= 3.00 IN

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27 Jul 00

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SUBCATCHMENT 22

ex. bldng half southern parking to street

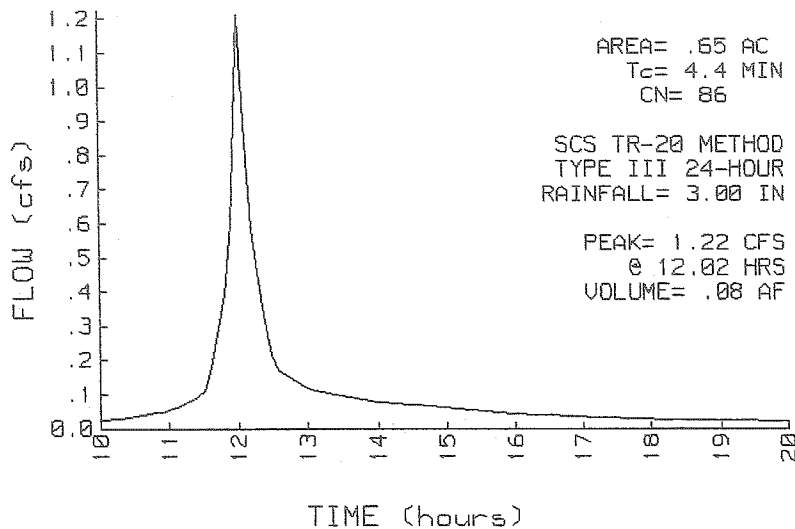
PEAK= 1.22 CFS @ 12.02 HRS, VOLUME= .08 AF

ACRES	CN	
.11	98	impervious
.17	91	gravel surf
.37	80	grass good D-soil
.65	86	

SCS TR-20 METHOD
 TYPE III 24-HOUR
 RAINFALL= 3.00 IN
 SPAN= 10-20 HRS, dt=.1 HRS

Method	Comment	Tc (min)
TR-55 SHEET FLOW	sheet flow	2.3
Grass: Dense n=.24 L=35' P2=3	in s=.25 '/'	
TR-55 SHEET FLOW	gravel sheet flow	1.3
Smooth surfaces n=.011 L=100'	P2=3 in s=.02 '/'	
SHALLOW CONCENTRATED/UPLAND FLOW	shallow flow	.8
Grassed Waterway Kv=15 L=105'	s=.02 '/' V=2.12 fps	
Total Length= 240 ft		Total Tc= 4.4

SUBCATCHMENT 22 RUNOFF
 ex. bldng half southern parking to street



Data for Aero Heating-Presumpscot St.PORT.ME proposed
TYPE III 24-HOUR RAINFALL= 3.00 IN

Prepared by sebage technics

27 Jul 00

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SUBCATCHMENT 30

Northern half to Street

PEAK= 1.81 CFS @ 11.99 HRS, VOLUME= .12 AF

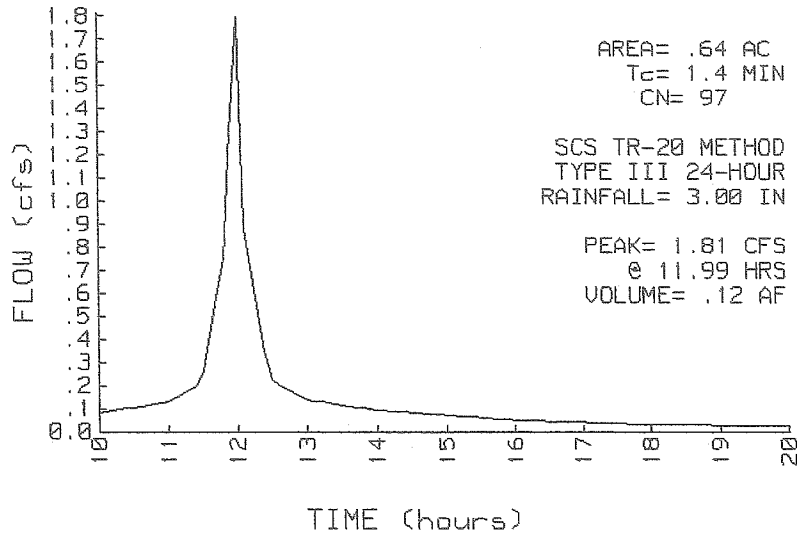
ACRES	CN
.60	98
.04	80
.64	97

impervious
grass good D-soil

SCS TR-20 METHOD
TYPE III 24-HOUR
RAINFALL= 3.00 IN
SPAN= 10-20 HRS, dt=.1 HRS

Method	Comment	Tc (min)
TR-55 SHEET FLOW	pavement sheet flow	1.4
Smooth surfaces	n=.011 L=170' P2=3 in s=.04 '/'	

SUBCATCHMENT 30 RUNOFF
Northern half to Street



Data for Aero Heating-Presumpscot St.PORT.ME proposed

TYPE III 24-HOUR RAINFALL= 3.00 IN

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SUBCATCHMENT 31

northern sideline/access rd/ex.bldg

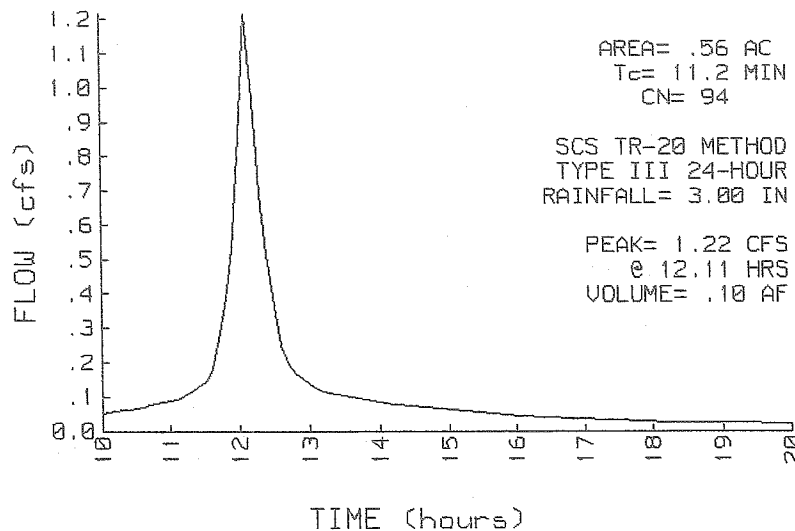
PEAK= 1.22 CFS @ 12.11 HRS, VOLUME= .10 AF

ACRES	CN	
.30	98	impervious
.20	91	gravel
.06	80	grass good D-soil
.56	94	

SCS TR-20 METHOD
 TYPE III 24-HOUR
 RAINFALL= 3.00 IN
 SPAN= 10-20 HRS, dt=.1 HRS

Method	Comment	Tc (min)
TR-55 SHEET FLOW	sheet hill flow	9.3
Woods: Light underbrush	n=.4 L=90' P2=3 in s=.143 '/'	
SHALLOW CONCENTRATED/UPLAND FLOW	shallow flow to inlet @ street	1.9
Grassed Waterway	Kv=15 L=355' s=.045 '/' V=3.18 fps	
Total Length= 445 ft		Total Tc= 11.2

SUBCATCHMENT 31 RUNOFF
 northern sideline/access rd/ex.bldg



REACH 10

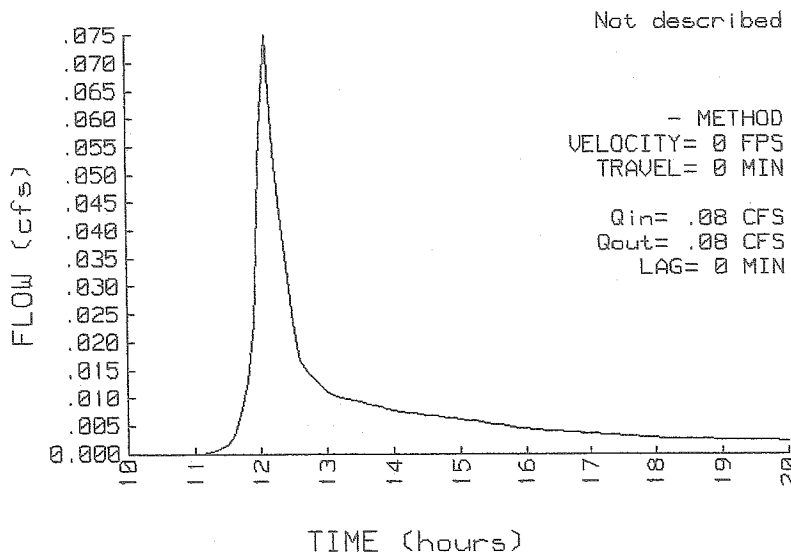
Not described

Qin = .08 CFS @ 12.09 HRS, VOLUME= .01 AF
Qout= .08 CFS @ 12.09 HRS, VOLUME= .01 AF, ATTEN= 0%, LAG= 0.0 MIN

DEPTH END AREA DISCH
(FT) (SQ-FT) (CFS)

- METHOD
PEAK DEPTH= 0.00 FT
PEAK VELOCITY= 0.0 FPS
TRAVEL TIME = 0.0 MIN
SPAN= 10-20 HRS, dt=.1 HRS

REACH 10 INFLOW & OUTFLOW



Data for Aero Heating-Presumpscot St.PORT.ME proposed
 TYPE III 24-HOUR RAINFALL= 3.00 IN

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REACH 21

CB-5 to CB-4

Qin = 1.05 CFS @ 12.08 HRS, VOLUME= .08 AF
 Qout= 1.02 CFS @ 12.09 HRS, VOLUME= .08 AF, ATTEN= 3%, LAG= .6 MIN

DEPTH (FT)	END AREA (SQ-FT)	DISCH (CFS)
0.0	0.0	0.00
.1	0.0	.12
.2	.1	.52
.3	.2	1.17
.7	.6	4.99
.8	.7	5.82
.9	.7	6.35
.9	.8	6.41
1.0	.8	6.35
1.0	.8	5.95

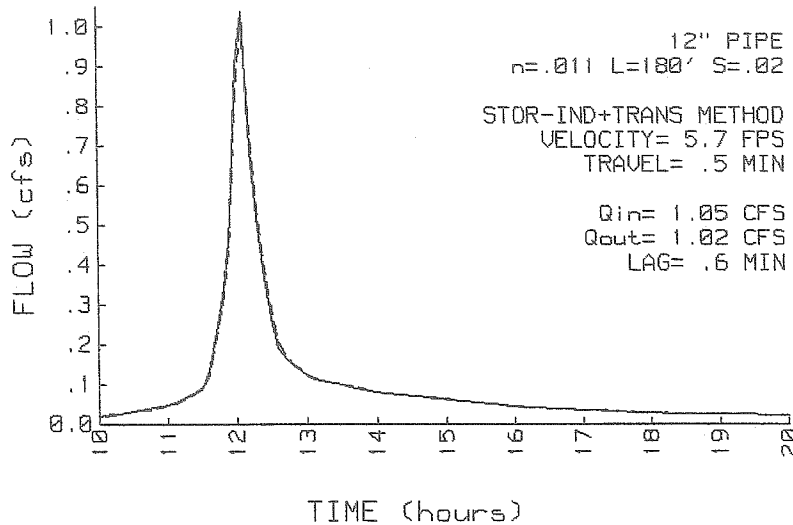
12" PIPE

n= .011
 LENGTH= 180 FT
 SLOPE= .02 FT/FT

STOR-IND+TRANS METHOD

PEAK DEPTH= .28 FT
 PEAK VELOCITY= 5.7 FPS
 TRAVEL TIME = .5 MIN
 SPAN= 10-20 HRS, dt=.1 HRS
 2 x FINER ROUTING

REACH 21 INFLOW & OUTFLOW
 CB-5 to CB-4



Data for Aero Heating-Preumpscot St.PORT.ME proposed
 TYPE III 24-HOUR RAINFALL= 3.00 IN

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REACH 30

CB-3 to CB-4

Qin = 1.81 CFS @ 11.99 HRS, VOLUME= .12 AF
 Qout= 1.80 CFS @ 11.99 HRS, VOLUME= .12 AF, ATTEN= 1%, LAG= .1 MIN

DEPTH (FT)	END AREA (SQ-FT)	DISCH (CFS)
0.0	0.0	0.00
.1	0.0	.09
.2	.1	.37
.3	.2	.82
.7	.6	3.53
.8	.7	4.12
.9	.7	4.49
.9	.8	4.53
1.0	.8	4.49
1.0	.8	4.21

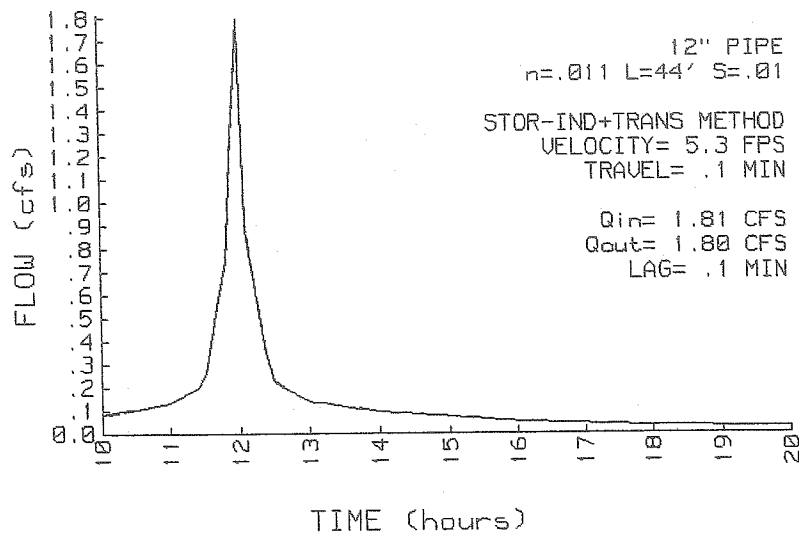
12" PIPE

n= .011
 LENGTH= 44 FT
 SLOPE= .01 FT/FT

STOR-IND+TRANS METHOD

PEAK DEPTH= .44 FT
 PEAK VELOCITY= 5.3 FPS
 TRAVEL TIME = .1 MIN
 SPAN= 10-20 HRS, dt=.1 HRS
 2 x FINER ROUTING

REACH 30 INFLOW & OUTFLOW
 CB-3 to CB-4



Data for Aero Heating-Presumpscot St.PORT.ME proposed
 TYPE III 24-HOUR RAINFALL= 3.00 IN

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7 Aug 00

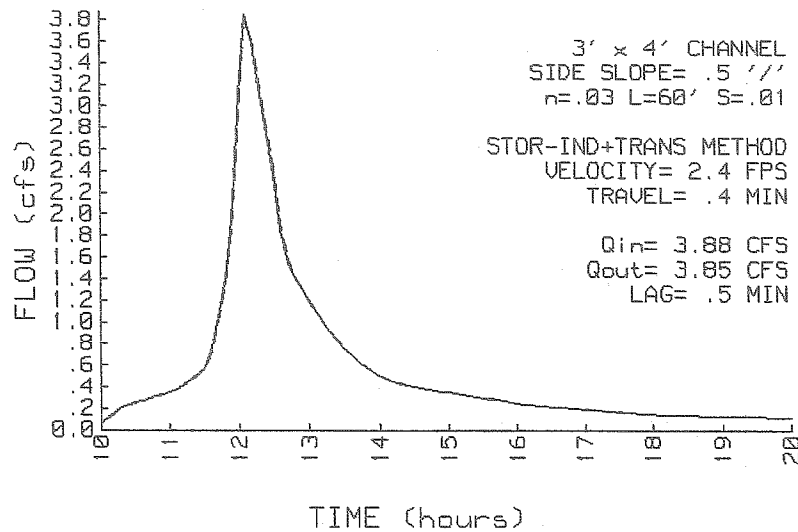
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REACH 100 roadside ditch

Qin = 3.88 CFS @ 12.12 HRS, VOLUME= .47 AF
 Qout= 3.85 CFS @ 12.13 HRS, VOLUME= .47 AF, ATTEN= 1%, LAG= .5 MIN

DEPTH (FT)	END AREA (SQ-FT)	DISCH (CFS)	3' x 4' CHANNEL SIDE SLOPE= .5 '/' n= .03 LENGTH= 60 FT SLOPE= .01 FT/FT	STOR-IND+TRANS METHOD PEAK DEPTH= .42 FT PEAK VELOCITY= 2.4 FPS TRAVEL TIME = .4 MIN SPAN= 10-20 HRS, dt=.1 HRS
0.0	0.0	0.00		
.4	1.5	3.50		
.8	3.7	12.38		
1.2	6.5	27.07		
1.7	11.1	56.18		
2.4	18.7	114.00		
3.2	30.1	215.35		
4.0	44.0	358.13		

REACH 100 INFLOW & OUTFLOW
 roadside ditch



Data for Aero Heating-Presumpscot St.PORT.ME proposed
TYPE III 24-HOUR RAINFALL= 3.00 IN

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POND 25

Roadside CB

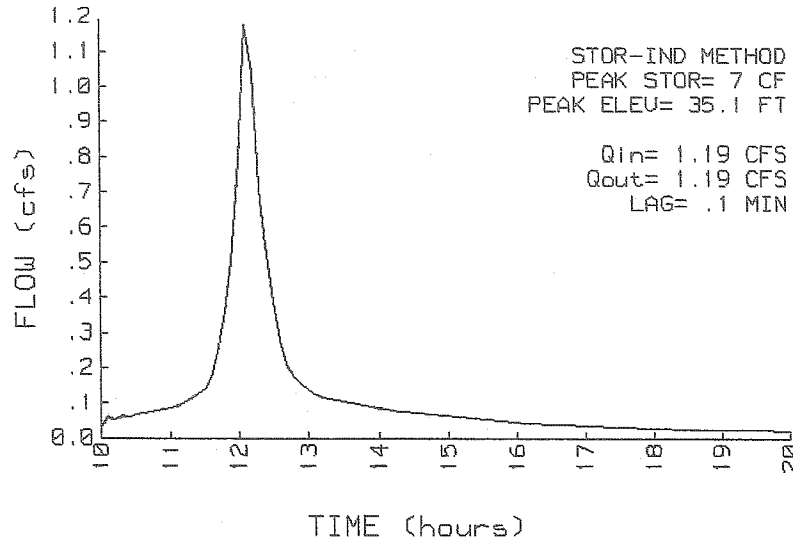
Qin = 1.19 CFS @ 12.12 HRS, VOLUME= .10 AF
Qout= 1.19 CFS @ 12.12 HRS, VOLUME= .10 AF, ATTN= 0%, LAG= .1 MIN

ELEVATION (FT)	AREA (SF)	INC.STOR (CF)	CUM.STOR (CF)
34.6	13	0	0
40.5	13	75	75

STOR-IND METHOD
PEAK STORAGE = 7 CF
PEAK ELEVATION= 35.1 FT
FLOOD ELEVATION= 40.5 FT
START ELEVATION= 34.6 FT
SPAN= 10-20 HRS, dt=.1 HRS
Tdet= .2 MIN (.1 AF)

#	ROUTE	INVERT	OUTLET DEVICES
1	P	34.6'	15" CULVERT n=.02 L=155' S=.016'/' Ke=.5 Cc=.9 Cd=.6

POND 25 INFLOW & OUTFLOW
Roadside CB



Data for Aero Heating-Presumpscot St.PORT.ME proposed

TYPE III 24-HOUR RAINFALL= 3.00 IN

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4 Aug 00

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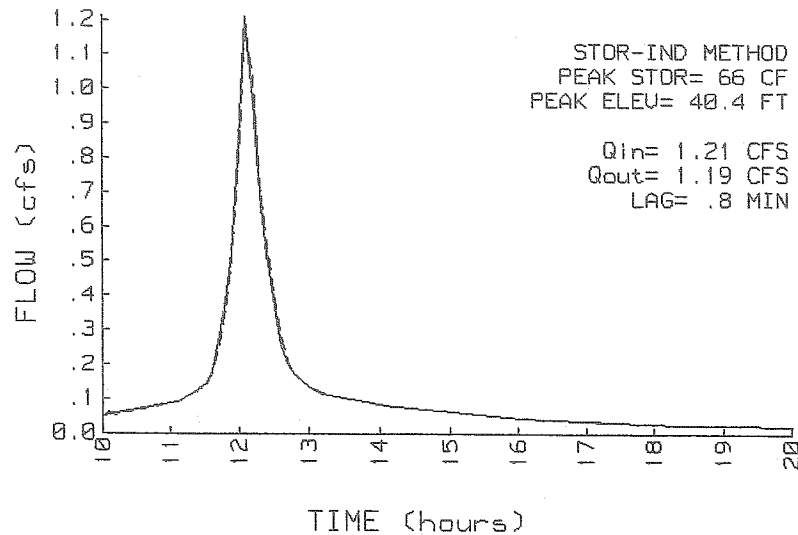
POND 30 access rd CB

Qin = 1.21 CFS @ 12.11 HRS, VOLUME= .10 AF
Qout= 1.19 CFS @ 12.12 HRS, VOLUME= .10 AF, ATTEN= 2%, LAG= .8 MIN

ELEVATION (FT)	AREA (SF)	INC.STOR (CF)	CUM.STOR (CF)	STOR-IND METHOD
39.8	10	0	0	PEAK STORAGE = 66 CF
40.0	100	11	11	PEAK ELEVATION= 40.4 FT
41.0	200	150	161	FLOOD ELEVATION= 41.0 FT
				START ELEVATION= 39.8 FT
				SPAN= 10-20 HRS, dt=.1 HRS
				Tdet= 1.3 MIN (.1 AF)

#	ROUTE	INVERT	OUTLET DEVICES
1	P	39.8'	12" CULVERT
			n=.024 L=55' S=.1'/' Ke=.5 Cc=.9 Cd=.6

POND 30 INFLOW & OUTFLOW
access rd CB



Data for Aero Heating-Presumpscot St.PORT.ME proposed
 TYPE III 24-HOUR RAINFALL= 3.00 IN

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POND 200 ponding area 1

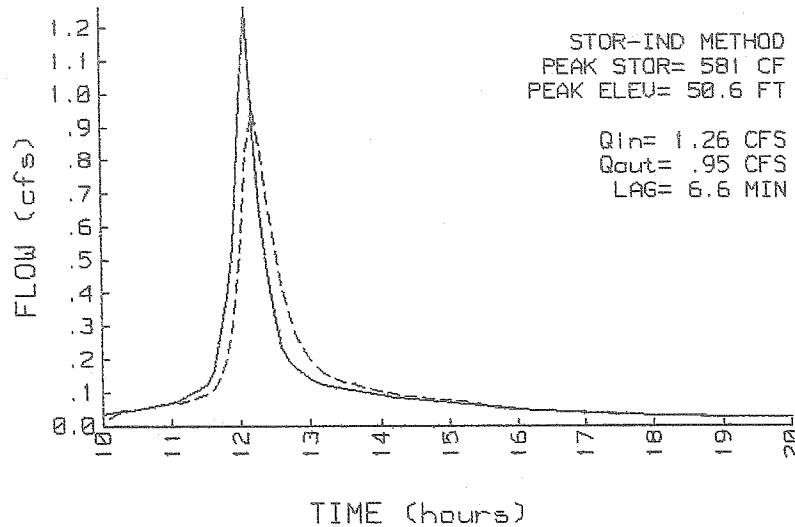
Qin = 1.26 CFS @ 12.09 HRS, VOLUME= .10 AF
 Qout= .95 CFS @ 12.20 HRS, VOLUME= .10 AF, ATTEN= 25%, LAG= 6.6 MIN

ELEVATION (FT)	AREA (SF)	INC.STOR (CF)	CUM.STOR (CF)
49.8	10	0	0
50.0	180	19	19
52.0	1800	1980	1999

STOR-IND METHOD
 PEAK STORAGE = 581 CF
 PEAK ELEVATION= 50.6 FT
 FLOOD ELEVATION= 52.0 FT
 START ELEVATION= 49.8 FT
 SPAN= 10-20 HRS, dt=.1 HRS
 3 x FINER ROUTING
 Tdet= 10.2 MIN (.09 AF)

#	ROUTE	INVERT	OUTLET DEVICES
1	P	49.8'	12" CULVERT n=.024 L=80' S=.005'/' Ke=.7 Cc=.9 Cd=.53

POND 200 INFLOW & OUTFLOW
 ponding area 1



Data for Aero Heating-Presumpscot St.PORT.ME proposed
 TYPE III 24-HOUR RAINFALL= 3.00 IN

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POND 210

Catch basin #4

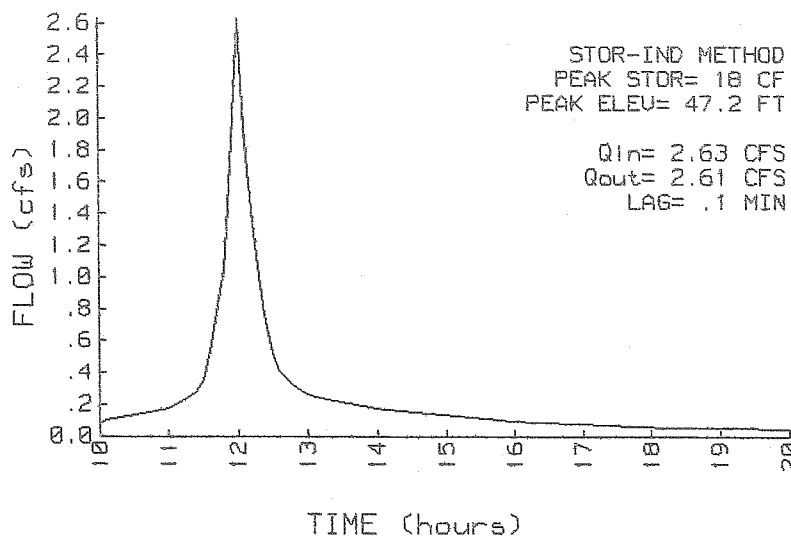
Qin = 2.63 CFS @ 12.01 HRS, VOLUME= .20 AF
 Qout= 2.61 CFS @ 12.01 HRS, VOLUME= .20 AF, ATTEN= 1%, LAG= .1 MIN

ELEVATION (FT)	AREA (SF)	INC.STOR (CF)	CUM.STOR (CF)
46.1	13	0	0
51.0	20	80	80

STOR-IND METHOD
 PEAK STORAGE = 18 CF
 PEAK ELEVATION= 47.2 FT
 FLOOD ELEVATION= 51.0 FT
 START ELEVATION= 46.1 FT
 SPAN= 10-20 HRS, dt=.1 HRS
 3 x FINER ROUTING
 Tdet= .7 MIN (.2 AF)

#	ROUTE	INVERT	OUTLET DEVICES
1	P	46.1'	12" CULVERT n=.011 L=121' S=.01'/' Ke=.7 Cc=.9 Cd=.53

POND 210 INFLOW & OUTFLOW
 Catch basin #4



Data for Aero Heating-Presumpscot St.PORT.ME proposed
 TYPE III 24-HOUR RAINFALL= 3.00 IN

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POND 215 outlet cb structure

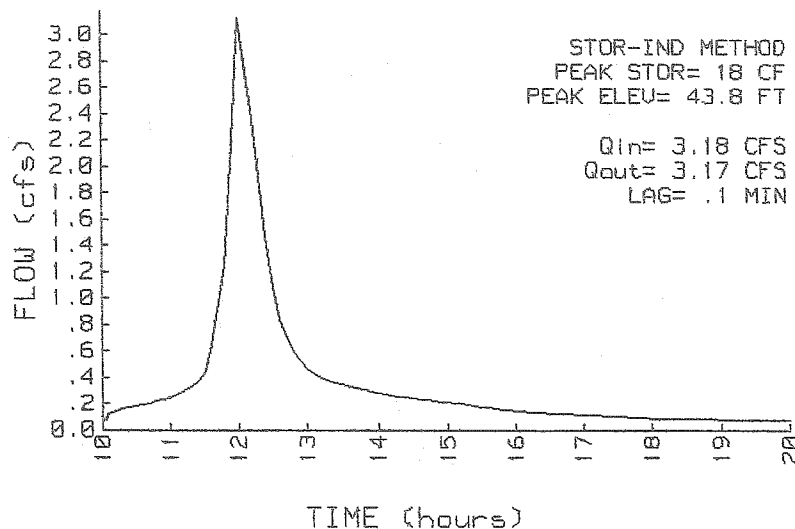
Qin = 3.18 CFS @ 12.03 HRS, VOLUME= .29 AF
 Qout= 3.17 CFS @ 12.03 HRS, VOLUME= .29 AF, ATTEN= 0%, LAG= .1 MIN

ELEVATION (FT)	AREA (SF)	INC.STOR (CF)	CUM.STOR (CF)
42.8	13	0	0
48.0	24	95	95
50.0	112	136	231
52.0	500	612	843

STOR-IND METHOD
 PEAK STORAGE = 18 CF
 PEAK ELEVATION= 43.8 FT
 FLOOD ELEVATION= 52.0 FT
 START ELEVATION= 42.8 FT
 SPAN= 10-20 HRS, dt=.1 HRS
 3 x FINER ROUTING
 Tdet= .4 MIN (.29 AF)

#	ROUTE	INVERT	OUTLET DEVICES
1	P	51.8'	8' BROAD-CRESTED RECTANGULAR WEIR X 1.81 $Q=C L H^{1.5}$ C=1.58, 1.62, 1.72, 0, 0, 0, 0, 0
2	P	42.8'	15" CULVERT n=.011 L=88' S=.005'/' Ke=.5 Cc=.9 Cd=.6

POND 215 INFLOW & OUTFLOW
 outlet control structure



Data for Aero Heating-Presumpscot St.PORT.ME proposed

TYPE III 24-HOUR RAINFALL= 3.00 IN

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POND 230

depression/ponding area 2

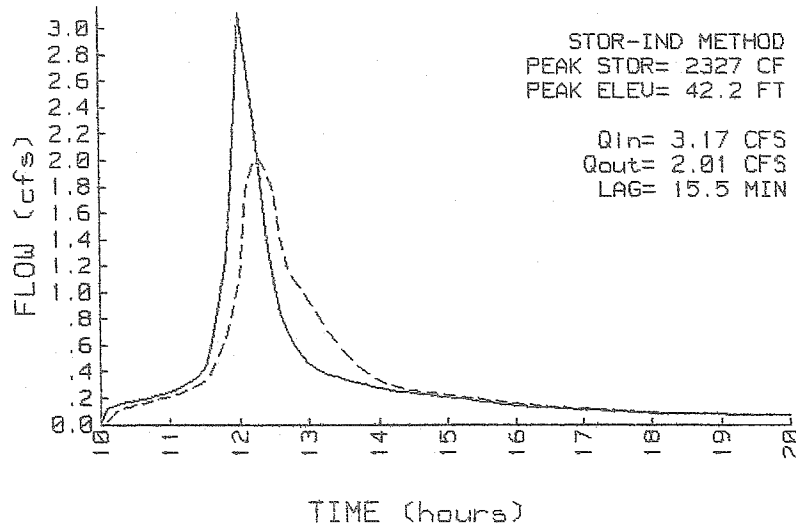
Qin = 3.17 CFS @ 12.03 HRS, VOLUME= .29 AF
 Qout= 2.01 CFS @ 12.28 HRS, VOLUME= .29 AF, ATTEN= 37%, LAG= 15.5 MIN

ELEVATION (FT)	AREA (SF)	INC.STOR (CF)	CUM.STOR (CF)
39.8	10	0	0
40.0	670	68	68
42.0	1300	1970	2038
43.0	1800	1550	3588
43.6	2200	1200	4788

STOR-IND METHOD
 PEAK STORAGE = 2327 CF
 PEAK ELEVATION= 42.2 FT
 FLOOD ELEVATION= 43.5 FT
 START ELEVATION= 39.8 FT
 SPAN= 10-20 HRS, dt=.1 HRS
 3 x FINER ROUTING
 Tdet= 16.1 MIN (.29 AF)

#	ROUTE	INVERT	OUTLET DEVICES
1	P	39.8'	6" ORIFICE/GRATE $Q = .6 \text{ PI } r^2 \text{ SQR}(2g) \text{ SQR}(H-r)$
2	P	43.2'	12" HORIZONTAL ORIFICE/GRATE $Q = .6 \text{ Area } \text{SQR}(2gH)$
3	P	41.5'	6" ORIFICE/GRATE $Q = .6 \text{ PI } r^2 \text{ SQR}(2g) \text{ SQR}(H-r)$
4	P	43.5'	10' BROAD-CRESTED RECTANGULAR WEIR X 1.81 $Q = C L H^{1.5} \text{ C} = 1.58, 1.62, 1.72, 0, 0, 0, 0, 0$

POND 230 INFLOW & OUTFLOW
 depression/ponding area 2



Data for Aero Heating-Presumpscot St. PORT. ME proposed
 TYPE III 24-HOUR RAINFALL= 4.70 IN

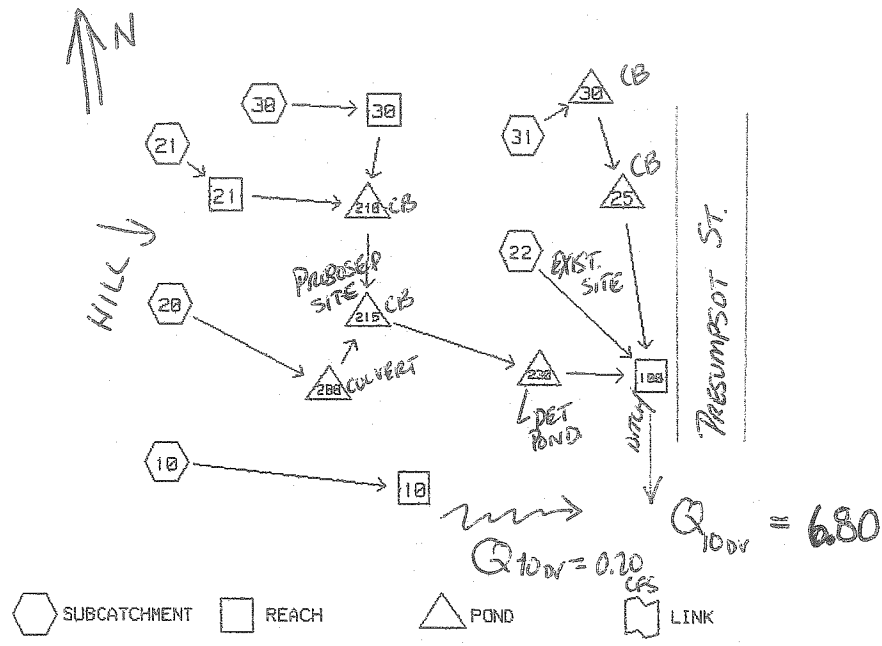
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10yr DEV

WATERSHED ROUTING



$Q_{10yr} (SITE) = 7.00$
CFS

Data for Aero Heating-Presumpscot St.PORT.ME proposed

TYPE III 24-HOUR RAINFALL= 4.70 IN

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RUNOFF BY SCS TR-20 METHOD: TYPE III 24-HOUR RAINFALL= 4.70 IN, SCS U.H.

RUNOFF SPAN = 10-20 HRS, dt= .10 HRS, 101 POINTS

SUBCAT NUMBER	AREA (ACRE)	Tc (MIN)	--GROUND COVERS (%CN)--	WGT'D CN	C	PEAK (CFS)	Tpeak (HRS)	VOL (AF)
10	.10	7.4	40%73 60%71	72	-	.20	12.08	.02
20	.67	9.1	45%80 52%98 3%77	89	-	2.27	12.09	.17
21	.66	7.6	35%98 53%77 12%80	85	-	2.02	12.07	.15
22	.65	4.4	17%98 26%91 57%80	86	-	2.33	12.01	.16
30	.64	1.4	94%98 6%80	97	-	2.89	11.98	.19
31	.56	11.2	54%98 36%91 11%80	94	-	2.02	12.11	.16

Data for Aero Heating-Presumpscot St.PORT.ME proposed
 TYPE III 24-HOUR RAINFALL= 4.70 IN

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7 Aug 00

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POND ROUTING BY STOR-IND METHOD

POND NO.	START ELEV. (FT)	FLOOD ELEV. (FT)	PEAK ELEV. (FT)	PEAK STORAGE (AF)	PEAK FLOW				---Qout---	
					Qin (CFS)	Qout (CFS)	Qpri (CFS)	Qsec (CFS)	ATTEN. (%)	LAG (MIN)
25	34.6	40.5	35.3	0.00	1.98	1.97			0	.1
30	39.8	41.0	40.6	0.00	2.01	1.98			2	.7
200	49.8	52.0	51.0	.02	2.27	1.69			25	6.3
210	46.1	51.0	48.4	0.00	4.55	4.50			1	.1
215	42.8	52.0	44.5	0.00	5.67	5.61			1	.2
230	39.8	43.5	43.3	.10	5.61	4.16			26	11.8

Data for Aero Heating-Presumpscot St.PORT.ME proposed
TYPE III 24-HOUR RAINFALL= 4.70 IN

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REACH ROUTING BY STOR-IND+TRANS METHOD

REACH NO.	DIAM (IN)	BOTTOM WIDTH (FT)	DEPTH (FT)	SIDE SLOPES (FT/FT)	n	LENGTH (FT)	SLOPE (FT/FT)	PEAK VEL. (FPS)	TRAVEL TIME (MIN)	PEAK Qout (CFS)
10	-	-	-	-	-	-	-	0.0	0.0	.20 N
21	12.0	-	-	-	.011	180	.0200	7.0	.4	1.98
30	12.0	-	-	-	.011	44	.0100	5.8	.1	2.86
100	-	3.0	4.0	.50 .50	.030	60	.0100	2.9	.3	6.80

Data for Aero Heating-Presumpscot St. PORT. ME proposed
 TYPE III 24-HOUR RAINFALL= 4.70 IN

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SUBCATCHMENT 10 Southwestern sideline

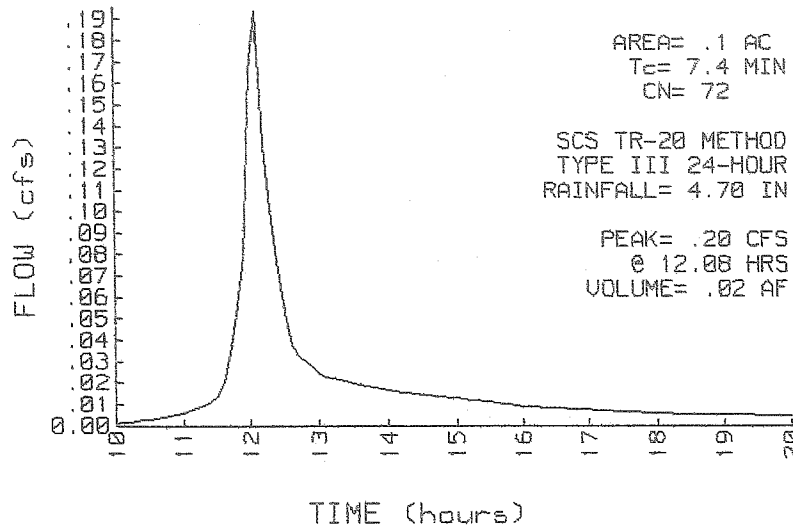
PEAK= .20 CFS @ 12.08 HRS, VOLUME= .02 AF

ACRES	CN	
.04	73	brush grass good D-soil
.06	71	meadow good C-soil
.10	72	

SCS TR-20 METHOD
 TYPE III 24-HOUR
 RAINFALL= 4.70 IN
 SPAN= 10-20 HRS, dt=.1 HRS

Method	Comment	Tc (min)
TR-55 SHEET FLOW	sheet hill flow	6.8
Grass: Dense n=.24 L=100' P2=3 in s=.14 '/'		
SHALLOW CONCENTRATED/UPLAND FLOW	shallow flow	.6
Grassed Waterway Kv=15 L=95' s=.033 '/' V=2.72 fps		
Total Length= 195 ft		Total Tc= 7.4

SUBCATCHMENT 10 RUNOFF
 Southwestern sideline



Data for Aero Heating-Presumpscot St.PORT.ME proposed

TYPE III 24-HOUR RAINFALL= 4.70 IN

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SUBCATCHMENT 20

Southern half lot to detention depression

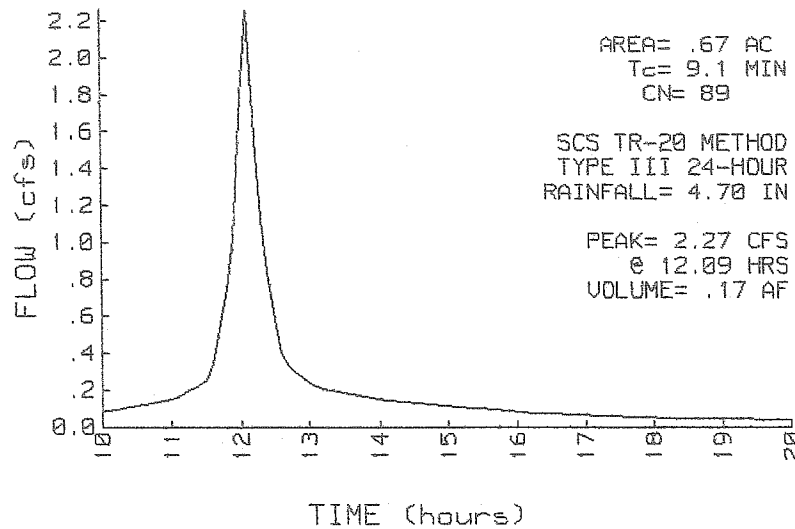
PEAK= 2.27 CFS @ 12.09 HRS, VOLUME= .17 AF

ACRES	CN	
.30	80	Grass good D-soil
.35	98	impervious
.02	77	woods good D-soil
.67	89	

SCS TR-20 METHOD
 TYPE III 24-HOUR
 RAINFALL= 4.70 IN
 SPAN= 10-20 HRS, dt=.1 HRS

Method	Comment	Tc (min)
TR-55 SHEET FLOW	hill sheet flow	8.5
Woods: Light underbrush n=.4	L=80' P2=3 in s=.14 '/'	
SHALLOW CONCENTRATED/UPLAND FLOW	grass shoulder/swale flow	.4
Grassed Waterway Kv=15 L=65'	s=.03 '/' V=2.6 fps	
CHANNEL FLOW	Ditch to ponding area	.2
a=12 sq-ft Pw=14' r=.857'		
s=.035 '/' n=.035 V=7.17 fps	L=100' Capacity=86 cfs	
Total Length= 245 ft		Total Tc= 9.1

SUBCATCHMENT 20 RUNOFF
 Southern half lot to detention depression



Data for Aero Heating-Presumpscot St.PORT.ME proposed

TYPE III 24-HOUR RAINFALL= 4.70 IN

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SUBCATCHMENT 21 building & rear hill section

PEAK= 2.02 CFS @ 12.07 HRS, VOLUME= .15 AF

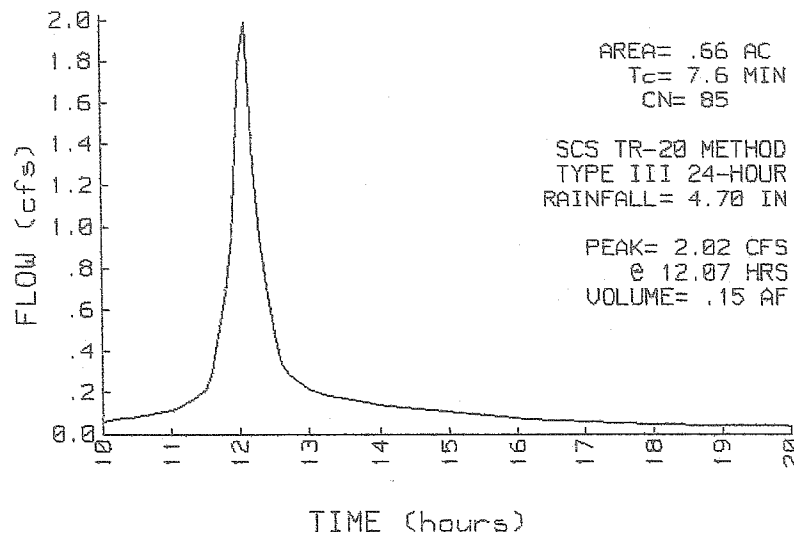
ACRES	CN	
.23	98	impervious
.35	77	woods good D-soil
.08	80	grass good D-soil
.66	85	

SCS TR-20 METHOD
TYPE III 24-HOUR
RAINFALL= 4.70 IN
SPAN= 10-20 HRS, dt=.1 HRS

Method	Comment	Tc (min)
TR-55 SHEET FLOW	hill sheet flow	7.3
Woods: Light underbrush n=.4 L=70' P2=3 in s=.16 '/'		
SHALLOW CONCENTRATED/UPLAND FLOW	shallow ditch flow	.2
Grassed Waterway Kv=15 L=60' s=.083 '/' V=4.32 fps		
CIRCULAR CHANNEL	culvert flow	.1
12" Diameter a=.79 sq-ft Pw=3.1' r=.25'		
s=.032 '/' n=.011 V=9.59 fps L=62' Capacity=7.5 cfs		

Total Length= 192 ft Total Tc= 7.6

SUBCATCHMENT 21 RUNOFF
building & rear hill section



Data for Aero Heating-Presumpscot St. PORT. ME proposed

TYPE III 24-HOUR RAINFALL= 4.70 IN

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SUBCATCHMENT 22 ex. bldng half southern parking to street

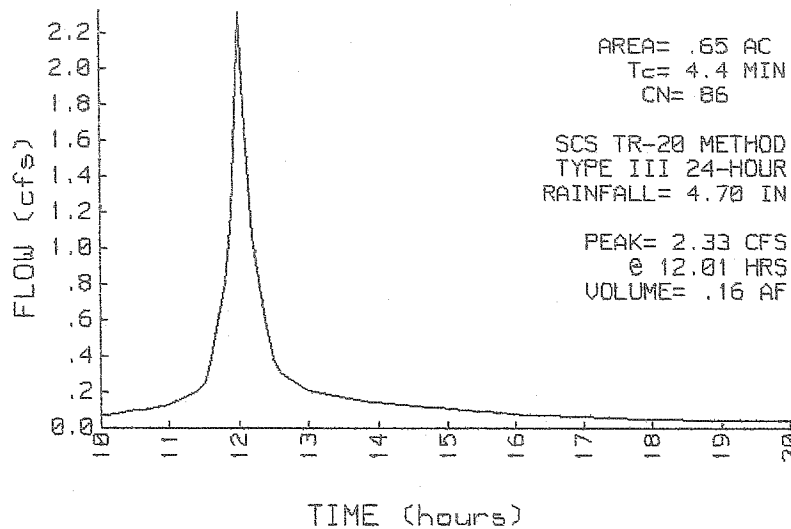
PEAK= 2.33 CFS @ 12.01 HRS, VOLUME= .16 AF

ACRES	CN	
.11	98	impervious
.17	91	gravel surf
.37	80	grass good D-soil
.65	86	

SCS TR-20 METHOD
 TYPE III 24-HOUR
 RAINFALL= 4.70 IN
 SPAN= 10-20 HRS, dt=.1 HRS

Method	Comment	Tc (min)
TR-55 SHEET FLOW	sheet flow	2.3
Grass: Dense n=.24 L=35' P2=3 in s=.25 '/'		
TR-55 SHEET FLOW	gravel sheet flow	1.3
Smooth surfaces n=.011 L=100' P2=3 in s=.02 '/'		
SHALLOW CONCENTRATED/UPLAND FLOW	shallow flow	.8
Grassed Waterway Kv=15 L=105' s=.02 '/' V=2.12 fps		
Total Length= 240 ft		Total Tc= 4.4

SUBCATCHMENT 22 RUNOFF
 ex. bldng half southern parking to street



Data for Aero Heating-Presumpscot St.PORT.ME proposed

TYPE III 24-HOUR RAINFALL= 4.70 IN

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SUBCATCHMENT 30

Northern half to Street

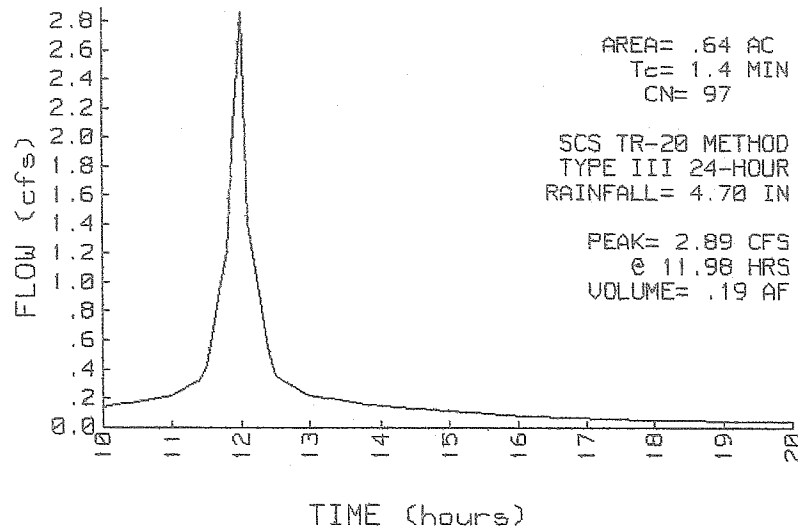
PEAK= 2.89 CFS @ 11.98 HRS, VOLUME= .19 AF

ACRES	CN	
.60	98	impervious
.04	80	grass good D-soil
.64	97	

SCS TR-20 METHOD
TYPE III 24-HOUR
RAINFALL= 4.70 IN
SPAN= 10-20 HRS, dt=.1 HRS

Method	Comment	Tc (min)
TR-55 SHEET FLOW	pavement sheet flow	1.4
Smooth surfaces	n=.011 L=170' P2=3 in s=.04 '/'	

SUBCATCHMENT 30 RUNOFF
Northern half to Street



Data for Aero Heating-Presumpscot St.PORT.ME proposed

TYPE III 24-HOUR RAINFALL= 4.70 IN

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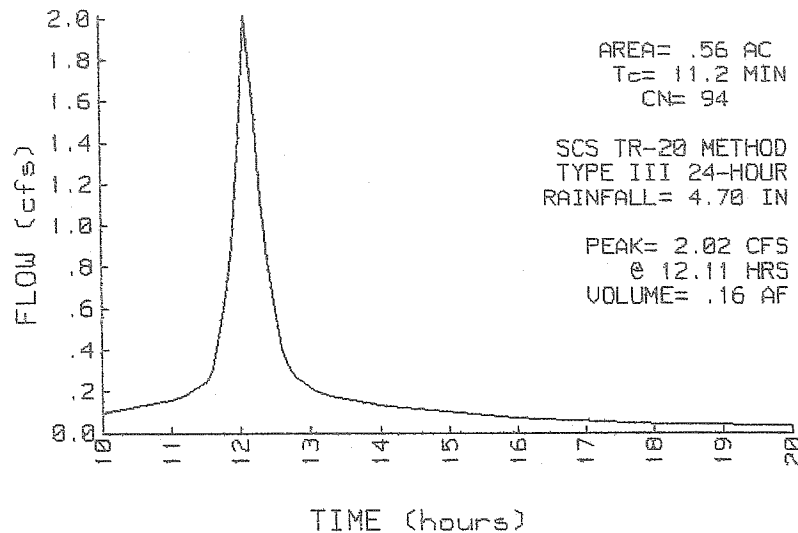
SUBCATCHMENT 31 northern sideline/access rd/ex.bldg

PEAK= 2.02 CFS @ 12.11 HRS, VOLUME= .16 AF

ACRES	CN		SCS TR-20 METHOD
.30	98	impervious	TYPE III 24-HOUR
.20	91	gravel	RAINFALL= 4.70 IN
.06	80	grass good D-soil	SPAN= 10-20 HRS, dt=.1 HRS
.56	94		

Method	Comment	Tc (min)
TR-55 SHEET FLOW	sheet hill flow	9.3
Woods: Light underbrush n=.4 L=90' P2=3 in s=.143 '/'		
SHALLOW CONCENTRATED/UPLAND FLOW	shallow flow to inlet @ street	1.9
Grassed Waterway Kv=15 L=355' s=.045 '/' V=3.18 fps		
Total Length= 445 ft		Total Tc= 11.2

SUBCATCHMENT 31 RUNOFF
northern sideline/access rd/ex.bldg



Data for Aero Heating-Presumpscot St.PORT.ME proposed
TYPE III 24-HOUR RAINFALL= 4.70 IN

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REACH 10

Not described

Qin = .20 CFS @ 12.08 HRS, VOLUME= .02 AF

Qout= .20 CFS @ 12.08 HRS, VOLUME= .02 AF, ATTEN= 0%, LAG= 0.0 MIN

DEPTH END AREA DISCH
(FT) (SQ-FT) (CFS)

- METHOD

PEAK DEPTH= 0.00 FT

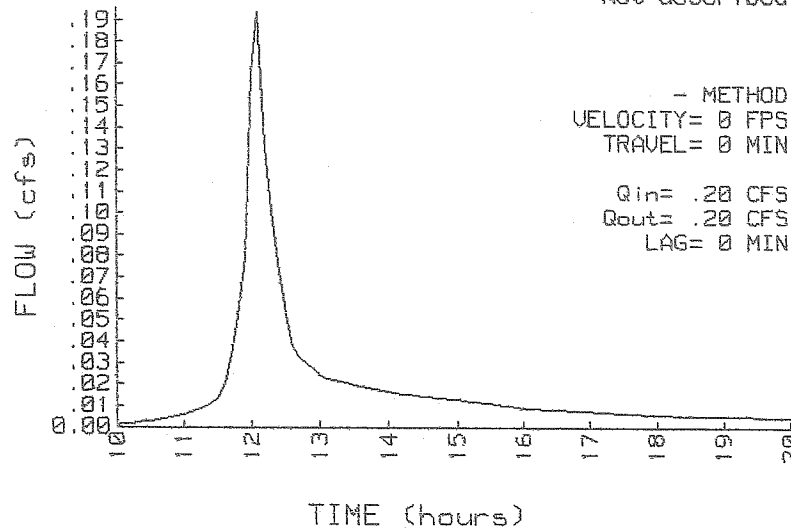
PEAK VELOCITY= 0.0 FPS

TRAVEL TIME = 0.0 MIN

SPAN= 10-20 HRS, dt=.1 HRS

REACH 10 INFLOW & OUTFLOW

Not described



Data for Aero Heating-Presumpscot St.PORT.ME proposed

TYPE III 24-HOUR RAINFALL= 4.70 IN

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REACH 21

CB-5 to CB-4

Qin = 2.02 CFS @ 12.07 HRS, VOLUME= .15 AF
Qout= 1.98 CFS @ 12.08 HRS, VOLUME= .15 AF, ATTEN= 2%, LAG= .4 MIN

DEPTH (FT)	END AREA (SQ-FT)	DISCH (CFS)
0.0	0.0	0.00
.1	0.0	.12
.2	.1	.52
.3	.2	1.17
.7	.6	4.99
.8	.7	5.82
.9	.7	6.35
.9	.8	6.41
1.0	.8	6.35
1.0	.8	5.95

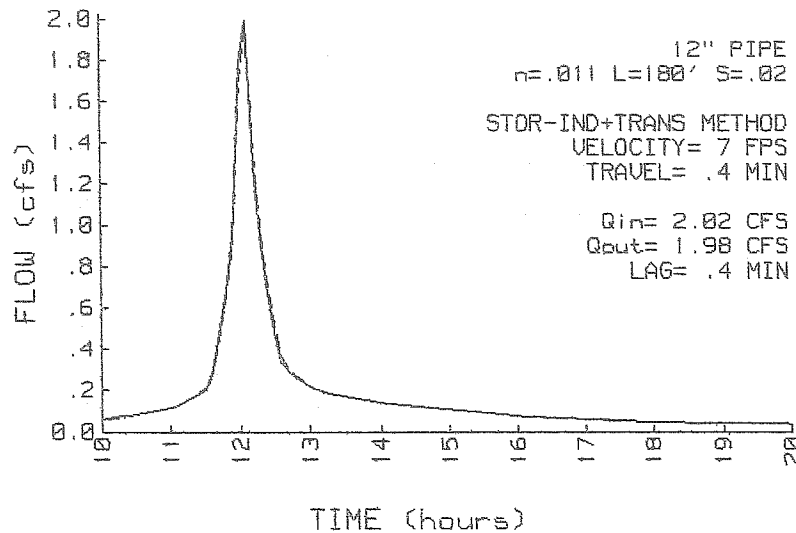
12" PIPE

n= .011
LENGTH= 180 FT
SLOPE= .02 FT/FT

STOR-IND+TRANS METHOD

PEAK DEPTH= .38 FT
PEAK VELOCITY= 7.0 FPS
TRAVEL TIME = .4 MIN
SPAN= 10-20 HRS, dt=.1 HRS
2 x FINER ROUTING

REACH 21 INFLOW & OUTFLOW
CB-5 to CB-4



Data for Aero Heating-Presumpscot St.PORT.ME proposed

TYPE III 24-HOUR RAINFALL= 4.70 IN

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REACH 30

CB-3 to CB-4

Qin = 2.89 CFS @ 11.98 HRS, VOLUME= .19 AF

Qout= 2.86 CFS @ 11.99 HRS, VOLUME= .19 AF, ATTEN= 1%, LAG= .1 MIN

DEPTH (FT)	END AREA (SQ-FT)	DISCH (CFS)
0.0	0.0	0.00
.1	0.0	.09
.2	.1	.37
.3	.2	.82
.7	.6	3.53
.8	.7	4.12
.9	.7	4.49
.9	.8	4.53
1.0	.8	4.49
1.0	.8	4.21

12" PIPE

n= .011

LENGTH= 44 FT

SLOPE= .01 FT/FT

STOR-IND+TRANS METHOD

PEAK DEPTH= .60 FT

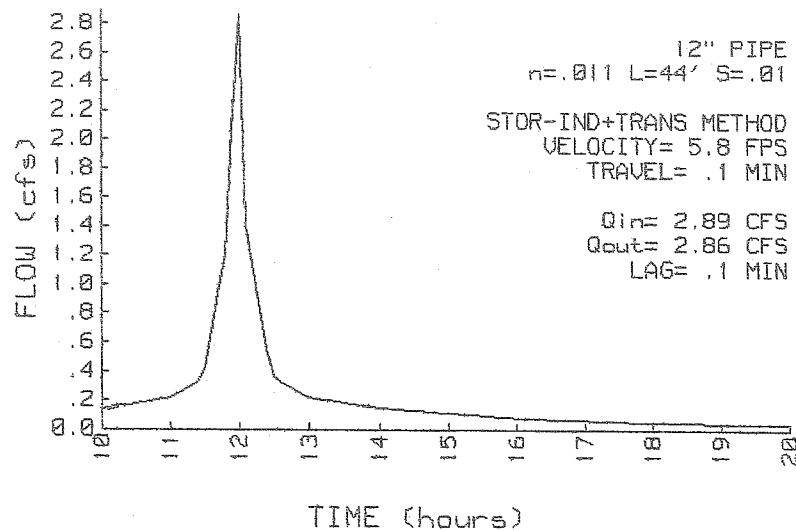
PEAK VELOCITY= 5.8 FPS

TRAVEL TIME = .1 MIN

SPAN= 10-20 HRS, dt=.1 HRS

2 x FINER ROUTING

REACH 30 INFLOW & OUTFLOW
CB-3 to CB-4

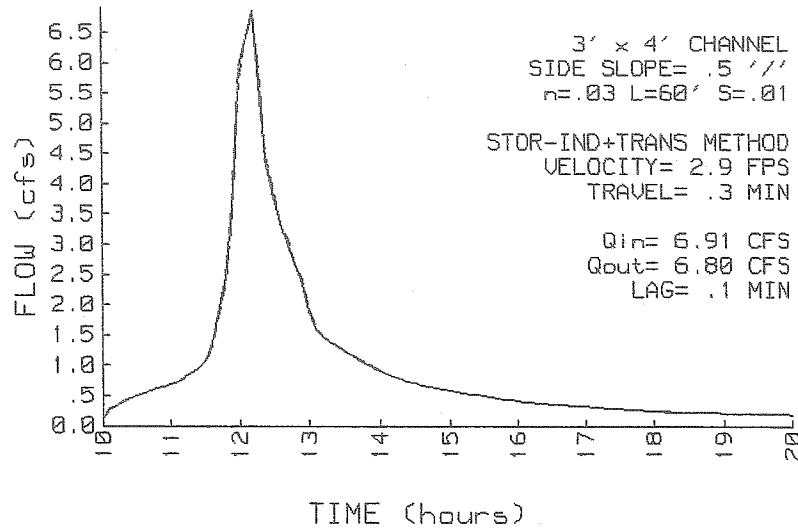


REACH 100 roadside ditch

Qin = 6.91 CFS @ 12.18 HRS, VOLUME= .83 AF
 Qout= 6.80 CFS @ 12.18 HRS, VOLUME= .83 AF, ATTEN= 2%, LAG= .1 MIN

DEPTH (FT)	END AREA (SQ-FT)	DISCH (CFS)	3' x 4' CHANNEL SIDE SLOPE= .5 '/' n= .03 LENGTH= 60 FT SLOPE= .01 FT/FT	STOR-IND+TRANS METHOD PEAK DEPTH= .55 FT PEAK VELOCITY= 2.9 FPS TRAVEL TIME = .3 MIN SPAN= 10-20 HRS, dt=.1 HRS
0.0	0.0	0.00		
.4	1.5	3.50		
.8	3.7	12.38		
1.2	6.5	27.07		
1.7	11.1	56.18		
2.4	18.7	114.00		
3.2	30.1	215.35		
4.0	44.0	358.13		

REACH 100 INFLOW & OUTFLOW
 roadside ditch



Data for Aero Heating-Presumpscot St.PORT.ME proposed

TYPE III 24-HOUR RAINFALL= 4.70 IN

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7 Aug 00

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POND 25

Roadside CB

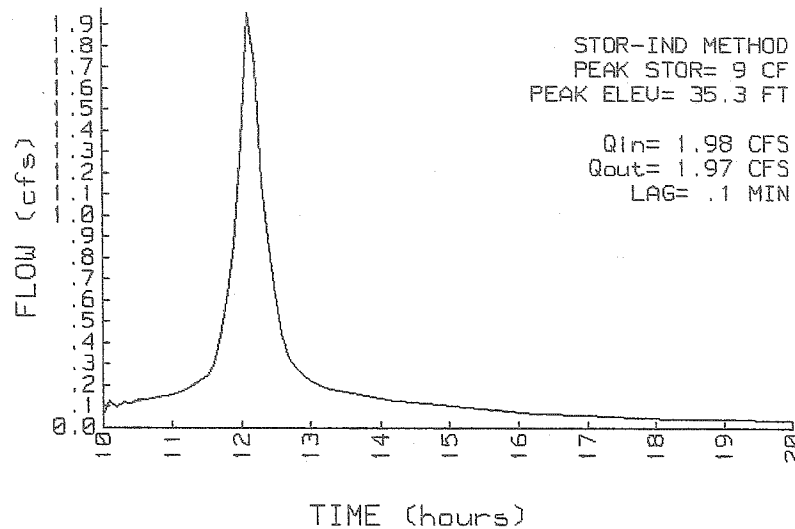
Qin = 1.98 CFS @ 12.12 HRS, VOLUME= .16 AF
Qout= 1.97 CFS @ 12.12 HRS, VOLUME= .16 AF, ATTEN= 0%, LAG= .1 MIN

ELEVATION (FT)	AREA (SF)	INC.STOR (CF)	CUM.STOR (CF)
34.6	13	0	0
40.5	13	75	75

STOR-IND METHOD
PEAK STORAGE = 9 CF
PEAK ELEVATION= 35.3 FT
FLOOD ELEVATION= 40.5 FT
START ELEVATION= 34.6 FT
SPAN= 10-20 HRS, dt=.1 HRS
Tdet= .2 MIN (.16 AF)

#	ROUTE	INVERT	OUTLET DEVICES
1	P	34.6'	15" CULVERT n=.02 L=155' S=.016'/' Ke=.5 Cc=.9 Cd=.6

POND 25 INFLOW & OUTFLOW
Roadside CB



Data for Aero Heating-Presumpscot St.PORT.ME proposed

TYPE III 24-HOUR RAINFALL= 4.70 IN

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POND 30 access rd CB

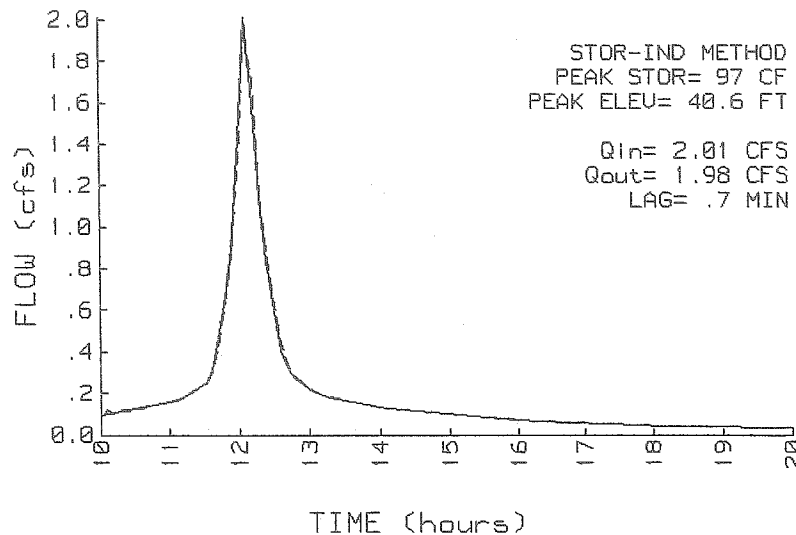
Qin = 2.01 CFS @ 12.11 HRS, VOLUME= .16 AF
Qout= 1.98 CFS @ 12.12 HRS, VOLUME= .16 AF, ATTEN= 2%, LAG= .7 MIN

ELEVATION (FT)	AREA (SF)	INC.STOR (CF)	CUM.STOR (CF)
39.8	10	0	0
40.0	100	11	11
41.0	200	150	161

STOR-IND METHOD
PEAK STORAGE = 97 CF
PEAK ELEVATION= 40.6 FT
FLOOD ELEVATION= 41.0 FT
START ELEVATION= 39.8 FT
SPAN= 10-20 HRS, dt=.1 HRS
Tdet= 1.1 MIN (.16 AF)

#	ROUTE	INVERT	OUTLET DEVICES
1	P	39.8'	12" CULVERT n=.024 L=55' S=.1'/' Ke=.5 Cc=.9 Cd=.6

POND 30 INFLOW & OUTFLOW
access rd CB



Data for Aero Heating-Presumpscot St.PORT.ME proposed

TYPE III 24-HOUR RAINFALL= 4.70 IN

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POND 200

ponding area 1

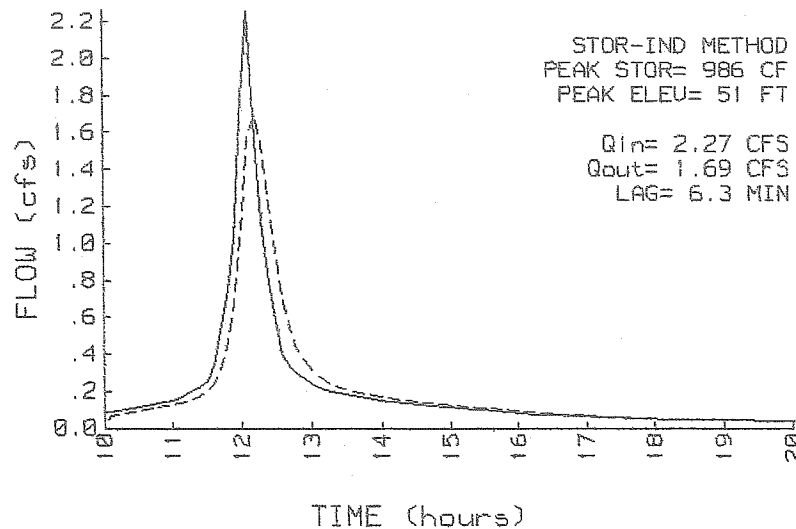
Qin = 2.27 CFS @ 12.09 HRS, VOLUME= .17 AF
Qout= 1.69 CFS @ 12.20 HRS, VOLUME= .17 AF, ATTEN= 25%, LAG= 6.3 MIN

ELEVATION (FT)	AREA (SF)	INC.STOR (CF)	CUM.STOR (CF)
49.8	10	0	0
50.0	180	19	19
52.0	1800	1980	1999

STOR-IND METHOD
PEAK STORAGE = 986 CF
PEAK ELEVATION= 51.0 FT
FLOOD ELEVATION= 52.0 FT
START ELEVATION= 49.8 FT
SPAN= 10-20 HRS, dt=.1 HRS
3 x FINER ROUTING
Tdet= 10.9 MIN (.17 AF)

#	ROUTE	INVERT	OUTLET DEVICES
1	P	49.8'	12" CULVERT n=.024 L=80' S=.005'/ Ke=.7 Cc=.9 Cd=.53

POND 200 INFLOW & OUTFLOW
ponding area 1



Data for Aero Heating-Presumpscot St. PORT. ME proposed

TYPE III 24-HOUR RAINFALL= 4.70 IN

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POND 210

Catch basin #4

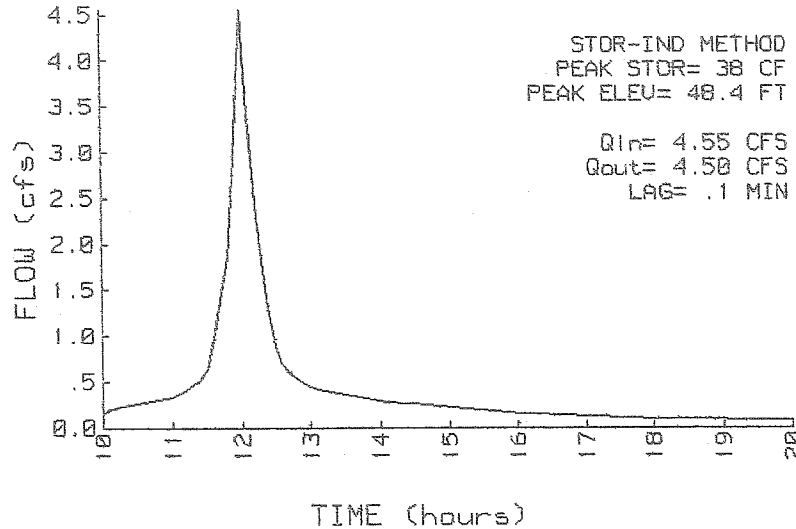
Qin = 4.55 CFS @ 12.01 HRS, VOLUME= .34 AF
Qout= 4.50 CFS @ 12.01 HRS, VOLUME= .34 AF, ATTEN= 1%, LAG= .1 MIN

ELEVATION (FT)	AREA (SF)	INC.STOR (CF)	CUM.STOR (CF)
46.1	13	0	0
51.0	20	80	80

STOR-IND METHOD
 PEAK STORAGE = 38 CF
 PEAK ELEVATION= 48.4 FT
 FLOOD ELEVATION= 51.0 FT
 START ELEVATION= 46.1 FT
 SPAN= 10-20 HRS, dt=.1 HRS
 3 x FINER ROUTING
 Tdet= .7 MIN (.34 AF)

#	ROUTE	INVERT	OUTLET DEVICES
1	P	46.1'	12" CULVERT n=.011 L=121' S=.01'/' Ke=.7 Cc=.9 Cd=.53

POND 210 INFLOW & OUTFLOW
Catch basin #4



Data for Aero Heating-Presumpscot St.PORT.ME proposed
 TYPE III 24-HOUR RAINFALL= 4.70 IN

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POND 215 outlet cb structure

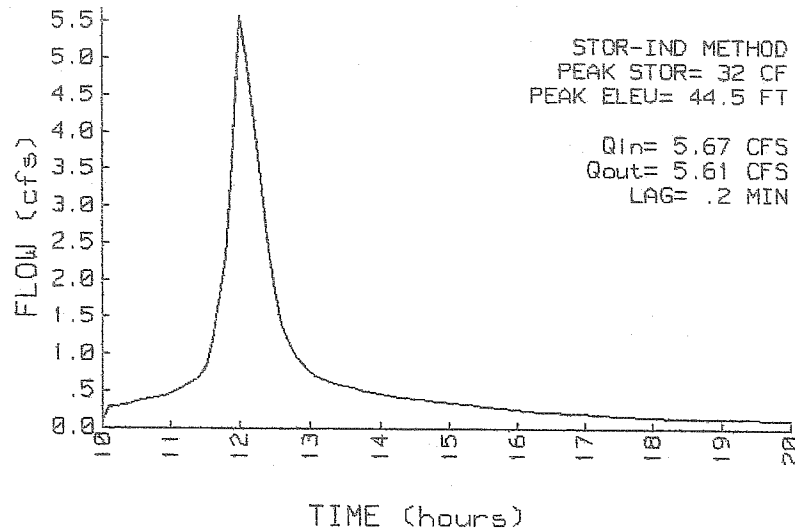
Qin = 5.67 CFS @ 12.03 HRS, VOLUME= .51 AF
 Qout= 5.61 CFS @ 12.03 HRS, VOLUME= .51 AF, ATTEN= 1%, LAG= .2 MIN

ELEVATION (FT)	AREA (SF)	INC.STOR (CF)	CUM.STOR (CF)
42.8	13	0	0
48.0	24	95	95
50.0	112	136	231
52.0	500	612	843

STOR-IND METHOD
 PEAK STORAGE = 32 CF
 PEAK ELEVATION= 44.5 FT
 FLOOD ELEVATION= 52.0 FT
 START ELEVATION= 42.8 FT
 SPAN= 10-20 HRS, dt=.1 HRS
 3 x FINER ROUTING
 Tdet= .7 MIN (.51 AF)

#	ROUTE	INVERT	OUTLET DEVICES
1	P	51.8'	8' BROAD-CRESTED RECTANGULAR WEIR X 1.81 $Q=C L H^{1.5}$ C=1.58, 1.62, 1.72, 0, 0, 0, 0, 0
2	P	42.8'	15" CULVERT n=.011 L=88' S=.005'/' Ke=.5 Cc=.9 Cd=.6

POND 215 INFLOW & OUTFLOW
 outlet control structure



Data for Aero Heating-Presumpscot St.PORT.ME proposed

TYPE III 24-HOUR RAINFALL= 4.70 IN

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POND 230

depression/ponding area 2

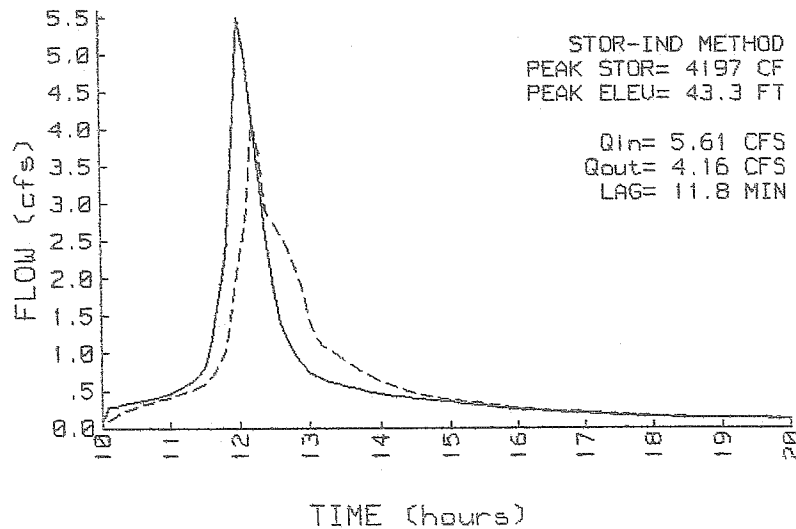
Qin = 5.61 CFS @ 12.03 HRS, VOLUME= .51 AF
 Qout= 4.16 CFS @ 12.23 HRS, VOLUME= .51 AF, ATTEN= 26%, LAG= 11.8 MIN

ELEVATION (FT)	AREA (SF)	INC.STOR (CF)	CUM.STOR (CF)
39.8	10	0	0
40.0	670	68	68
42.0	1300	1970	2038
43.0	1800	1550	3588
43.6	2200	1200	4788

STOR-IND METHOD
 PEAK STORAGE = 4197 CF
 PEAK ELEVATION= 43.3 FT
 FLOOD ELEVATION= 43.5 FT
 START ELEVATION= 39.8 FT
 SPAN= 10-20 HRS, dt=.1 HRS
 3 x FINER ROUTING
 Tdet= 18.2 MIN (.51 AF)

#	ROUTE	INVERT	OUTLET DEVICES
1	P	39.8'	6" ORIFICE/GRATE $Q = .6 \text{ PI } r^2 \text{ SQR}(2g) \text{ SQR}(H-r)$
2	P	43.2'	12" HORIZONTAL ORIFICE/GRATE $Q = .6 \text{ Area } \text{SQR}(2gH)$
3	P	41.5'	6" ORIFICE/GRATE $Q = .6 \text{ PI } r^2 \text{ SQR}(2g) \text{ SQR}(H-r)$
4	P	43.5'	10' BROAD-CRESTED RECTANGULAR WEIR X 1.81 $Q = C L H^{1.5} \quad C = 1.58, 1.62, 1.72, 0, 0, 0, 0, 0$

POND 230 INFLOW & OUTFLOW
 depression/ponding area 2



Data for Aero Heating-Presumpscot St. PORT. ME proposed

TYPE III 24-HOUR RAINFALL= 5.50 IN

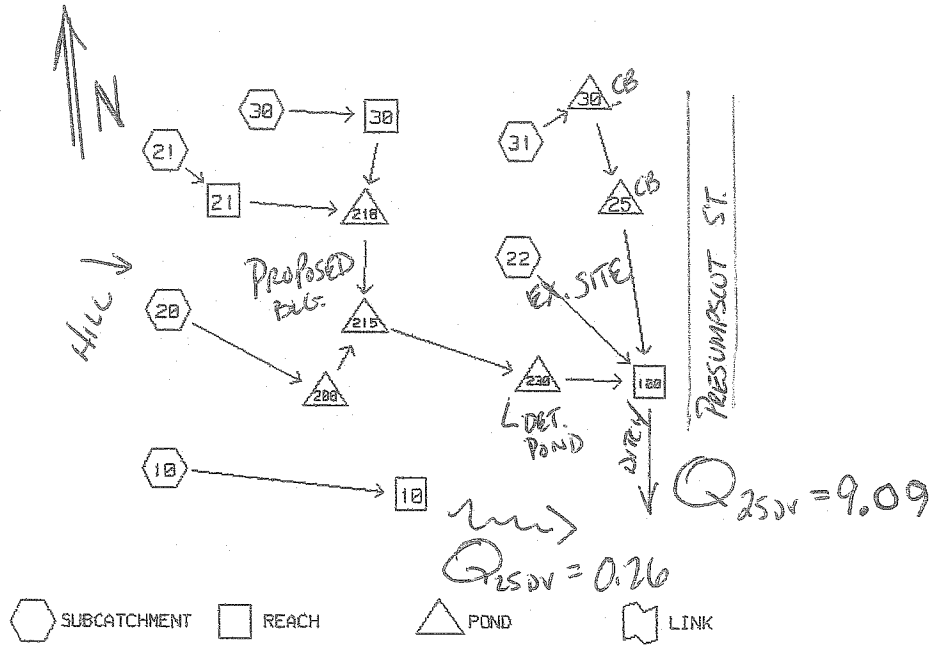
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WATERSHED ROUTING

25 yr - DEV.



$Q_{25yr} = 9.09$

$Q_{25yr} = 0.26$

$Q_{25DEV(SITE)} = 9.35$
CFS

Data for Aero Heating-Presumpscot St.PORT.ME proposed

TYPE III 24-HOUR RAINFALL= 5.50 IN

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RUNOFF BY SCS TR-20 METHOD: TYPE III 24-HOUR RAINFALL= 5.50 IN, SCS U.H.

RUNOFF SPAN = 10-20 HRS, dt= .10 HRS, 101 POINTS

SUBCAT NUMBER	AREA (ACRE)	Tc (MIN)	--GROUND COVERS (%CN)--	WGT'D CN	C	PEAK (CFS)	Tpeak (HRS)	VOL (AF)
10	.10	7.4	40%73 60%71	72	-	.26	12.08	.02
20	.67	9.1	45%80 52%98 3%77	89	-	2.74	12.09	.21
21	.66	7.6	35%98 53%77 12%80	85	-	2.49	12.07	.19
22	.65	4.4	17%98 26%91 57%80	86	-	2.85	12.01	.19
30	.64	1.4	94%98 6%80	97	-	3.39	11.98	.22
31	.56	11.2	54%98 36%91 11%80	94	-	2.39	12.11	.19

Data for Aero Heating-Presumpscot St.PORT.ME proposed

TYPE III 24-HOUR RAINFALL= 5.50 IN

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REACH ROUTING BY STOR-IND+TRANS METHOD

REACH NO.	DIAM (IN)	BOTTOM WIDTH (FT)	DEPTH (FT)	SIDE SLOPES (FT/FT)	n	LENGTH (FT)	SLOPE (FT/FT)	PEAK VEL. (FPS)	TRAVEL TIME (MIN)	PEAK Qout (CFS)
10	-	-	-	-	-	-	-	0.0	0.0	.26 N
21	12.0	-	-	-	.011	180	.0200	7.4	.4	2.43
30	12.0	-	-	-	.011	44	.0100	6.0	.1	3.36
100	-	3.0	4.0	.50 .50	.030	60	.0100	3.2	.3	9.09

Data for Aero Heating-Presumpscot St.PORT.ME proposed

TYPE III 24-HOUR RAINFALL= 5.50 IN

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POND ROUTING BY STOR-IND METHOD

POND NO.	START	FLOOD	PEAK	PEAK	----- PEAK FLOW -----				---Qout---	
	ELEV. (FT)	ELEV. (FT)	ELEV. (FT)	STORAGE (AF)	Qin (CFS)	Qout (CFS)	Qpri (CFS)	Qsec (CFS)	ATTEN. (%)	LAG (MIN)
25	34.6	40.5	35.4	0.00	2.34	2.33			0	.1
30	39.8	41.0	40.7	0.00	2.38	2.34			2	.8
200	49.8	52.0	51.3	.03	2.74	1.83			33	6.9
210	46.1	51.0	49.2	0.00	5.45	5.37			1	.2
215	42.8	52.0	45.0	0.00	6.79	6.77			0	.1
230	39.8	43.5	43.5	.11	6.77	5.06			25	9.7

Data for Aero Heating-Presumpscot St.PORT.ME proposed

TYPE III 24-HOUR RAINFALL= 5.50 IN

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SUBCATCHMENT 10

Southwestern sideline

PEAK= .26 CFS @ 12.08 HRS, VOLUME= .02 AF

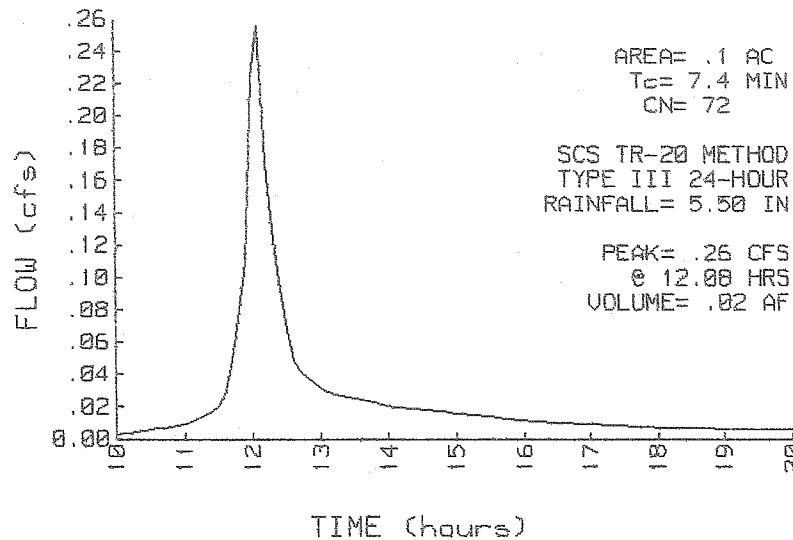
ACRES	CN
.04	73
.06	71
.10	72

brush grass good D-soil
meadow good C-soil

SCS TR-20 METHOD
TYPE III 24-HOUR
RAINFALL= 5.50 IN
SPAN= 10-20 HRS, dt=.1 HRS

Method	Comment	Tc (min)
TR-55 SHEET FLOW	sheet hill flow	6.8
Grass: Dense n=.24 L=100' P2=3 in s=.14 '/'		
SHALLOW CONCENTRATED/UPLAND FLOW	shallow flow	.6
Grassed Waterway Kv=15 L=95' s=.033 '/' V=2.72 fps		
Total Length= 195 ft		Total Tc= 7.4

SUBCATCHMENT 10 RUNOFF
Southwestern sideline



Data for Aero Heating-Presumpscot St.PORT.ME proposed

TYPE III 24-HOUR RAINFALL= 5.50 IN

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SUBCATCHMENT 20

Southern half lot to detention depression

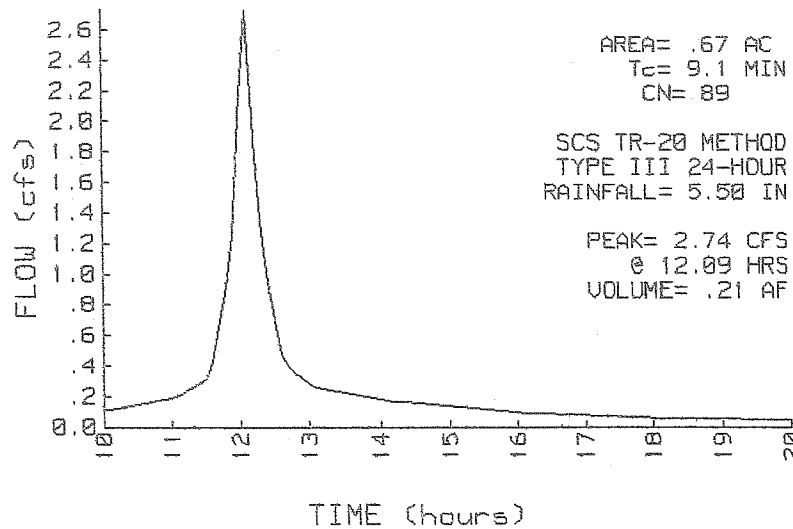
PEAK= 2.74 CFS @ 12.09 HRS, VOLUME= .21 AF

ACRES	CN	
.30	80	Grass good D-soil
.35	98	impervious
.02	77	woods good D-soil
.67	89	

SCS TR-20 METHOD
 TYPE III 24-HOUR
 RAINFALL= 5.50 IN
 SPAN= 10-20 HRS, dt=.1 HRS

Method	Comment	Tc (min)
TR-55 SHEET FLOW	hill sheet flow	8.5
Woods: Light underbrush n=.4	L=80' P2=3 in s=.14 '/'	
SHALLOW CONCENTRATED/UPLAND FLOW	grass shoulder/swale flow	.4
Grassed Waterway Kv=15	L=65' s=.03 '/' V=2.6 fps	
CHANNEL FLOW	Ditch to ponding area	.2
a=12 sq-ft Pw=14' r=.857'		
s=.035 '/' n=.035	V=7.17 fps L=100' Capacity=86 cfs	
Total Length= 245 ft		Total Tc= 9.1

SUBCATCHMENT 20 RUNOFF
 Southern half lot to detention depression



Data for Aero Heating-Presumpscot St.PORT.ME proposed
 TYPE III 24-HOUR RAINFALL= 5.50 IN

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SUBCATCHMENT 21 building & rear hill section

PEAK= 2.49 CFS @ 12.07 HRS, VOLUME= .19 AF

ACRES	CN
.23	98
.35	77
.08	80
.66	85

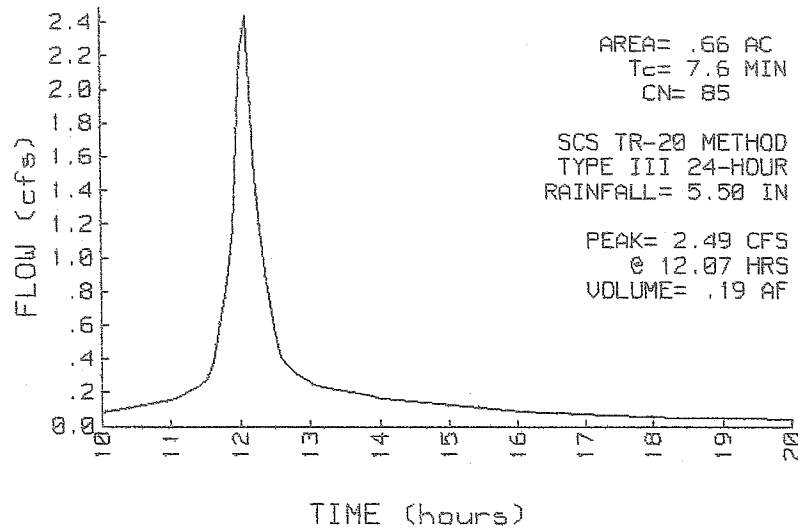
impervious
 woods good D-soil
 grass good D-soil

SCS TR-20 METHOD
 TYPE III 24-HOUR
 RAINFALL= 5.50 IN
 SPAN= 10-20 HRS, dt=.1 HRS

Method	Comment	Tc (min)
TR-55 SHEET FLOW	hill sheet flow	7.3
Woods: Light underbrush	n=.4 L=70' P2=3 in s=.16 '/'	
SHALLOW CONCENTRATED/UPLAND FLOW	shallow ditch flow	.2
Grassed Waterway	Kv=15 L=60' s=.083 '/' V=4.32 fps	
CIRCULAR CHANNEL	culvert flow	.1
12" Diameter	a=.79 sq-ft Pw=3.1' r=.25'	
s=.032 '/'	n=.011 V=9.59 fps L=62' Capacity=7.5 cfs	

Total Length= 192 ft Total Tc= 7.6

SUBCATCHMENT 21 RUNOFF
 building & rear hill section



Data for Aero Heating-Presumpscot St.PORT.ME proposed

TYPE III 24-HOUR RAINFALL= 5.50 IN

Prepared by sebago technics

27 Jul 00

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SUBCATCHMENT 22

ex. bldng half southern parking to street

PEAK= 2.85 CFS @ 12.01 HRS, VOLUME= .19 AF

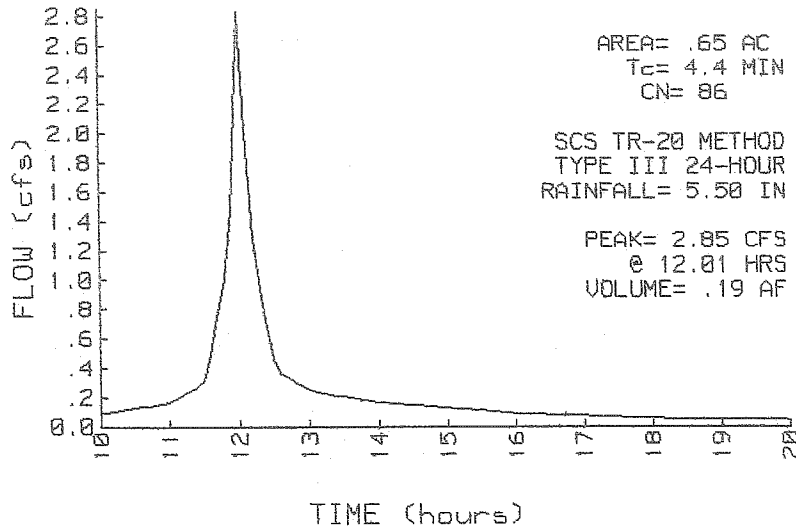
ACRES	CN
.11	98
.17	91
.37	80
.65	86

impervious
 gravel surf
 grass good D-soil

SCS TR-20 METHOD
 TYPE III 24-HOUR
 RAINFALL= 5.50 IN
 SPAN= 10-20 HRS, dt=.1 HRS

Method	Comment	Tc (min)
TR-55 SHEET FLOW	sheet flow	2.3
Grass: Dense n=.24 L=35' P2=3	in s=.25 '/'	
TR-55 SHEET FLOW	gravel sheet flow	1.3
Smooth surfaces n=.011 L=100'	P2=3 in s=.02 '/'	
SHALLOW CONCENTRATED/UPLAND FLOW	shallow flow	.8
Grassed Waterway Kv=15 L=105'	s=.02 '/' V=2.12 fps	
Total Length= 240 ft		Total Tc= 4.4

SUBCATCHMENT 22 RUNOFF
 ex. bldng half southern parking to street



Data for Aero Heating-Presumpscot St.PORT.ME proposed

TYPE III 24-HOUR RAINFALL= 5.50 IN

Prepared by sebage technics

27 Jul 00

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SUBCATCHMENT 30

Northern half to Street

PEAK= 3.39 CFS @ 11.98 HRS, VOLUME= .22 AF

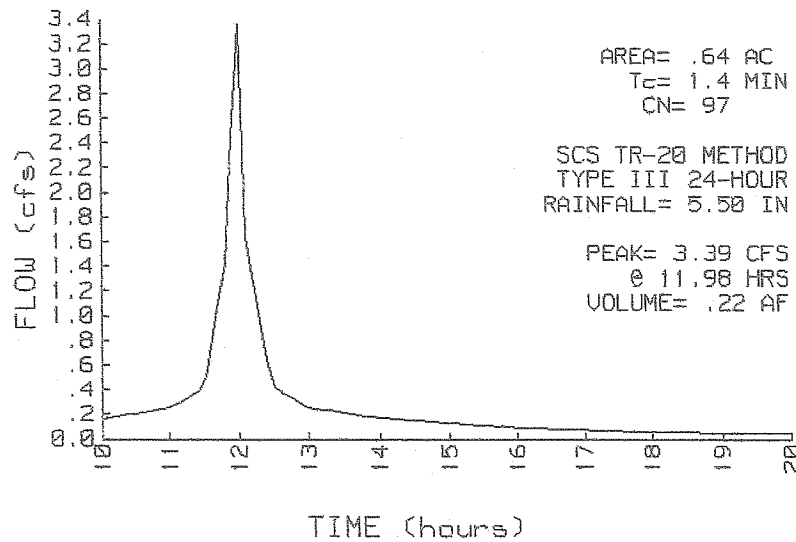
ACRES	CN
.60	98
.04	80
.64	97

impervious
grass good D-soil

SCS TR-20 METHOD
TYPE III 24-HOUR
RAINFALL= 5.50 IN
SPAN= 10-20 HRS, dt=.1 HRS

Method	Comment	Tc (min)
TR-55 SHEET FLOW	pavement sheet flow	1.4
Smooth surfaces	n=.011 L=170' P2=3 in s=.04 '/'	

SUBCATCHMENT 30 RUNOFF
Northern half to Street



Data for Aero Heating-Presumpscot St.PORT.ME proposed

TYPE III 24-HOUR RAINFALL= 5.50 IN

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SUBCATCHMENT 31 northern sideline/access rd/ex.bldg

PEAK= 2.39 CFS @ 12.11 HRS, VOLUME= .19 AF

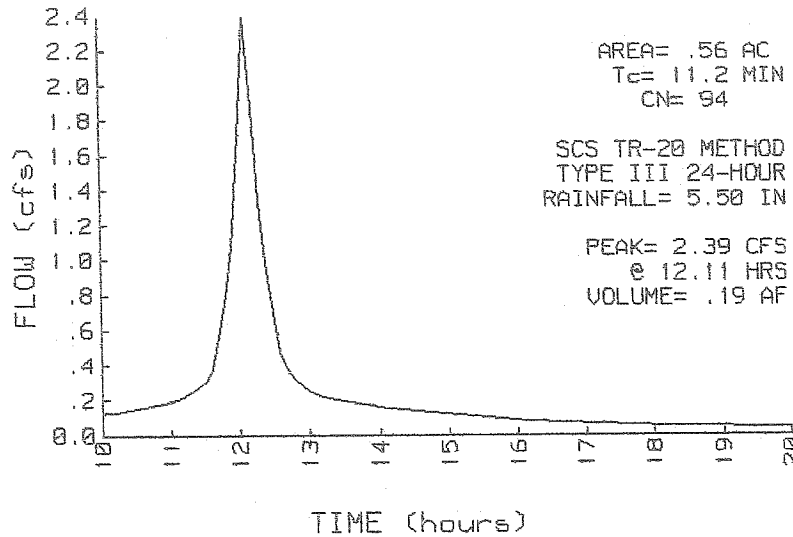
ACRES	CN	
.30	98	impervious
.20	91	gravel
.06	80	grass good D-soil
.56	94	

SCS TR-20 METHOD
 TYPE III 24-HOUR
 RAINFALL= 5.50 IN
 SPAN= 10-20 HRS, dt=.1 HRS

Method	Comment	Tc (min)
TR-55 SHEET FLOW	sheet hill flow	9.3
Woods: Light underbrush	n=.4 L=90' P2=3 in s=.143 '/'	
SHALLOW CONCENTRATED/UPLAND FLOW	shallow flow to inlet @ street	1.9
Grassed Waterway	Kv=15 L=355' s=.045 '/' V=3.18 fps	

Total Length= 445 ft Total Tc= 11.2

SUBCATCHMENT 31 RUNOFF northern sideline/access rd/ex.bldg



Data for Aero Heating-Presumpscot St.PORT.ME proposed

TYPE III 24-HOUR RAINFALL= 5.50 IN

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REACH 10

Not described

Qin = .26 CFS @ 12.08 HRS, VOLUME= .02 AF

Qout= .26 CFS @ 12.08 HRS, VOLUME= .02 AF, ATTEN= 0%, LAG= 0.0 MIN

DEPTH END AREA DISCH
(FT) (SQ-FT) (CFS)

- METHOD

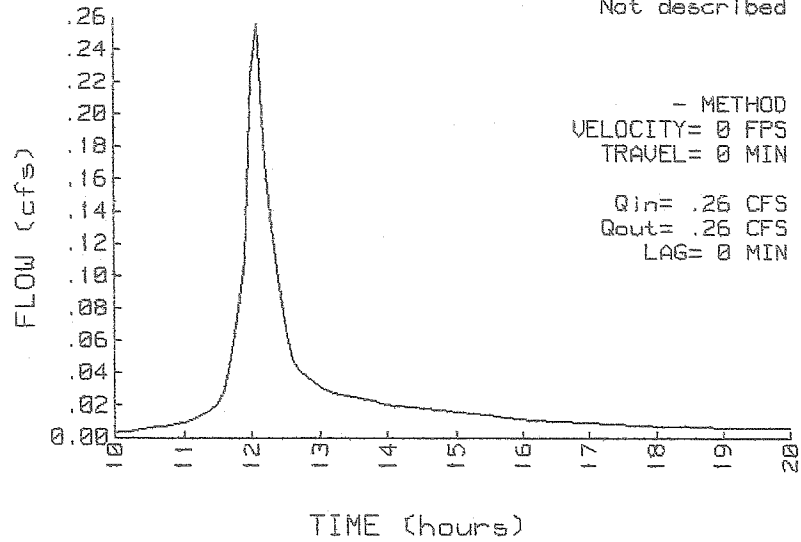
PEAK DEPTH= 0.00 FT

PEAK VELOCITY= 0.0 FPS

TRAVEL TIME = 0.0 MIN

SPAN= 10-20 HRS, dt=.1 HRS

REACH 10 INFLOW & OUTFLOW



Data for Aero Heating-Presumpscot St.PORT.ME proposed

TYPE III 24-HOUR RAINFALL= 5.50 IN

Prepared by sebage technics

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REACH 21

CB-5 to CB-4

Qin = 2.49 CFS @ 12.07 HRS, VOLUME= .19 AF
Qout= 2.43 CFS @ 12.08 HRS, VOLUME= .19 AF, ATTEN= 2%, LAG= .4 MIN

DEPTH (FT)	END AREA (SQ-FT)	DISCH (CFS)
0.0	0.0	0.00
.1	0.0	.12
.2	.1	.52
.3	.2	1.17
.7	.6	4.99
.8	.7	5.82
.9	.7	6.35
.9	.8	6.41
1.0	.8	6.35
1.0	.8	5.95

12" PIPE

n= .011

LENGTH= 180 FT

SLOPE= .02 FT/FT

STOR-IND+TRANS METHOD

PEAK DEPTH= .43 FT

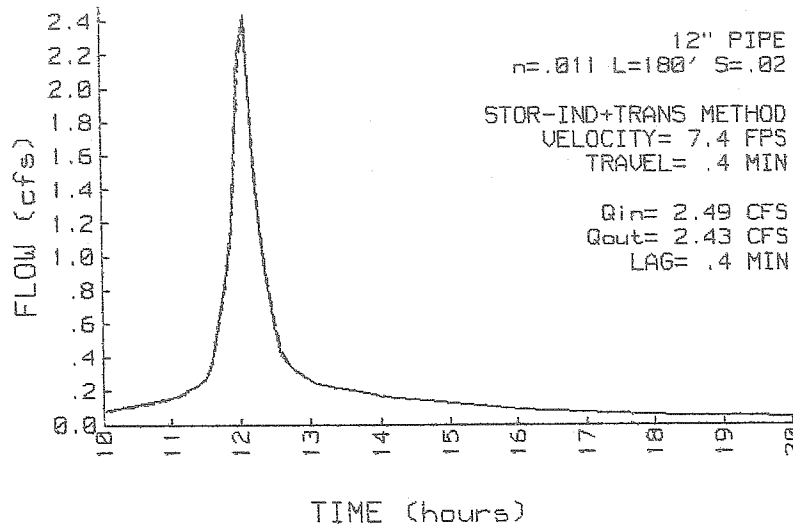
PEAK VELOCITY= 7.4 FPS

TRAVEL TIME = .4 MIN

SPAN= 10-20 HRS, dt=.1 HRS

2 x FINER ROUTING

REACH 21 INFLOW & OUTFLOW
CB-5 to CB-4



Data for Aero Heating-Presumpscot St.PORT.ME proposed
 TYPE III 24-HOUR RAINFALL= 5.50 IN

Prepared by sebago technics

27 Jul 00

HydroCAD 5.01 000643 (c) 1986-1998 Applied Microcomputer Systems

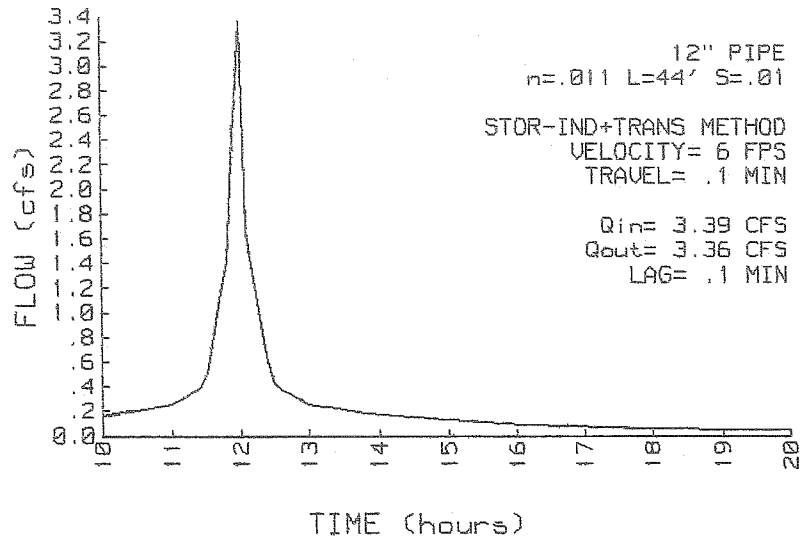
REACH 30

CB-3 to CB-4

Qin = 3.39 CFS @ 11.98 HRS, VOLUME= .22 AF
 Qout= 3.36 CFS @ 11.99 HRS, VOLUME= .22 AF, ATTEN= 1%, LAG= .1 MIN

DEPTH (FT)	END AREA (SQ-FT)	DISCH (CFS)	12" PIPE	STOR-IND+TRANS METHOD
0.0	0.0	0.00		PEAK DEPTH= .67 FT
.1	0.0	.09	n= .011	PEAK VELOCITY= 6.0 FPS
.2	.1	.37	LENGTH= 44 FT	TRAVEL TIME = .1 MIN
.3	.2	.82	SLOPE= .01 FT/FT	SPAN= 10-20 HRS, dt=.1 HRS
.7	.6	3.53		2 x FINER ROUTING
.8	.7	4.12		
.9	.7	4.49		
.9	.8	4.53		
1.0	.8	4.49		
1.0	.8	4.21		

REACH 30 INFLOW & OUTFLOW
 CB-3 to CB-4



Data for Aero Heating-Presumpscot St.PORT.ME proposed

TYPE III 24-HOUR RAINFALL= 5.50 IN

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7 Aug 00

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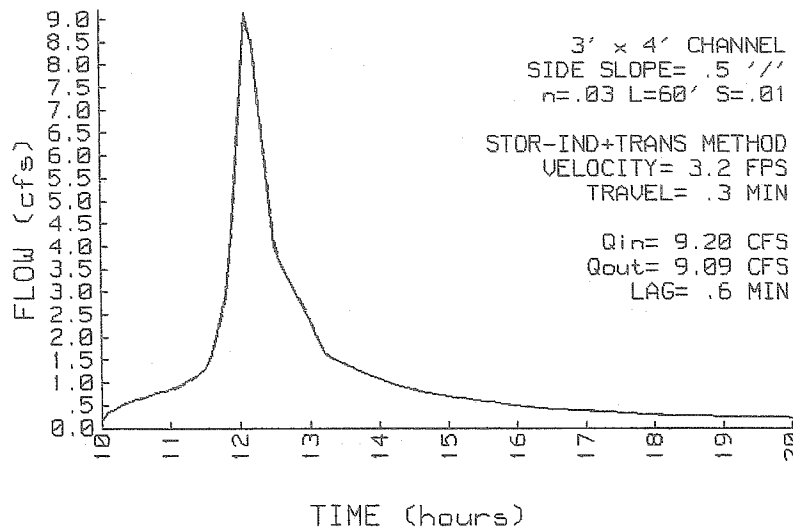
REACH 100

roadside ditch

Qin = 9.20 CFS @ 12.12 HRS, VOLUME= .99 AF
Qout= 9.09 CFS @ 12.13 HRS, VOLUME= .99 AF, ATTEN= 1%, LAG= .6 MIN

DEPTH (FT)	END AREA (SQ-FT)	DISCH (CFS)	3' x 4' CHANNEL	STOR-IND+TRANS METHOD
0.0	0.0	0.00	SIDE SLOPE= .5 '/'	PEAK DEPTH= .65 FT
.4	1.5	3.50	n= .03	PEAK VELOCITY= 3.2 FPS
.8	3.7	12.38	LENGTH= 60 FT	TRAVEL TIME = .3 MIN
1.2	6.5	27.07	SLOPE= .01 FT/FT	SPAN= 10-20 HRS, dt=.1 HRS
1.7	11.1	56.18		
2.4	18.7	114.00		
3.2	30.1	215.35		
4.0	44.0	358.13		

REACH 100 INFLOW & OUTFLOW
roadside ditch



Data for Aero Heating-Presumpscot St.PORT.ME proposed

TYPE III 24-HOUR RAINFALL= 5.50 IN

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7 Aug 00

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POND 25

Roadside CB

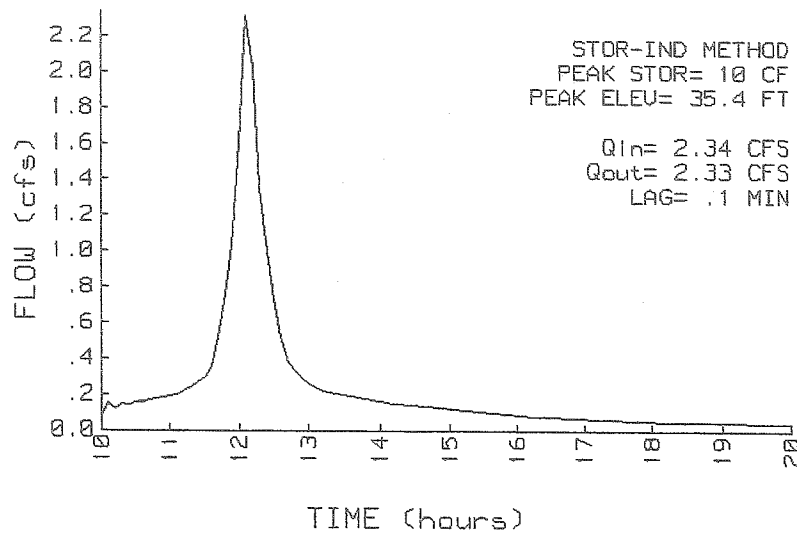
Qin = 2.34 CFS @ 12.12 HRS, VOLUME= .19 AF
Qout= 2.33 CFS @ 12.12 HRS, VOLUME= .19 AF, ATTEN= 0%, LAG= .1 MIN

ELEVATION (FT)	AREA (SF)	INC.STOR (CF)	CUM.STOR (CF)
34.6	13	0	0
40.5	13	75	75

STOR-IND METHOD
PEAK STORAGE = 10 CF
PEAK ELEVATION= 35.4 FT
FLOOD ELEVATION= 40.5 FT
START ELEVATION= 34.6 FT
SPAN= 10-20 HRS, dt=.1 HRS
Tdet= .2 MIN (.19 AF)

#	ROUTE	INVERT	OUTLET DEVICES
1	P	34.6'	15" CULVERT n=.02 L=155' S=.016'/' Ke=.5 Cc=.9 Cd=.6

POND 25 INFLOW & OUTFLOW
Roadside CB



Data for Aero Heating-Presumpscot St.PORT.ME proposed

TYPE III 24-HOUR RAINFALL= 5.50 IN

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4 Aug 00

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POND 30 access rd CB

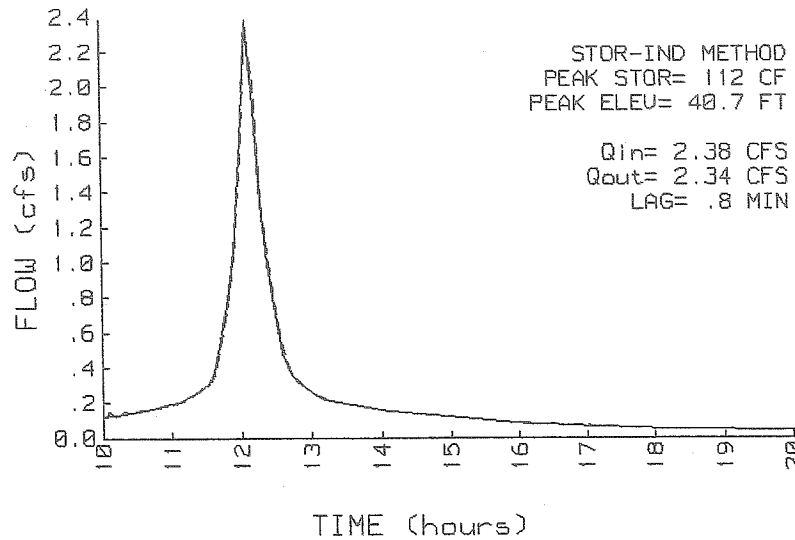
Qin = 2.38 CFS @ 12.11 HRS, VOLUME= .19 AF
Qout= 2.34 CFS @ 12.12 HRS, VOLUME= .19 AF, ATTEN= 2%, LAG= .8 MIN

ELEVATION (FT)	AREA (SF)	INC.STOR (CF)	CUM.STOR (CF)
39.8	10	0	0
40.0	100	11	11
41.0	200	150	161

STOR-IND METHOD
PEAK STORAGE = 112 CF
PEAK ELEVATION= 40.7 FT
FLOOD ELEVATION= 41.0 FT
START ELEVATION= 39.8 FT
SPAN= 10-20 HRS, dt=.1 HRS
Tdet= 1.1 MIN (.19 AF)

#	ROUTE	INVERT	OUTLET DEVICES
1	P	39.8'	12" CULVERT n=.024 L=55' S=.1'/' Ke=.5 Cc=.9 Cd=.6

POND 30 INFLOW & OUTFLOW
access rd CB



Data for Aero Heating-Presumpscot St.PORT.ME proposed

TYPE III 24-HOUR RAINFALL= 5.50 IN

Prepared by sebage technics

27 Jul 00

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POND 200

ponding area 1

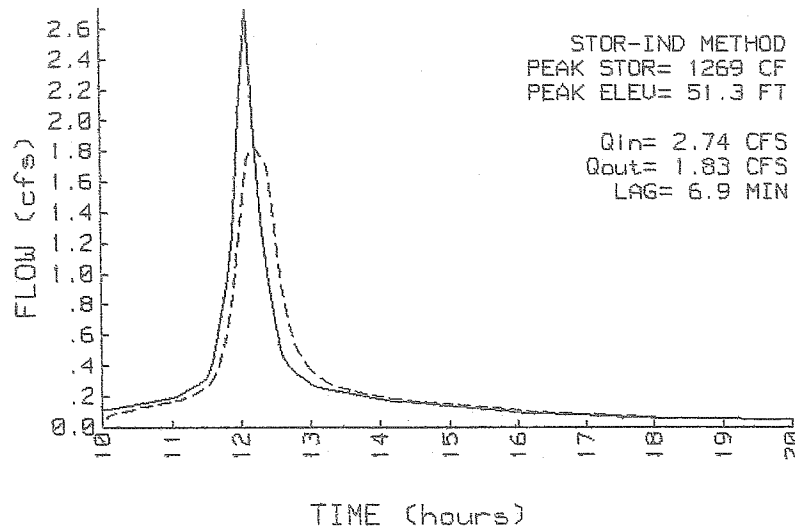
Qin = 2.74 CFS @ 12.09 HRS, VOLUME= .21 AF
Qout= 1.83 CFS @ 12.20 HRS, VOLUME= .21 AF, ATTEN= 33%, LAG= 6.9 MIN

ELEVATION (FT)	AREA (SF)	INC.STOR (CF)	CUM.STOR (CF)
49.8	10	0	0
50.0	180	19	19
52.0	1800	1980	1999

STOR-IND METHOD
PEAK STORAGE = 1269 CF
PEAK ELEVATION= 51.3 FT
FLOOD ELEVATION= 52.0 FT
START ELEVATION= 49.8 FT
SPAN= 10-20 HRS, dt=.1 HRS
3 x FINER ROUTING
Tdet= 11.6 MIN (.21 AF)

#	ROUTE	INVERT	OUTLET DEVICES
1	P	49.8'	12" CULVERT n=.024 L=80' S=.005'/ Ke=.7 Cc=.9 Cd=.53

POND 200 INFLOW & OUTFLOW
ponding area 1



Data for Aero Heating-Presumpscot St.PORT.ME proposed

TYPE III 24-HOUR RAINFALL= 5.50 IN

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POND 210

Catch basin #4

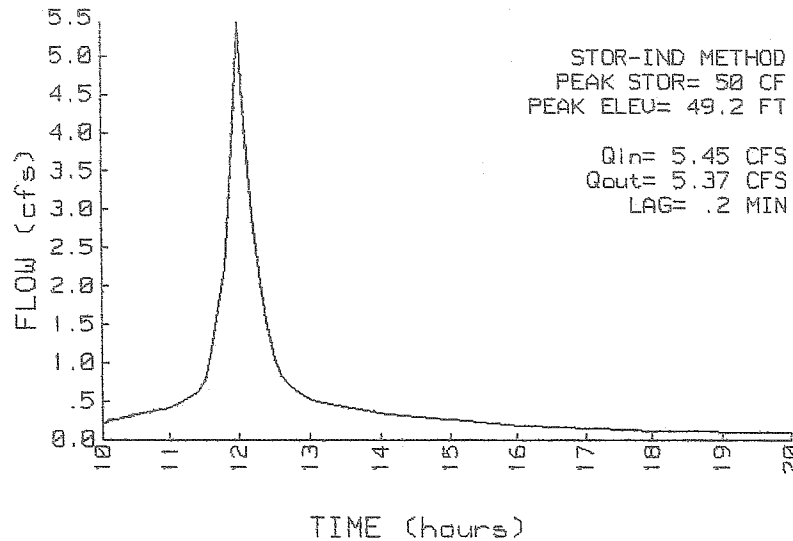
Qin = 5.45 CFS @ 12.01 HRS, VOLUME= .41 AF
Qout= 5.37 CFS @ 12.01 HRS, VOLUME= .41 AF, ATTEN= 1%, LAG= .2 MIN

ELEVATION (FT)	AREA (SF)	INC.STOR (CF)	CUM.STOR (CF)
46.1	13	0	0
51.0	20	80	80

STOR-IND METHOD
PEAK STORAGE = 50 CF
PEAK ELEVATION= 49.2 FT
FLOOD ELEVATION= 51.0 FT
START ELEVATION= 46.1 FT
SPAN= 10-20 HRS, dt=.1 HRS
3 x FINER ROUTING
Tdet= .8 MIN (.41 AF)

#	ROUTE	INVERT	OUTLET DEVICES
1	P	46.1'	12" CULVERT n=.011 L=121' S=.01'/' Ke=.7 Cc=.9 Cd=.53

POND 210 INFLOW & OUTFLOW
Catch basin #4



Data for Aero Heating-Presumpscot St.PORT.ME proposed

TYPE III 24-HOUR RAINFALL= 5.50 IN

Prepared by sebage technics

27 Jul 00

HydroCAD 5.01 000643 (c) 1986-1998 Applied Microcomputer Systems

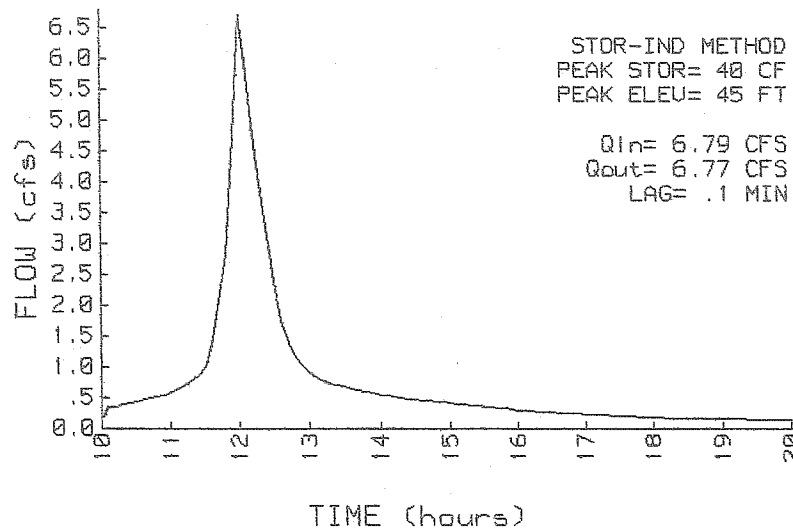
POND 215 outlet cb structure

Qin = 6.79 CFS @ 12.02 HRS, VOLUME= .62 AF
Qout= 6.77 CFS @ 12.03 HRS, VOLUME= .62 AF, ATTEN= 0%, LAG= .1 MIN

ELEVATION (FT)	AREA (SF)	INC.STOR (CF)	CUM.STOR (CF)	STOR-IND METHOD
42.8	13	0	0	PEAK STORAGE = 40 CF
48.0	24	95	95	PEAK ELEVATION= 45.0 FT
50.0	112	136	231	FLOOD ELEVATION= 52.0 FT
52.0	500	612	843	START ELEVATION= 42.8 FT
				SPAN= 10-20 HRS, dt=.1 HRS
				3 x FINER ROUTING
				Tdet= .4 MIN (.61 AF)

#	ROUTE	INVERT	OUTLET DEVICES
1	P	51.8'	8' BROAD-CRESTED RECTANGULAR WEIR X 1.81 Q=C L H ^{1.5} C=1.58, 1.62, 1.72, 0, 0, 0, 0, 0
2	P	42.8'	15" CULVERT n=.011 L=88' S=.005'/' Ke=.5 Cc=.9 Cd=.6

POND 215 INFLOW & OUTFLOW
outlet control structure



Data for Aero Heating-Presumpscot St.PORT.ME proposed

TYPE III 24-HOUR RAINFALL= 5.50 IN

Prepared by sebage technics

27 Jul 00

HydroCAD 5.01 000643 (c) 1986-1998 Applied Microcomputer Systems

POND 230

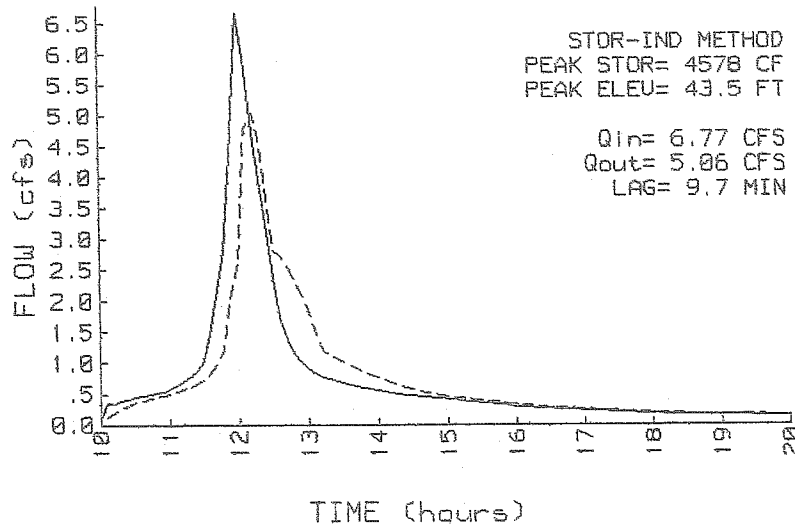
depression/ponding area 2

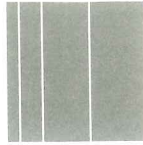
Qin = 6.77 CFS @ 12.03 HRS, VOLUME= .62 AF
 Qout= 5.06 CFS @ 12.19 HRS, VOLUME= .62 AF, ATTEN= 25%, LAG= 9.7 MIN

ELEVATION (FT)	AREA (SF)	INC.STOR (CF)	CUM.STOR (CF)	STOR-IND METHOD
39.8	10	0	0	PEAK STORAGE = 4578 CF
40.0	670	68	68	PEAK ELEVATION= 43.5 FT
42.0	1300	1970	2038	FLOOD ELEVATION= 43.5 FT
43.0	1800	1550	3588	START ELEVATION= 39.8 FT
43.6	2200	1200	4788	SPAN= 10-20 HRS, dt=.1 HRS
				3 x FINER ROUTING
				Tdet= 17.4 MIN (.62 AF)

#	ROUTE	INVERT	OUTLET DEVICES
1	P	39.8'	6" ORIFICE/GRATE $Q = .6 \text{ PI } r^2 \text{ SQR}(2g) \text{ SQR}(H-r)$
2	P	43.2'	12" HORIZONTAL ORIFICE/GRATE $Q = .6 \text{ Area } \text{SQR}(2gH)$
3	P	41.5'	6" ORIFICE/GRATE $Q = .6 \text{ PI } r^2 \text{ SQR}(2g) \text{ SQR}(H-r)$
4	P	43.5'	10' BROAD-CRESTED RECTANGULAR WEIR X 1.81 $Q = C L H^{1.5} \quad C = 1.58, 1.62, 1.72, 0, 0, 0, 0, 0$

POND 230 INFLOW & OUTFLOW
 depression/ponding area 2





Sebago Technics

Engineering & Planning for the Future

July 25, 2000
00179

Kandi Talbot, Planner
City of Portland
389 Congress Street
Portland, ME 04101

Minor Site Plan Application

Crandall Realty, LLC., 372 Presumpscot Street (Tax Map 422, Bock B, Lot 13)

Dear Kandi:

On behalf of Crandall Realty, LLC, I am pleased to submit eight sets of plans and the application fee of \$400.00 for their proposed facility at 372 Presumpscot Street. This submission package incorporates a site plan, grading and utility plan, two detail sheets, and HHE-200 Subsurface Wastewater System Design forms. The project currently is located in the I-L Zone, but abuts a residential zone at the rear. The applicant has agreed to keep the required 40' setback as a natural vegetated buffer. Since that area is located on a steep hill, it provides an excellent buffer from any incidental noise or lighting possibly originating from the site or adjacent properties in the I-L Zone.

The applicant proposes to construct a 15,000 square foot building on their existing lot for the purposes of expanding their heating and ventilation business. The applicant currently operates Aero Heating and Ventilation at the site of 372 Presumpscot Street in a 5,534 square foot building. However, the building can no longer accommodate his expanding needs so he has divided his entire parcel into two lots. One piece (2.17 acres) is to serve the proposed project, and the other (0.83 acre) is to serve the existing building which is currently under contract. The proposed building will house both his machine shop and office space in 10,000 square feet. The remaining 5,000 square feet will be utilized as a leased area for a profession to complement or relate to the applicant's business. In addition to the proposed building, they are proposing a parking area for 25 vehicles to include one handicap space.

The site is currently located on a barren, filled, 2.17 acre lot which consists of a rock fill and gravel surface. Currently, there are many stored items, such as lobster traps, trailers, boats, etc. These items will be permanently removed upon construction.

Stormwater currently is directed by shallow ditch flows to a catch basin system located on Presumpscot Street and to a ditch located to the south of the property. Runoff patterns are designed to simulate the direction of the flows as they currently travel. Although not attached, we have performed stormwater calculations and details for detaining stormwater to reduce off-site impacts to the Presumpscot Street drainage system. Due to the site's configuration and elevation, the site will be stabilized with riprap and erosion control mesh on steep slopes. In accordance with Best Management Practices and the attached erosion control plan, the site will provide protection from erosion during construction utilizing silt fence and stone check dams.

Access to the property is through a 24' wide entrance off Presumpscot Street. It is to be granite curbed along the radius and terminated with tipdowns where it becomes tangential with the Presumpscot Street line and at the property line. The applicant is not proposing to construct sidewalks along the street frontage. Currently, no sidewalk is located on Presumpscot Street in this I-L Zone and, due to the radius of the entrance and the minimal street frontage, there is no area available for the sidewalks along the lots' frontage.

Utilities to serve the site will include on-site propane gas, public water, underground 3-phase electric and telephone services, and an on-site subsurface wastewater disposal system. Currently, there is no sewer available to the property. The closest sewer manhole is approximately ¼ mile southerly from the site in Presumpscot Street. Gas and water services will require excavation and the opening of Presumpscot Street which is still under moratorium according to Public Works. Both street repair and entrance will be constructed to City of Portland Standards and Specifications for an Industrial Street. Fire protection will be provided by a proposed fire service, while the nearest fire hydrant is located directly across the street from the existing building.

We will be providing both the DRC and Public Works copies of the stormwater summaries, calculations, and details as soon as possible. Also, we will be providing lighting and landscape plans to indicate the aesthetic improvements to the site.

Please feel free to contact me at our office if you have any questions or require additional information.

Sincerely,

SEBAGO TECHNICS, INC.



James R. Seymour
Project Engineer

JRS:jc
Enc.

cc: Clair Crandall - Crandall Realty, LLC

00179

SUBSURFACE WASTEWATER DISPOSAL SYSTEM APPLICATION

Maine Department of Human Services
Division of Health Engineering, Station 10
(207) 287-5672 FAX (207) 287-4172

PROPERTY LOCATION		>> Caution: Permit Required -- Attach in Space Below <<	
City, Town, or Plantation	Portland	The Subsurface Wastewater Disposal System <i>shall not</i> be installed until a Permit is attached HERE by the Local Plumbing Inspector. The Permit shall authorize the owner or installer to install the disposal system in accordance with this application and the Maine Subsurface Wastewater Disposal Rules.	
Street or Road	372 Presumpscot Street		
Subdivision, Lot #			
OWNER/APPLICANT INFORMATION			
Name (last, first, MI)	Crandall Realty LLC	Owner	Applicant
Mailing Address of	372 Presumpscot Street		
<input type="checkbox"/> Owner <input type="checkbox"/> Applicant	Portland, Me.		
Daytime Tel. #	761-2092	Municipal Tax Map #	Lot #
Owner or Applicant Statement		Caution: Inspections Required	
I state that the information submitted is correct to the best of my knowledge and understand that any falsification is reason for the Department and/or Local Plumbing Inspector to deny a Permit.		I have inspected the installation authorized above and found it to be in compliance with the Subsurface Wastewater Disposal Rules Application.	
Signature of Owner or Applicant _____ Date _____		Local Plumbing Inspector Signature _____ (1st) Date Approved _____ _____ (2nd) Date Approved _____	

PERMIT INFORMATION

TYPE OF APPLICATION	THIS APPLICATION REQUIRES	DISPOSAL SYSTEM COMPONENT(S)
1. <input checked="" type="checkbox"/> First Time System 2. <input type="checkbox"/> Replacement System Type Replaced: _____ Year Installed: _____ 3. <input type="checkbox"/> Expanded System a. <input type="checkbox"/> One-time exempted b. <input type="checkbox"/> Non-exempted 4. <input type="checkbox"/> Experimental System 5. <input type="checkbox"/> Seasonal Conversion	1. <input checked="" type="checkbox"/> No Rule Variance 2. <input type="checkbox"/> First Time System Variance a. <input type="checkbox"/> Local Plumbing Inspector Approval b. <input type="checkbox"/> State & Local Plumbing Inspector Approval 3. Replacement System Variance a. <input type="checkbox"/> Local Plumbing Inspector Approval b. <input type="checkbox"/> State & Local Plumbing Inspector Approval 4. <input type="checkbox"/> Minimum Lot Size Variance 5. <input type="checkbox"/> Seasonal Conversion Approval	1. <input checked="" type="checkbox"/> Complete Non-engineered System 2. <input type="checkbox"/> Primitive System (graywater & alt toilet) 3. <input type="checkbox"/> Alternative Toilet, specify: _____ 4. <input type="checkbox"/> Non-Engineered Treatment Tank (only) 5. <input type="checkbox"/> Holding Tank, _____ gallons 6. <input type="checkbox"/> Non-engineered Disposal Field (only) 7. <input type="checkbox"/> Separated Laundry System 8. <input type="checkbox"/> Complete Engineered System (2000 gpd or more) 9. <input type="checkbox"/> Engineered Treatment Tank (only) 10. <input type="checkbox"/> Engineered Disposal Field (only) 11. <input type="checkbox"/> Pre-treatment, specify: 12. <input type="checkbox"/> Miscellaneous components
SIZE OF PROPERTY	DISPOSAL SYSTEM TO SERVE	TYPE OF WATER SUPPLY
34- _____ sq. ft. _____ acres	1. <input type="checkbox"/> Single Family Dwelling Unit, No. of Bedrooms: _____ 2. <input type="checkbox"/> Multiple Family Dwelling, No. of Units: _____ 3. Other: <u>Aero Heating & Venting, etc.</u> SPECIFY _____	1. <input type="checkbox"/> Drilled Well 2. <input type="checkbox"/> Dug Well 3. <input type="checkbox"/> Private 4. <input checked="" type="checkbox"/> Public 5. <input type="checkbox"/> Other:
SHORELAND ZONING		
<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		

DESIGN DETAILS (SYSTEM LAYOUT SHOWN ON PAGE 3)

TREATMENT TANK	DISPOSAL FIELD TYPE & SIZE	GARBAGE DISPOSAL UNIT	DESIGN FLOW
1. <input checked="" type="checkbox"/> Concrete a. <input checked="" type="checkbox"/> Regular b. <input type="checkbox"/> Low Profile 2. <input type="checkbox"/> Plastic 3. <input type="checkbox"/> Other: _____ CAPACITY <u>2,000</u> gallons	1. <input type="checkbox"/> Stone Bed 2. <input type="checkbox"/> Stone Trench 3. <input checked="" type="checkbox"/> Proprietary Device a. <input checked="" type="checkbox"/> Cluster array c. <input type="checkbox"/> Linear b. <input type="checkbox"/> Regular load d. <input checked="" type="checkbox"/> H-20 load 4. <input type="checkbox"/> Other: _____ SIZE <u>1875</u> sq. ft. <input type="checkbox"/> lin. ft.	1. <input checked="" type="checkbox"/> No 3. <input type="checkbox"/> Maybe 2. <input type="checkbox"/> Yes >> Specify one below: a. <input type="checkbox"/> Multi-compartment Tank b. <input type="checkbox"/> Tanks in Series c. <input type="checkbox"/> Increase in Tank Capacity d. <input type="checkbox"/> Filter on Tank Outlet	<u>375</u> gallons per day BASED ON: 1. <input type="checkbox"/> Table 501.1 (dwelling unit(s)) 2. <input type="checkbox"/> Table 501.2 (other facilities) SHOW CALCULATIONS -- for other facilities -- <u>25 Employees @</u> <u>15 gpd = 375 gpd</u> 3. <input type="checkbox"/> Section 503.0 (meter readings) ATTACH WATER-METER DATA
SOIL DATA & DESIGN CLASS	DISPOSAL FIELD SIZING	PUMPING	
PROFILE CONDITION DESIGN <u>S1 C1</u> at Observation Hole # <u>YPI</u> Depth <u>18</u> " Elevation <u>50.2</u> " OF MOST LIMITING SOIL FACTOR	1. <input type="checkbox"/> Small -- 2.0 sq. ft./gpd 2. <input type="checkbox"/> Medium -- 2.6 sq. ft./gpd 3. <input type="checkbox"/> Medium-Large -- 3.3 sq. ft./gpd 4. <input checked="" type="checkbox"/> Large -- 4.1 sq. ft./gpd 5. <input type="checkbox"/> Extra Large -- 5.0 sq. ft./gpd	1. <input type="checkbox"/> Not Required 2. <input checked="" type="checkbox"/> May Be Required 3. <input type="checkbox"/> Required >> Specify only for engineered or experimental systems: DOSE: _____ gallons	

SITE EVALUATOR STATEMENT

I Certify that on 7-20-2000 (date) I completed a site evaluation on this property and state that the data reported are accurate and that the proposed system is in compliance with the State of Maine Subsurface Wastewater Disposal Rules (10-144A CMR 241).

John M. Toothaker # 347 7-24-2000
 Site Evaluator Signature SE # Date

John M. Toothaker 856-0277
 Site Evaluator Name Printed Telephone #

00179

SUBSURFACE WASTEWATER DISPOSAL SYSTEM APPLICATION

Department of Human Services
Division of Health Engineering
(207) 287-5672 FAX (207) 287-4172

Town, City, Plantation

Portland, Me

Street, Road Subdivision

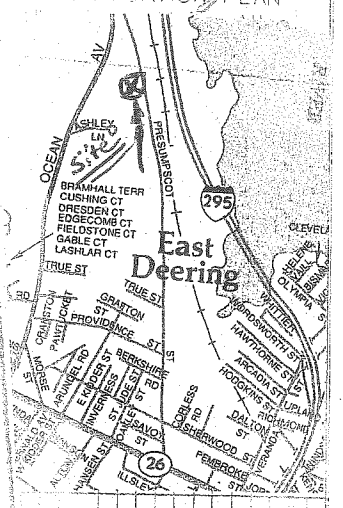
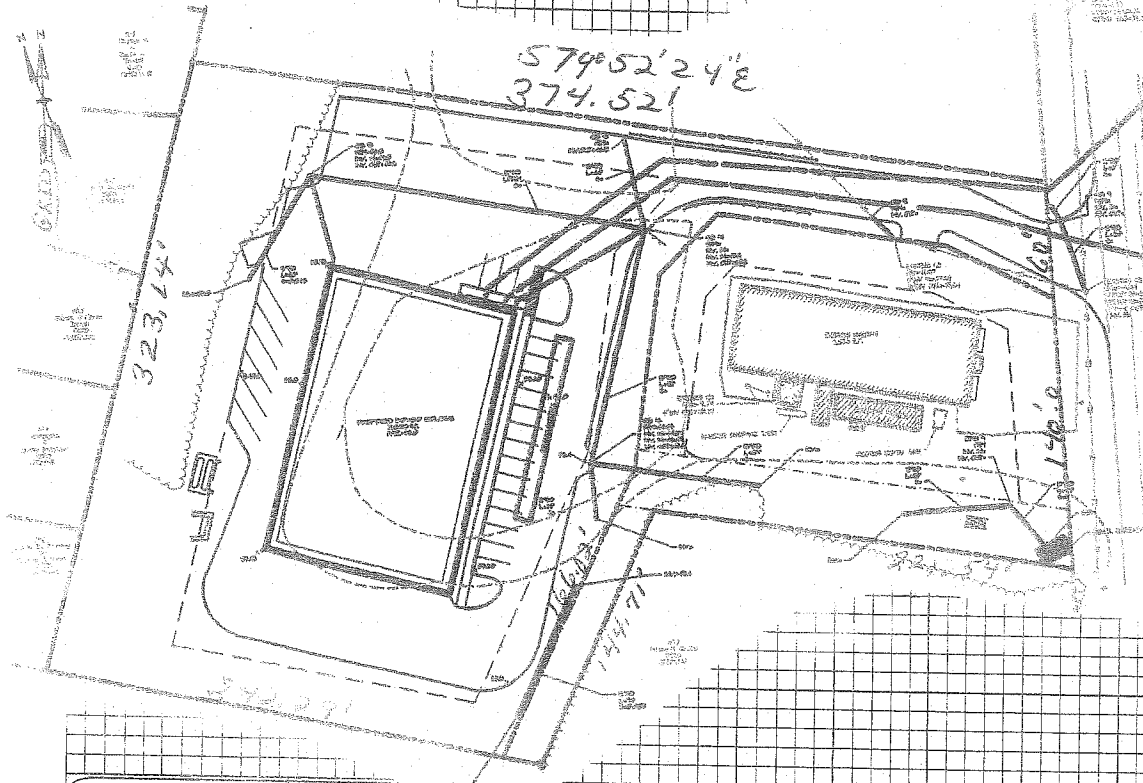
373 Presumptive Street

Owner's Name

East Deering Realty LLC

SITE PLAN

SCALE 1"=100'



SOIL DESCRIPTION AND CLASSIFICATION

Observation Hole Spot 1 Test Pit Boring
0-2" Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (inches)	Texture	Consistency	Color	Mottling
0-10	fine sandy loam	friable	Brown	None
10-20				
20-30	silt loam	Firm	Pale Gray	Common & distinct
30-40				
40-50				

Soil Classification Profile S Condition C Slope 2-4% Limiting Factor 18"
 Ground Water Restrictive Layer
 Bedrock
 Pit Depth

(Location of Observation Holes Shown Above)

Observation Hole Spot 2 Test Pit Boring
0-2" Depth of Organic Horizon Above Mineral Soil

DEPTH BELOW MINERAL SOIL SURFACE (inches)	Texture	Consistency	Color	Mottling
0-10	fine sandy loam	friable	Brown	None
10-20				
20-30	silt loam	Firm	Pale Gray	Common & distinct
30-40				
40-50				

Soil Classification Profile S Condition C Slope 2-4% Limiting Factor 18"
 Ground Water Restrictive Layer
 Bedrock
 Pit Depth

John M. Toothaker
Site Evaluator Signature

856-0277
SE =

7-24-2000
Date

SUBSURFACE WASTEWATER DISPOSAL SYSTEM APPLICATION

Department of Human Services
Division of Health Engineering
(207) 287-5672 FAX (207) 287-4172

Town, City, Plantation
Portland, ME

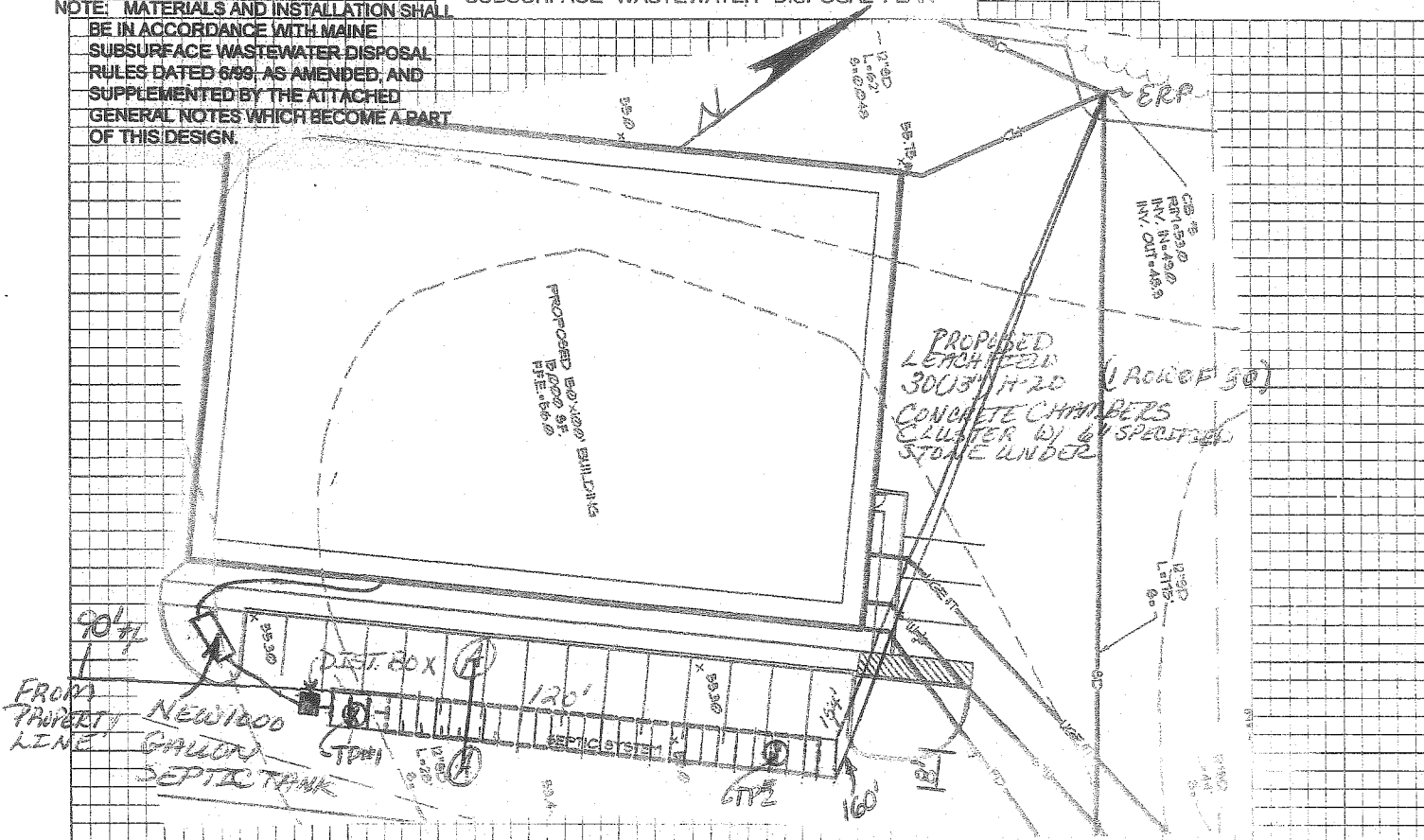
Street, Road, Subdivision
372 Presumpscot Street

Owner's Name
Candall Realty LLC

SUBSURFACE WASTEWATER DISPOSAL PLAN

SCALE 1" = 10 FT.

NOTE: MATERIALS AND INSTALLATION SHALL BE IN ACCORDANCE WITH MAINE SUBSURFACE WASTEWATER DISPOSAL RULES DATED 6/99, AS AMENDED, AND SUPPLEMENTED BY THE ATTACHED GENERAL NOTES WHICH BECOME A PART OF THIS DESIGN.



FILL REQUIREMENTS

INCLUDES PAYMENT OF CROSS SECTION

Depth of Fill (Upslope) *42" H*
Depth of Fill (Downslope) *42" H*

CONSTRUCTION ELEVATIONS

Finished Grade Elevation *55.0*
Top of Distribution Pipe or Proprietary Device *53.8*
Bottom of Disposal Area (Bottom of 6" stem) *51.2*

ELEVATION REFERENCE POINT

Location & Description *CB # 5*
RIM ELEV 53.0
Reference Elevation *53.0*

- NOTE:
1. GRAVELLY COARSE SAND FILL COMPACTED 90% OF STANDARD PROCTOR PER ASTM D998.
 2. CONTRACTOR SHALL SET GRADE STAKES MARKING SUB-BASE AND FINISH GRADE ELEVATIONS FOR CONSTRUCTION REFERENCE.

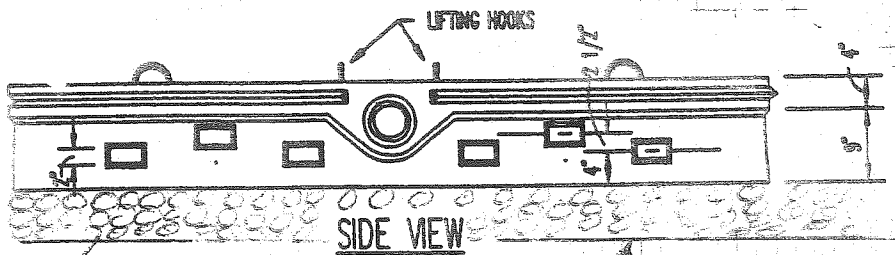
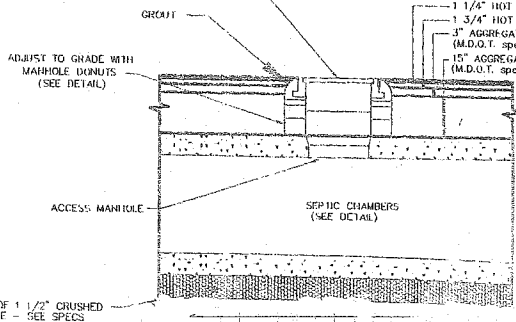
ROSS SECTION

Cross Sect A-A

SCALE:

VERTICAL: 1" = *N/T/S*
HORIZONTAL: 1" = *N/T/S*

HOME & COVER TO HAVE RAISED LETTERING, "SANITARY SEWER", 450# 24" CLEAR OPENING 16" TYP. R. EMBOSSED MARK 1-555 ON EQUAL 10



N/T/S
NOT TO SCALE

6" OF 1/2" CLEAN CRUSHED STONE

John M. Toothaker
Site Evaluator Signature

#347
SE

7-24-2008
Date

General Notes
(attachment to form HHE-200)

1. The nature of the site evaluation profession is one of interpretation of soil and site conditions. We, in the field, attempt to both provide a satisfactory service to the client, and comply by the rules by which we are bound - The Maine State Plumbing Code. If at any time you, the client, are not satisfied with the service provided or the results found, it is your right to hire another site evaluator for a second opinion.
2. Property information is supplied by the owner, applicant or representative. Such information presented herein shall be verified as correct by the owner or applicant prior to signing this application.
3. All work shall be in accordance with the Maine Subsurface Wastewater Disposal Rules dated 6/99, as amended.
4. All work should be performed under dry conditions only (for disposal area).
5. No vehicular or equipment traffic to be allowed on disposal area. Disposal field shall be constructed from outside the corner stakes located in the field. The downslope area is also to be protected in the same manner.
6. Backfill, if required, is to be gravelly coarse sand to coarse sand texture and to be free of foreign debris. If backfill is coarser than original soil, then mix top 4" of backfill and original soil with rototiller.
7. No neighboring wells are apparent (unless so indicated) within 100' of disposal area. Owner or applicant shall verify this prior to signing the application.
8. Minimum separation distances required (unless reduced by variance or special circumstance).
 - a) any well to disposal area: 100'
 - b) any well to septic tank: 100'
 - c) septic tank or disposal area to lake, river, stream or brook: 100' for major watercourse, 50' for minor water course
 - d) house to treatment tank: 8'
 - e) house to disposal area: 20'

Other separation distances per Plumbing Code.

9. Location of septic system near a wetland may require a separate permit. As such, the owner, prior to construction of the septic system, shall hire a professional to evaluate proximity of adjacent wetlands and prepare necessary permit applications.
10. Garbage disposals are not recommended and, if installed, are done so at the owner's risk. The additional waste load requires increased maintenance frequency, higher potential for failure, and larger septic tanks.
11. Pump stations, when required, shall be installed watertight to prevent infiltration of ground and/or surface water.
12. Force mains and pressure lines shall be flushed of any foreign material and pumps shall be check for proper on/off cycle before being put into service.
13. Force mains, pump stations, and/or gravity piping subject to freezing shall be installed below frost line or adequately insulated.

WALL
MOUNTS

MINI-ROCKFORD/WALL-GUARD



SPAULDING
LIGHTING, INC.
INDALUX

b2

MINI-ROCKFORD

APPLICATIONS

Walls, Fast Food Lots, Shopping Centers, Malls, Parking Garages, Tunnels, Underpasses, Schools, Industrial Plants, Docks And Loading Areas, Security Lighting Systems.

CONSTRUCTION FEATURES

Luminaire — Cast aluminum housing with one piece polycarbonate lens and cover. Continuous rubber gasketing seals the cover to the housing. The lens is both clear and diffusing to permit a broad smooth light pattern to be delivered by the reflector. Poly cover is secured to housing by four captive stainless steel screws.


Ballast—Mercury Vapor, Metal Halide, and High Pressure Sodium fixtures have a standard 120 volt integral ballast, with a starting rate to -20°F . All ballasts are normal power factor. Optional multi-tap, high power ballast (120, 208, 240, and 277 volts) is available. High Pressure Sodium ballast has an electronic starter circuit to ignite the lamp.

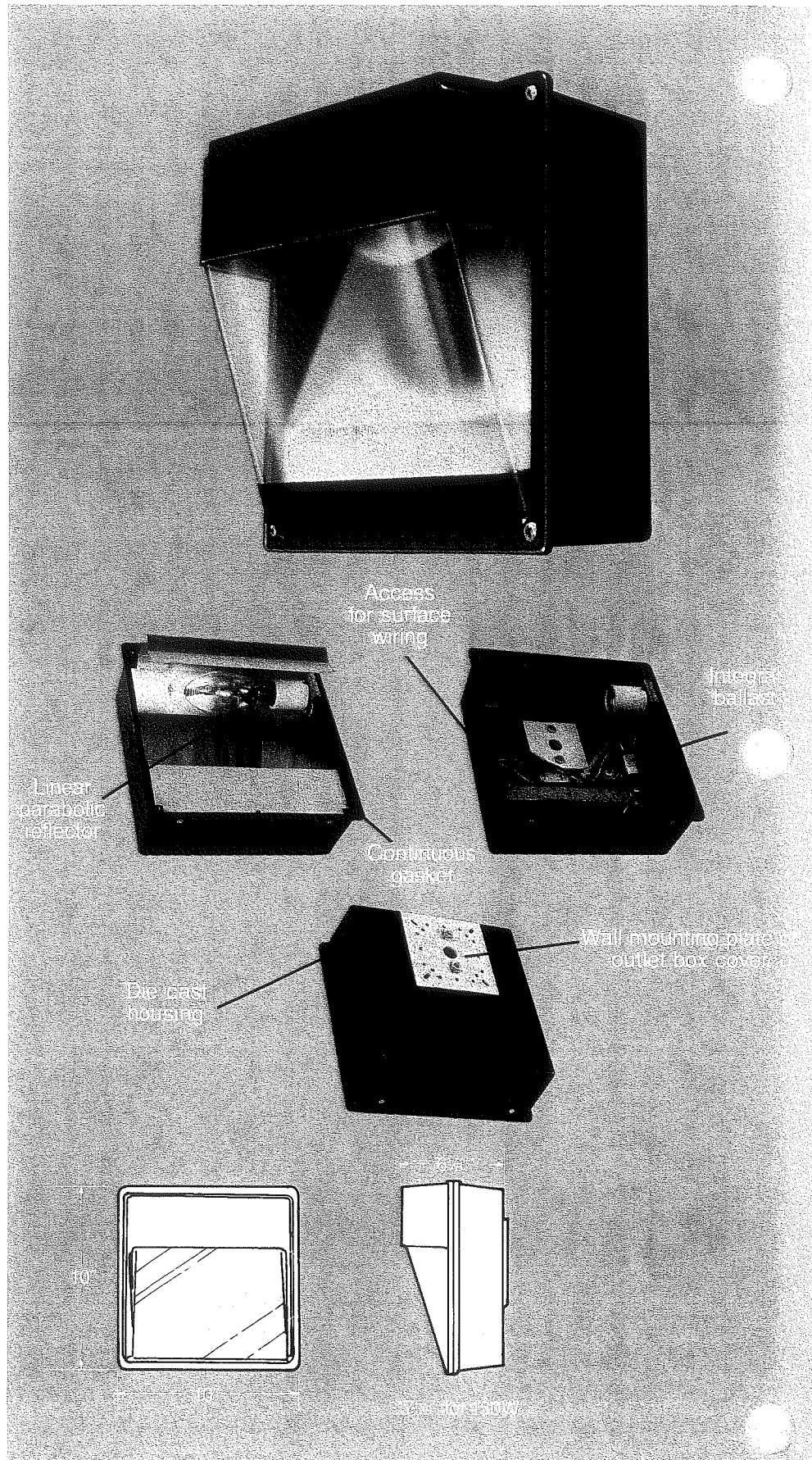
Reflector—The reflector assembly consists of a linear parabolic diffuse aluminum scoop shaped reflector with diffuse aluminum side panels. Anodized finished.

Socket—Medium base glazed porcelain socket with spring-loaded, nickel-plated center contact and reinforced lamp grip screw shell for E-17 or B-17 type lamps. HPS sockets are pulse rated.

Finish—Standard baked-on enamel paint finish is Dark Bronze.

Lamps—Accommodates 75 or 100 watt deluxe white Mercury Vapor clear or coated 70 & 100 watt Metal Halide, or 50 to 150 watt High Pressure Sodium lamp. All lamps to be E-17 or B-17 type.

 All units are U.L. listed.



WALL-GUARD

APPLICATIONS

Perimeter Lighting, Entrance & Walkways, Shopping Centers, School Buildings, Industrial Plants, Dock & Loading Platforms, Tunnels & Underpasses.

CONSTRUCTION FEATURES

Housing—Durable die cast aluminum housing and refractor frame. The lens frame is hinged on one side and secured with 2 stainless steel screw latches on the other side. Full silicone gasketing provides weatherproof seal. The housing is designed for wall mounting directly over a standard 4" outlet box. 1/2" tapped holes on ends are provided for surface conduit connection, or installation of photo cell.

Refractor—The refractor is high impact, heat resistant, borosilicate glass for wide spread light distribution.


Reflector—A one piece stippled asymmetric anodized aluminum reflector works in conjunction with the refractor for optimum efficiency and light control.

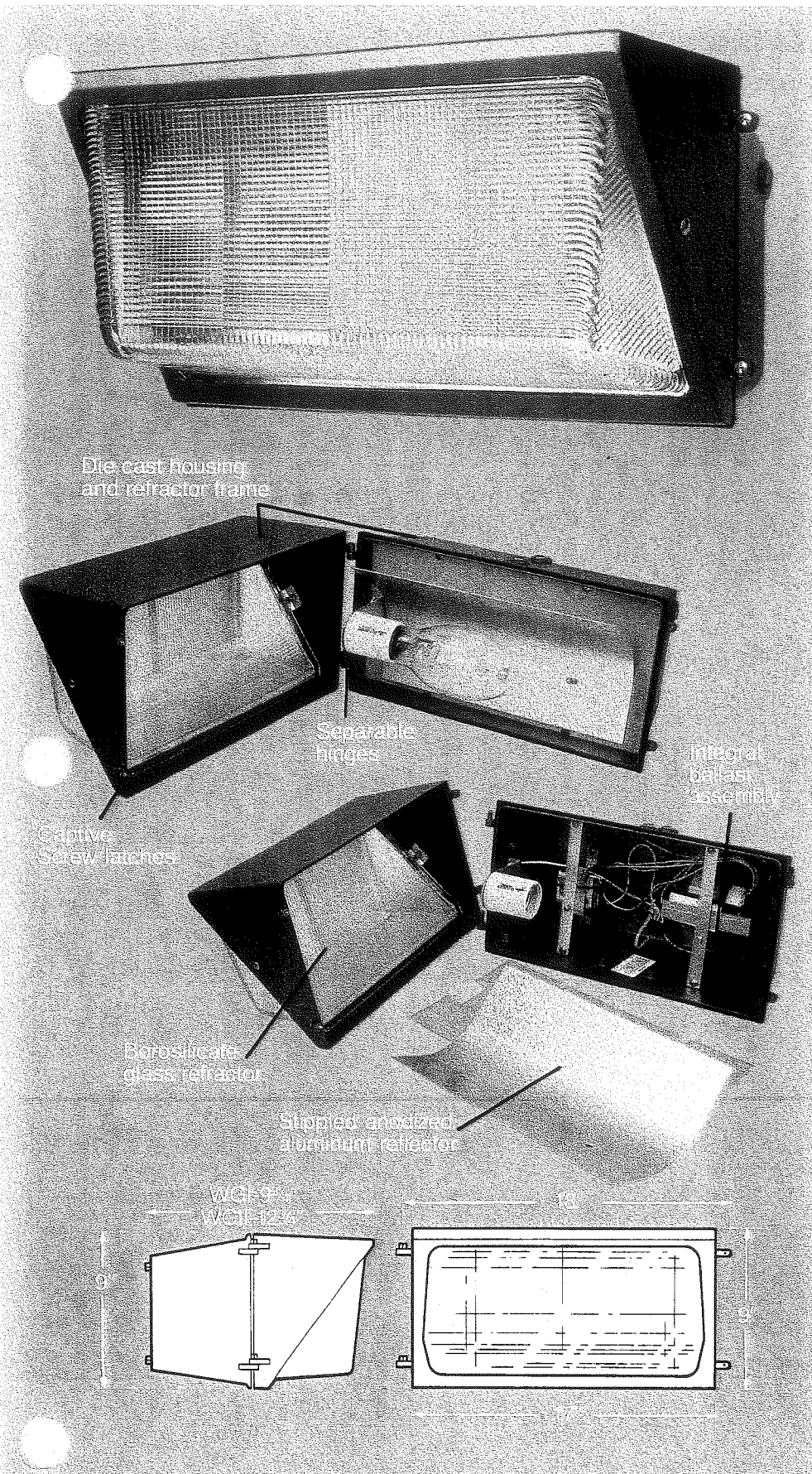
Lampholder—Enclosed porcelain socket with mogul screw shell for HID lamps. HPS sockets are pulse rated. LPS sockets are for single end bayonet base type lamp.

Ballast—Integral ballast with components mounted directly to housing casting, HPF, -20°F minimum starting temperature.

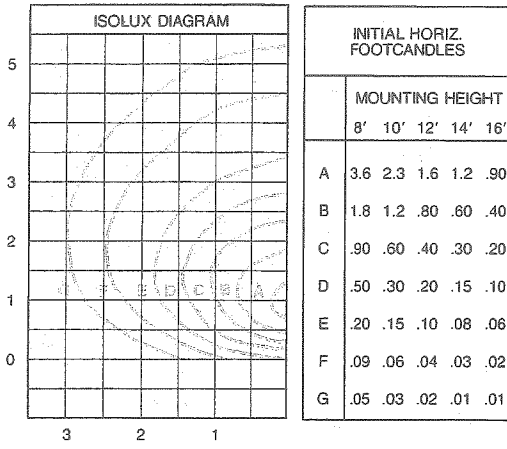
Lamps—Accommodates Metal Halide and High Pressure Sodium lamps up to 400 watt and LPS up to 35 watt.

Finish—Standard baked-on enamel finish is Dark Bronze. Other finishes available.

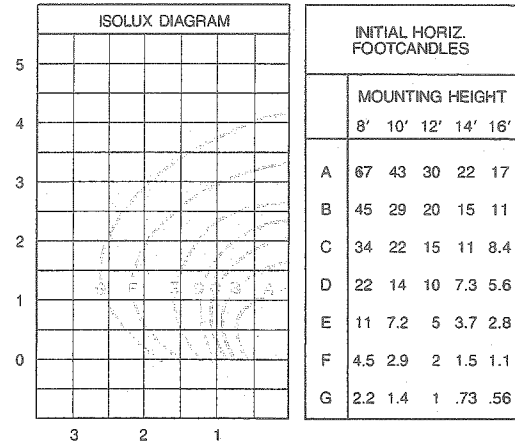
 All units are U.L. listed.



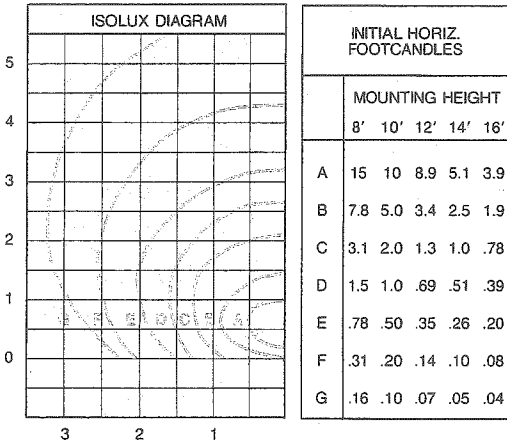
MRK-100-DX



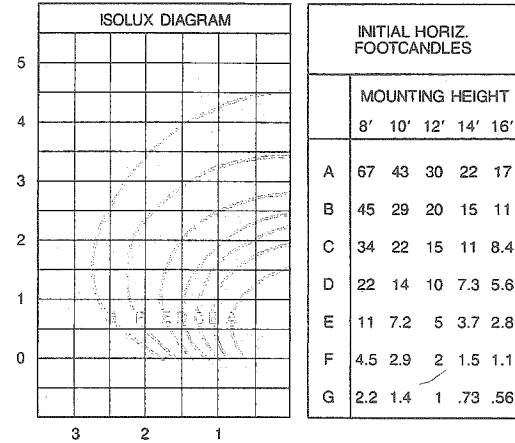
WGII-400M



MRK-150-HPS-C



WGII-400HPS



RATIO = DISTANCE / MOUNTING HEIGHT

This report has been prepared in accordance with IES guides on testing procedures. It is representative of luminaires tested under standardized and stabilized laboratory conditions. Various operating factors can cause differences between laboratory data and actual field performance.

ORDERING INFORMATION

LAMP WATTAGE	ORDERING NUMBER	WT./LBS.
MERCURY VAPOR		
75W	MRK-75-DX	9
100W	MRK-100-DX	10
METAL HALIDE		
70W	MRK-70-M	9
100W	MRK-100-M	10
HIGH PRESSURE SODIUM		
50W	MRK-50-HPS	8
70W	MRK-70-HPS	10
100W	MRK-100-HPS	11
150W	MRK-150-HPS	12

OPTIONS

DESCRIPTION	ORDERING NUMBER
Multi-Tap Ballast (120, 208, 240, & 277V) See Note Above	Suffix "MT"
Photoelectric Control (120V to 277V)	Suffix "PC"

NOTE: Standard Ballast Voltage is 120 volt with normal power factor (NPF) ballast. Optional Multi-tap ballast (High power factor-HPF) is available except in 75 watt Mercury Vapor and 50 watt HPS.

ORDERING INFORMATION

LAMP WATTAGE	ORDERING NUMBER	WT./LBS.
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**WALL-GUARD I
METAL HALIDE**

50W	WGI-50M	23
70W	WGI-70M	23
100W	WGI-100M	24
175W	WGI-175M	24
250W	WGI-250M	26

HIGH PRESSURE SODIUM

35W	WGI-35HPS	23
70W	WGI-70HPS	23
100W	WGI-100HPS	24
150W	WGI-150HPS	24
250W	WGI-250HPS	26

LOW PRESSURE SODIUM

18W	WGI-18LPS	21
35W	WGI-35LPS	22

WALL-GUARD II

METAL HALIDE

250W	WGII-250M	29
400W	WGII-400M	32

HIGH PRESSURE SODIUM

250W	WGII-250HPS	29
400W	WGII-400HPS	32

NOTE: Specify ballast voltage 120, 208, 240, or 277. 480v available in WGII only. Standard color is Dark Bronze (DB).

OPTIONS

DESCRIPTION	ORDERING NUMBER
Photoelectric Control	Add Suffix "PC"
Quartz Standby (50W)	Add Suffix "QZ"

NOTE: Standard Ballast Voltage is 120 volt with normal power factor (NPF) ballast. Optional Multi-tap ballast (High power factor-HPF) is available except in 75 watt Mercury Vapor and 50 watt HPS.