Form # P 04

DISPLAY THIS CARD ON PRINCIPAL FRONTAGE OF WORK

CITY OF PORTLAND

B[illegible]SPECTION

PERMIT

Please Read Application And Notes, If Any, Attached

Permit Number: 041182

This is to certify that 469 Presumpscot Assoc. LL[illegible]oten Co[illegible]

has permission to Multi-tenant light industrial b[illegible]ding Pre[illegible]gineer[illegible]teel buil[illegible]g

AT 469 Presumpscot St [illegible] 419 A007001

provided that the person or persons, [illegible]rm or [illegible]ation [illegible]epting this permit shall comply with all of the provisions of the Statutes of [illegible]ine and of th[illegible]ances of the City of Portland regulating the construction, maintenance and u[illegible] of buildings and s[illegible]ctures, and of the application on file in this department.

Apply to Public Works for street line and grade if nature of work requires such information.

N[illegible]ficatio[illegible] inspec[illegible]n must g[illegible]n and w[illegible]n permis[illegible]n procu b[illegible]re this [illegible]ding or [illegible]t there[illegible] la[illegible]ed or c[illegible]losed-in. H[illegible]UR NOTICE IS REQUIRED.

A certificate of occupancy must be procured by owner before this building or part thereof is occupied.

OTHER REQUIRED APPROVALS

Fire Dept. _____

Health Dept. _____

Appeal Board _____

Other _____

Department Name

Director - Building & Inspection Services

PENALTY FOR REMOVING THIS CARD

City of Portland, Maine - Building or Use Permit Application

389 Congress Street, 04101 Tel: (207) 874-8703, Fax: (207) 874-8716

Permit No:	Issue Date:	CBL:
04-1182		419 A007001

Location of Construction:	Owner Name:	Owner Address:	Phone:
469 Presumpscot St	469 Presumpscot Assoc. LLC		
Business Name:	**Contractor Name:**	**Contractor Address:**	**Phone**
	Doten Construction	175 South Freeport Rd. Freeport	2078659012
Lessee/Buyer's Name	**Phone:**	**Permit Type:**	**Zone:**
		Commercial	

Past Use:	Proposed Use:	Permit Fee:	Cost of Work:	CEO District:
Vacant Land	Multi-tenant light industrial building Pre-engineered steel building	$2,796.00	$300,000.00	

FIRE DEPT: ☐ Approved ☐ Denied

Signature:

INSPECTION:
Use Group: Type:

Signature:

Proposed Project Description:
Multi-tenant light industrial building Pre-engineered steel building

PEDESTRIAN ACTIVITIES DISTRICT (P.A.D.)

Action: ☐ Approved ☐ Approved w/Conditions ☐ Denied

Signature: Date:

Permit Taken By:	Date Applied For:
ldobson	08/17/2004

1. This permit application does not preclude the Applicant(s) from meeting applicable State and Federal Rules.
2. Building permits do not include plumbing, septic or electrical work.
3. Building permits are void if work is not started within six (6) months of the date of issuance. False information may invalidate a building permit and stop all work..

Zoning Approval

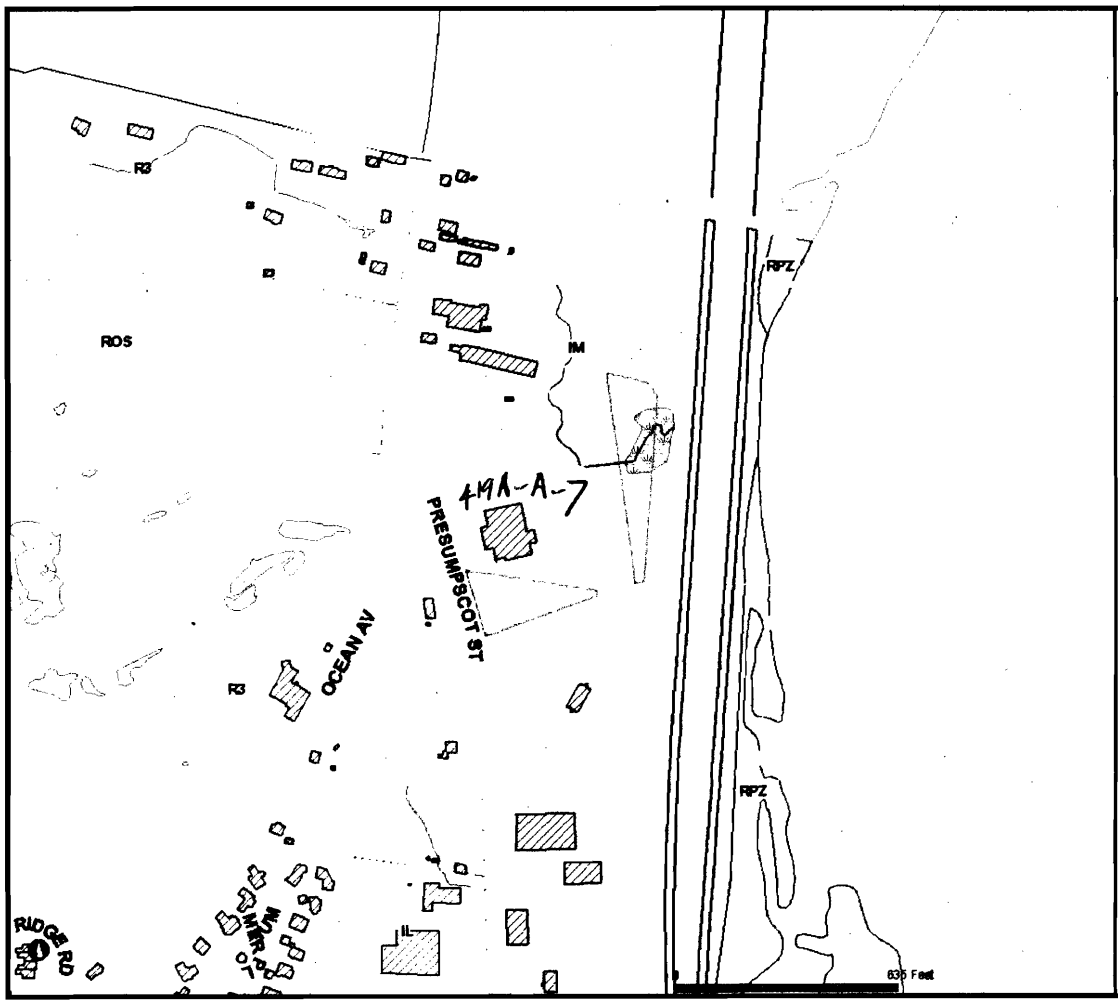
Special Zone or Reviews	Zoning Appeal	Historic Preservation
☐ Shoreland	☐ Variance	☐ Not in District or Landmark
☐ Wetland	☐ Miscellaneous	☐ Does Not Require Review
☐ Flood Zone	☐ Conditional Use	☐ Requires Review
☐ Subdivision	☐ Interpretation	☐ Approved
☐ Site Plan	☐ Approved	☐ Approved w/Conditions
Maj ☐ Minor ☐ MM ☐	☐ Denied	☐ Denied
Date:	Date:	Date:

CERTIFICATION

I hereby certify that I am the owner of record of the named property, or that the proposed work is authorized by the owner of record and that I have been authorized by the owner to make this application as his authorized agent and I agree to conform to all applicable laws of this jurisdiction. In addition, if a permit for work described in the application is issued, I certify that the code official's authorized representative shall have the authority to enter all areas covered by such permit at any reasonable hour to enforce the provision of the code(s) applicable to such permit.

SIGNATURE OF APPLICANT ADDRESS DATE PHONE

RESPONSIBLE PERSON IN CHARGE OF WORK, TITLE DATE PHONE



City of Portland GIS

DISCLAIMER : This is a product of the City of Portland MIS Department. The data depicted here have been developed with cooperation from other federal, state and local agencies. The City of Portland expressly disclaims responsibility for damages or liability that may arise from the use of this map.

From: "Kandice Talbot" <ktalbot1@maine.rr.com>
To: "Marge Schmuckal" <MES@portlandmaine.gov>
Date: Thu, Sep 2, 2004 6:07 PM
Subject: Re: 469 Presumpscot St

Marge,

No, they are not ready yet. They have a number of conditions to meet and I'm not sure if they have submitted a performance guarantee yet. I'll have to check with Jay.
Thanks.
Kandi
----- Original Message -----
From: "Marge Schmuckal" <MES@portlandmaine.gov>
To: <KCOTE@portlandmaine.gov>
Sent: Thursday, September 02, 2004 4:18 PM
Subject: 469 Presumpscot St

Sorry, the address is really 469 Presumpscot St - Kevin McQuinn's building - Is that ready? can I get a stamped site plan? etc.
Marge

From: Marge Schmuckal
To: Kandi Talbot
Date: Thu, Sep 2, 2004 4:05 PM
Subject: 419 Presumpscot Street

I have a building permit for this property. I don't have a stamped, approved site plan yet. Can I sign off on this permit?
Marge

From: Marge Schmuckal
To: Kandi Talbot
Date: Thu, Sep 2, 2004 4:18 PM
Subject: 469 Presumpscot St

Sorry, the address is really 469 Presumpscot St - Kevin McQuinn's building - Is that ready? can I get a stamped site plan? etc.
Marge

419 A1

All Purpose Building Permit Application

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

Location/Address of Construction: 469 Presumpscot Street		
Total Square Footage of Proposed Structure: 9,800 S.F.	Square Footage of Lot: 2.57 ACRES	
Tax Assessor's Chart, Block & Lot Chart# MAP 419 Block# A Lot# 7	Owner: 469 Presumpscot Assoc. LLC	Telephone: 207-450-8700
Lessee/Buyer's Name (If Applicable): Turner Barker Realty	Applicant name, address & telephone: 202 U.S. Route 1 Falmouth, ME	Cost Of Work: $ 300,000- Fee: $

Current use: Vacant land

If the location is currently vacant, what was prior use: unknown - fill site

Approximately how long has it been vacant: unknown

Proposed use: multi-tenant light industrial building

Project description: Pre engineered steel building

Contractor's name, address & telephone: Doten Construction (207) 865-6972 Yarmouth, ME

Who should we contact when the permit is ready: Steve Doten

Mailing address: 175 So. Freeport Rd Freeport, ME 04032

We will contact you by phone when the permit is ready. You must come in and pick up the permit and review the requirements before starting any work, with a Plan Reviewer. A stop work order will be issued and a $100.00 fee if any work starts before the permit is picked up. **PHONE:**

IF THE REQUIRED INFORMATION IS NOT INCLUDED IN THE SUBMISSIONS THE PERMIT WILL BE AUTOMATICALLY DENIED AT THE DISCRETION OF THE BUILDING/PLANNING DEPARTMENT, WE MAY REQUIRE ADDITIONAL INFORMATION IN ORDER TO APROVE THIS PERMIT.

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

Signature of applicant: [signature] Date: 8/16/04

This is NOT a permit, you may not commence ANY work until the permit is issued.
If you are in a Historic District you may be subject to additional permitting and fees with the Planning Department on the 4th floor of City Hall

Ross A. Cudlitz, PE
PO Box 794
So. Freeport, Maine 04078

Engineering Assistance & Design (**EA&D**), Inc.
Phone/Fax: 207 - 846 - 0839
Cell / Voice Mail: 207-838 - 7663

August 11, 2004

Ms. Kandice Talbot, Planner
City of Portland
Department of Planning & Development
389 Congress St.
Portland, Maine 04101

RE: Proposed Warehouse Building Presumpscott Street
ID #2004-0104, CBL #419-A-007

Dear Kandice:

On behalf of my client Kevin McQuinn, and pursuant to our meeting last week, we respectfully submit the subject project revisions to the Planning Staff for their review and final approval.

We have enclosed 6 copies of all necessary information, plans and reports for your use.

Unfortunately the e-mail you sent me with your letter dated 07/0104 did not download properly; therefore I am presenting the questions and responses in order and not in your format.

Sincerely,

Ross A. Cudlitz, PE
EA & D, Inc.

Cc: Kevin McQuinn, TBR

CITY OF PORTLAND
DEPARTMENT OF PLANING & DEVELOPMENT

Review letter date 07/01/04 by Kandice Talbot, Planer:

1] Right, title and interest must be submitted to determine that the applicant has the right to develop this site. Has this property been divided off from an abutting property?

Attached is the original contract with the City. This contract has been extended. The extension agreement is in the office of the City Attorney.

No, this lot is not an out parcel of a previous larger parcel.

2] Information regarding building materials proposed for the building shall be submitted.

Attached are letters from Casco Bay Engineering (Structural Engineer) and Doten Construction. These two letters describe the building materials. There have been no changes to the elevations drawings for this submittal, therefore they have not been reprinted, and hence they are not in this package.

3] The dumpster shall be enclosed on all sides with a gate closure.

Drawings have been revised to reflect the standard.

4] Capacity letters from the Portland Water District and the Portland Sewer Division shall be submitted stating that there is adequate water and sewer capacity for this site.

Attached is the letter and sketch sent to PWD, we have not heard back as of yet. The sanitary system is an on site gravity system designed by Scott McLarem, SE #346. The HHE-200 design is attached.

5] Chapter 25 requires granite curb and sidewalk along the frontage of a property being developed. The plans must show sidewalk and granite curb. If the applicant wishes to request a waiver, the waiver must be requested in writing and must meet the waiver requirements, which are included as an attachment to this letter.

Along the Presumpscott Street frontage, we have revised the plans to include; sidewalk, storm drains, esplanade, granite curbing and street trees.

6] Catalogue cuts of the lighting shall be submitted to ensure that the lighting meets the City's technical standards. Fixture height shall not exceed 20 ft.

Catalogue cuts of the parking lot lighting and loading dock lights are attached. Plan details have been revised to specify maximum height of lights to be 20 ft.

7] A letter of financial capacity must be submitted from a responsible financial institution stating that it is reviewed the planned development and would seriously consider financing it when approved.

Attached is a letter from Peoples Heritage Bank, Senior Vice President, Lawrence A. Wold stating support for the project. Also included is the Applicant's, "Cost Estimate of Improvements to be Conveyed by Performance Guarantee".

End of this Section

Responses to this letter left in its original format follow the question.

TO: **Kandi Talbot – Planner**
FROM: **Jim Seymour – Development Review Coordinator, Sebago Technics, Inc.**
RE: **Approx 435 Presumpscot Street – Warehouse Building, Kevin McQuinn**
DATE: **July 12, 2004**

Sebago Technics has completed its review of the submitted materials for the proposed commercial development at the location of approximately 435 Presumpscot Street. Based on a review of the submitted materials, we feel that several of the concerns require attention. The following are our concerns that should be addressed by the applicant:

1. **Road Access & Circulation**

A. *The access drive entrance as proposed appears to wider than necessary and excessive based on the internal circulation layout. Can the width be narrowed to accommodate the necessary turning radius needed at the property line (prefer 24 feet)? The current layout requires a 56 feet opening at the ROW/property line and a width of 120 feet at the actual street line. The turning radius appears to support a large trailer truck, however the internal circulation cannot support such movements. Based on the layouts the applicant shall either document intended trucking use or revise either the entrance or internal parking/access to accommodate the intended use.*

The Applicant has decided to limit tenant use to vehicles that are fixed body commercial vehicles and do not exceed the size of a standard school bus template (30 ft.) The radius at the entrance has been revised to be 35 feet. This is chosen to assure that vehicles exiting can make the right hand turn without crossing the middle of Presumpscott Street.

B. *Presumpscott Street is currently not constructed with curbing and sidewalks along this stretch. However, other recent projects near this vicinity (Nissen, Libra Foundation, Quality Crane, Collins Insect Control, have been required to at a minimal add granite curbing, and in some cases add the sidewalk. The proposed project will require unless waived by the Planning Board granite curbs, sidewalk, and grass esplanade. Please add these to the plan until the Board has waived.*

See item 5 in previous response to Kandice Talbot letter.

C. *The internal loading dock area to the north appears difficult to exit the site and also appears to partially block access if the vehicle were to be a standard trailer truck. What will the proposed delivery program or trucking use, and size for the commercial business be?*

This building and site is intended for warehousing and distribution of products that are stored in side and delivered and redistributed in box/panel fixed bed vehicles.

2 Utilities

A. The water layout and available capacity shall require written acceptance by the Portland Water District. The Fire Dept. shall comment if sprinklers will be required, at a minimum please note on the plans the nearest available fire hydrant.

The fire hydrant is on the plans and located ~180 feet north of the entrance on the same side of the street. It is the Applicants intent to keep the building size at that that is just under the sprinkler requirement.

B. The sewer discussed is private, since no sewer serves this section of Presumpscot Street. The applicant is required to disclose the subsurface wastewater design system for the use (HHE-200). Given the slopes and poor soils concerns will be raised regarding surface breakouts, and actual physical placement and grading.

Attached isHHE-200 design by Scott McLaren, SE #346

C. Electric service is noted from a proposed pole. Central Maine Power shall verify this layout and need for relocating the pole. It appears that an existing pole can function for service but then a separate pole would be needed to light the entrance. Please confirm the need to relocate CMP poles.

CMP Pole #52 must be moved regardless of the entrance width. CMP and the Applicant can work out which is best whether to move the pole north or south and were to put the street light, on separate pole or combined with the site service.

3. Stormwater Management

A. The bottom of the site appears to be a wetland or ponding area, which is acting as a form of detention. The engineer shall review and model the site with this as a pond. The detention pond area needs to show the various stage storage levels for each design storm. The outlet control for the ponding area indicates that an existing culvert under the railroad is the only outlet available. What are the invert elevations, culvert size, and inlet condition? It appears from the survey that the culvert is the actual property corner and is not offsite. Please verify.

The stormwater model has been revised to represent a wetland/ponding area at the northeast corner of the site. Scott McLaren delineated the wetland based on the three Army Corp criteria (hydrology, vegetation and hydric soils). The culvert at the northeast corner of the site is the controlling structure for this site and other off site watersheds to the north. What we are demonstrating is that our site has no impacts on that structure as it relates to our property line. In the end result the 25-year event has an insignificant increase of 0.19 CFS that also passes through the culvert ~6 minutes earlier than the rest of the watershed feeding it. It is my conclusion that because we be the peak ever so slightly, have an insignificant

change in quantity, and are directly tributary to the bay, that the project is acceptable and detention or attenuation is neither warranted nor practical.

B. *There are some inconsistencies with the stormwater calculations. It appears that the engineer is claiming more restricted surface conditions in the pre-developed condition than exists. Our opinion is that this is not accurate, and this decreases the actual rates. The engineer shall document and describe the chosen surface types selected in both conditions. This issue is to understand the actual volume and velocity of runoff and not about detention issues. We do not foresee issues about detaining since the site is adjacent to the ocean. However adequate protection from erosion and sediment is a must and current indications are that is a current problem for this site.*

The model has been revised as aforementioned and as per my meeting with Jim Seymour last week.

C. *Drainage at the entrance is difficult to interpret, please show a specific detail of the entrance indicating grades and patterns to direct runoff to adjacent catch basins or ditches.*

Entrance characteristics have been reshot in the field. The drawings now reflect accurate elevations and grades. The Presumpscott street drainage has been revamped to include, storm drains, basins, and a field outlet to the north of the property that discharges into the original location.

4. <u>Grading, Erosion Controls, and Soil Stability</u>

A. *The site is currently the former site of a concrete washing outfall, with several inches of concrete slag. Downstream areas have been impacted by the concrete components, sediment, and aggregates through erosion and sedimentation. This plan intends to fill some areas with as much as 24 feet of fill and create a slope of 45 degrees with an elevation difference of up to 35 feet. We have several concerns regarding the placement, type, and erosion potential of these slopes. We recommend that the applicant obtain the services of a geotechnical engineer to recommend, fill material preparations of existing cover prior to placing fill, and general slope stability. We also feel given the steep slopes, that a bench drainage diversion be considered to eliminate potential for side slope scouring, especially if winter snow is plowed over the slope.*

It is the intention of the Applicants contractor and me that the concrete waste area will be demolished by blasting and or excavation down to native material. If the spoils can be ground up and used as suitable fill they will be. Back fill of the site is planned in stages similar to structural back fill for buildings and bridges; that being stable material installed in 12" lifts and compacted to 95% proctor density. We have no intention of creating a cold interface that could lead to a slope failure, and agree with your comments.

Two diversion swales have been contoured into the grassed slope below the parking lot, thus breaking up the long sheet flow into several smaller areas.

B. *The erosion controls (silt fence) proposed at the bottom may not be adequate. We further recommend that a supporting erosion control berm be used to further protect sediment from exiting the site. Given the exposure and steep slope we see this as a likely issue.*

Drawings have been revised to require an erosion control berm in conjunction with the silt fence at the bottom of the slope.

C. *The pipe velocities that will be generated from the site will be substantial given slopes in the 20% or higher grade. We feel that the riprap outlet apron shall be designed for the 25 yr storm with supporting calculations. Our concerns are that the outlet not be blown out by the outflow energy produced from the proposed pipe. (Also the model is not showing the same elevation and slope as the plan)*

The stone lined plunge poll has been replaced with a 6 foot diameter catch basin sump for energy discipitation. The inside of the basin is lined with a stainless steel plate opposite the inflow to prevent corrosive action on the concrete. The sump has holes in the bottom to relieve any upward pressure and to allow it to drain out. Discharge will enter the sump and then flow out over a stable rock apron.

5. <u>General</u>

A. *Although the plans indicate that wetlands are not present we feel that there should be an evaluation by a persons qualified to locate wetlands, to review if the bottom area is an actual wetland.*

Done as aforementioned,

B. *Please check with Public Works (John Giles) for the appropriate addresses to be used for the property and 911 responses.*

A letter to John Giles has been enclosed. I also sent mr. Giles the electronic drawing as he requested.

C. *We feel based on past site visit that the site may have buried or dumped waste that could be deemed harmful. The applicant should provide the City evidence that an Environmental Assessment, and if necessary, evidence of cleanups or recommendations to be conducted.*

This was discussed at the meeting with staff.

D. *Does the site have blasting requirements? The proposed grade at the front cut the site down by at least 12 feet. Please review City Blasting requirements with the Fire Dept. and note on the plans if blasting is required.*

No building permit will be applied for until the proper blasting survey and documents are presented. We have no intention of designing the building foundation until we know what the native material is under the waste concrete as well.

4. Details and Notes

The following details and notes need to be added or revised:

All of the following have been addressed in the aforementioned responses and documentation with the exception of Items H and I.

A. Detention Pond x-section with flood elevations.
B. Pedestrian ramp shall show flush curbing at the pavement edge of street.
C. Needs dumpster enclosure detail
D. Needs typical Portland Standard granite curb section (7-inch reveal)
E. Typical pipe trench detail shall be stone bedding per City standard details.
F. Existing/proposed CB's shall be protected with Silt-sac during construction.
G. Sewer/leachfield design details.

The Engineer has every intention of complying with the two items below. The truth of the matter is that I ran out of time due to the thunderstorm this AM and other technical difficulties with plotters and equipment. I ask that the Staff condition these two items. They can be rectified on 08/12/04 and a set of plans showing such can be delivered by the end of the day.

H. Guardrail details are needed.
I. Pavement trench repair detail to match thickness in Presumpscot Street with limits of construction shown.

There are several issues that must be followed up before approval can be recommended. If a meeting is required we will be available by phone or in person to discuss. Please contact our office if you have any questions.

JRS/jrs

TURNER.P&S.DMK.2
08.16.02

PURCHASE AND SALE AGREEMENT

THIS AGREEMENT for the purchase and sale of real estate made as of the 18th day of October, 2002 by and between the **CITY OF PORTLAND**, a body politic and corporate with a place of business at 389 Congress Street, Portland, Maine 04101 (hereinafter referred to as "**CITY**"), and _____ **TURNER BARKER REALTY, INC.** a Maine corporation with a place of business at 225 Commercial Street, Portland, in Cumberland County, Maine (hereinafter referred to as "**BUYER**").

WITNESSETH:

WHEREAS, CITY did issue a Request for Proposals, RFP #7302, entitled "Sale and Re-Use of the Property located at 469 Presumpscot Street; Chart, Block and Lot numbers: 419-A-1; 419A-A-7; 418A-C-1(hereinafter "Property") and

WHEREAS, BUYER submitted a proposal dated June 5, 2002 in response to said Request for Proposals; and

WHEREAS, CITY has determined that **BUYER**'s Proposal best suits the development of the Property;

NOW, THEREFORE, in consideration of the foregoing and for other good and valuable consideration, the parties intend to be legally bound as follows:

1. **SALE.**

CITY agrees to sell the Property as shown in Attachment 1 to Attachment A attached hereto and incorporated herein, to the **BUYER**, and **BUYER** agrees to purchase the Property in accordance with the provisions hereof.

2. **CONSIDERATION.**

The purchase price for the Property shall be Fifteen Thousand Dollars ($15,000.00), which amount shall be paid at the closing set forth in Paragraph 6 hereof but subject to the terms of Paragraph 7 hereof.

3. **TITLE.**

Title to the Property shall be conveyed by Quitclaim Deed and shall be free of **CITY** liens or other liens which may affect the **BUYER**'s intended use of the Property. In the event that there is a defect in title, **BUYER** shall so notify **CITY** and **CITY** shall have a reasonable time to cure said title defect. If the defect cannot be cured by **CITY** within a reasonable time, **CITY** may cancel this Agreement at its option and shall return **BUYER**'s earnest money deposit.

4. **POSSESSION.**

Full possession of the Property will be given at the transfer of title.

5. **RISK OF LOSS.**

The risk of loss or damage to the Property by fire or otherwise, until transfer of title hereunder, is assumed by **CITY**. The Property is to be delivered in substantially the same condition as of the date of this Agreement, subject to the right of **CITY** to remove certain property as set forth in said Request for Proposal.

6. **CLOSING.**

The closing shall be held at Portland City Hall, at a time mutually agreeable to the parties within thirty (30) days of the completion of all conditions to closing described in paragraph 7 of this Agreement, but in any event no later than Three Hundred and Sixty Five (365) days from the date of this Agreement first written above.

7. **CONDITIONS TO CLOSING.**

a. **BUYER** shall obtain all necessary federal, State and City approvals for the construction of a commercial/industrial flex space building of a square footage amount of eight thousand five hundred (8,500) feet and accompanying site improvements as described in **BUYER**'s aforesaid Proposal (hereinafter collectively, "Project") which is hereby incorporated and made part of this agreement (see Attachment B);

b. **BUYER** shall provide proof of financial commitments and/or financial information acceptable to **CITY** demonstrating **BUYER**'s ability to construct the Project within six months of the date of this Agreement;

c. **BUYER** shall provide proof of application for a building permit;

8. **CONDITIONS WHICH SURVIVE THE CLOSING.**

CITY makes no warranties whatsoever with respect to the environmental conditions on the Property. **BUYER** accepts the Property as is, where is. **BUYER** agrees that it shall be responsible for any environmental remediation which may be required for its development of the Property. **BUYER** shall defend and indemnify **CITY** against any and all environmental claims associated with Property to the extent those claims were not caused in whole or in part by **CITY**, its agents, officials or employees.

9. **BINDING EFFECT.**

This Agreement shall be binding upon and inure to the benefit of the parties hereto and their respective heirs, administrators, successors and assigns.

10. **ENTIRE AGREEMENT.**

This Agreement represents the entire and complete Agreement and understanding between the parties and supersedes any prior Agreement or understanding, written or oral, between the parties with respect to the acquisition or exchange of the Property.

11. **HEADINGS AND CAPTIONS.**

The headings and captions appearing herein are for the convenience of reference only and shall not in any way affect the substantive provisions hereof.

12. **GOVERNING LAW.**

This Agreement shall be governed by and construed and enforced in accordance with the laws of the State of Maine.

13. **NOTICE.**

Any notice required or permitted under this Agreement shall be deemed sufficient if mailed with first class postage affixed or delivered in person to:

FOR THE CITY:	City of Portland ATTN: CITY MANAGER 389 Congress Street Portland, ME 04101
With a copy to:	Lee Urban, Director of Economic Development
FOR THE BUYER:	Turner Barker Realty, Inc. 225 Commercial Street Portland, ME 04101

14. **DEPOSIT.**

BUYER has paid to **CITY** the sum of One Thousand Dollars ($1,000.00) as a deposit on said Property. This amount shall be credited toward the final purchase price. In the event that **BUYER** does not complete the purchase within thirty (30) days of the completion of the requirements described in Paragraph 7 of this Agreement, the deposit shall be retained by the **CITY** as liquidated damages.

IN WITNESS WHEREOF, the parties have hereunto set their hands and seals on the day and year first above written.

CITY OF PORTLAND

WITNESS

By: _____
Joseph E. Gray
Its City Manager

TURNER BARKER REALTY, INC.

WITNESS

By: _____

Printed name: G. Kevin McQueen

Its: President

C:\OFFICE\CONTRACT\P&S\AGREE\Turner p&s.doc

APPROVED AS TO FORM:

_____
CORPORATION COUNSEL'S OFFICE

CASCO BAY

CIVIL & STRUCTURAL ENGINEERS
www.cascobayengineering.com

90 Hodsdon Rd., Pownal, ME 04069 Phone 207.688.4630 Fax 207.688.4986

July 26, 2004

Mr. Ross Cudlitz, PE
Engineering Assistance & Design, Inc.
PO Box 794
South Freeport, ME 04078

RE: Proposed Warehouse Building, Presumpscot Street, Portland, ME
Project No. 04018

Dear Ross:

As requested, Casco Bay Engineering is providing information regarding building materials for the above referenced project. The proposed building materials are as follows:

- The building will consist of a pre-engineered metal building. This will consists of steel moment frames for the main structure with diagonal cross bracing for lateral support and steel girts to support the exterior siding.
- The building will have 8" thick concrete foundation walls with footings with a slab on grade for the floor system.
- The roof is planned to be a rubber EPDM flat (minimally sloped) roof.
- The exterior façade will be a split-faced cmu block up to 2'-8" above grade around the building and metal siding from the split faced block up to the roof eaves.

Please contact us if you have any questions or concerns.

Sincerely,

Eric Dube
Casco Bay Engineering

Steve Doten Cell (233-9003)
Doten Construction, Inc.
175 S Freeport Rd
Freeport, ME 04032
Phone (207) 865-4412 Fax (207) 865-6373

Turner Barker Realty
Attn. Mark Primeau

July 26, 2004

Presumscot Street Property

Building will be a pre-engineered type to be designed

Building Materials:

1. Footings: Concrete with re-bar, to be designed by others.
2. Frost Wall: Concrete with re-bar, to be designed by others.
3. 6" Slab: Concrete with re-bar, to be designed by others.
4. Walls: First 32" split block, pre-engineered panel above as shown on plans.
5. Structural: Pre-engineered beams, columns, perlams, decking, all engineered by others.
6. Glazing: From Cumberland County Glass, themapane uni-tube frames
7. Exterior Doors: Metal doors with egress in mind.
8. Rubber Roof
9. Interior Rooms: Metals studs, 5/8" sheetrock, suspended ceilings, covebase, metal doors, medium grade carpeting. All doors are 3-0' x 7-0' layout to be determined.

Ross A. Cudlitz, PE
10 North Road
Yarmouth, Maine 04096

Engineering Assistance & Design, Inc.
Phone/Fax: 207 - 846 - 0839
Cell / Voice Mail: 207-838 - 7663

August 4, 2004

Mr. Jim Pandiscio
Portland Water District Engineering Department
PO Box 3553-225
Douglass Street
Portland, Maine 04104

RE: Request of Letter of Capacity for Presumpscott Street Development
Chart 419/Lot 1 & Chart 419/Block A/Lot 7

Dear Jim:

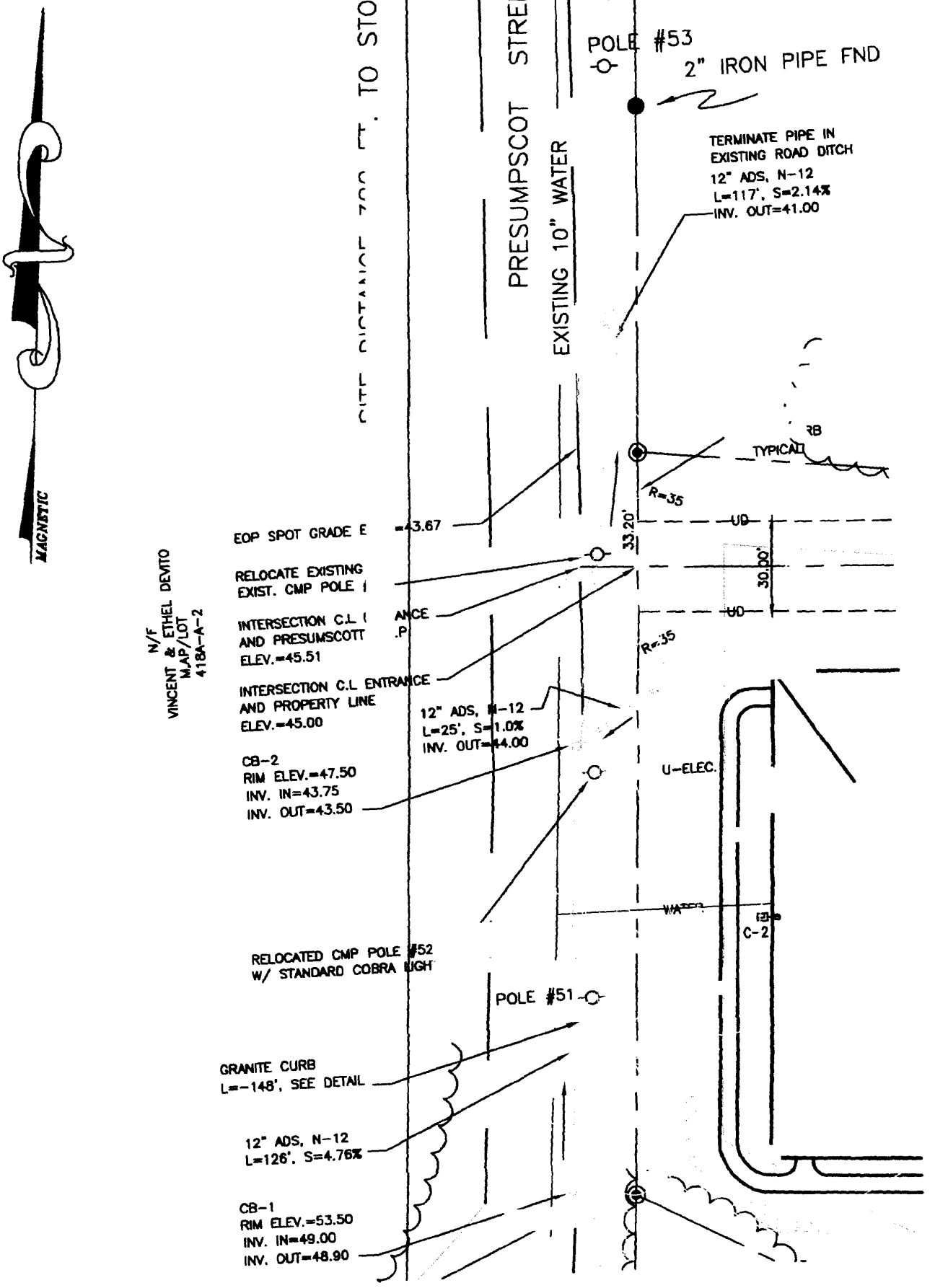
Kevin McQuinn is proposing a warehouse/distribution facility on the subject combined lots. The parcel is the site of the old Dragon concrete dump located on the east side of Presumpscott Street, approximately 300 feet south of the Route 9 intersection. There exists a 10 inch water main on the project side of the street and a hydrant just south of the same intersection on the project side as well. Currently it is the intention of the Applicant to keep the building size just under that that requires sprinkler systems.

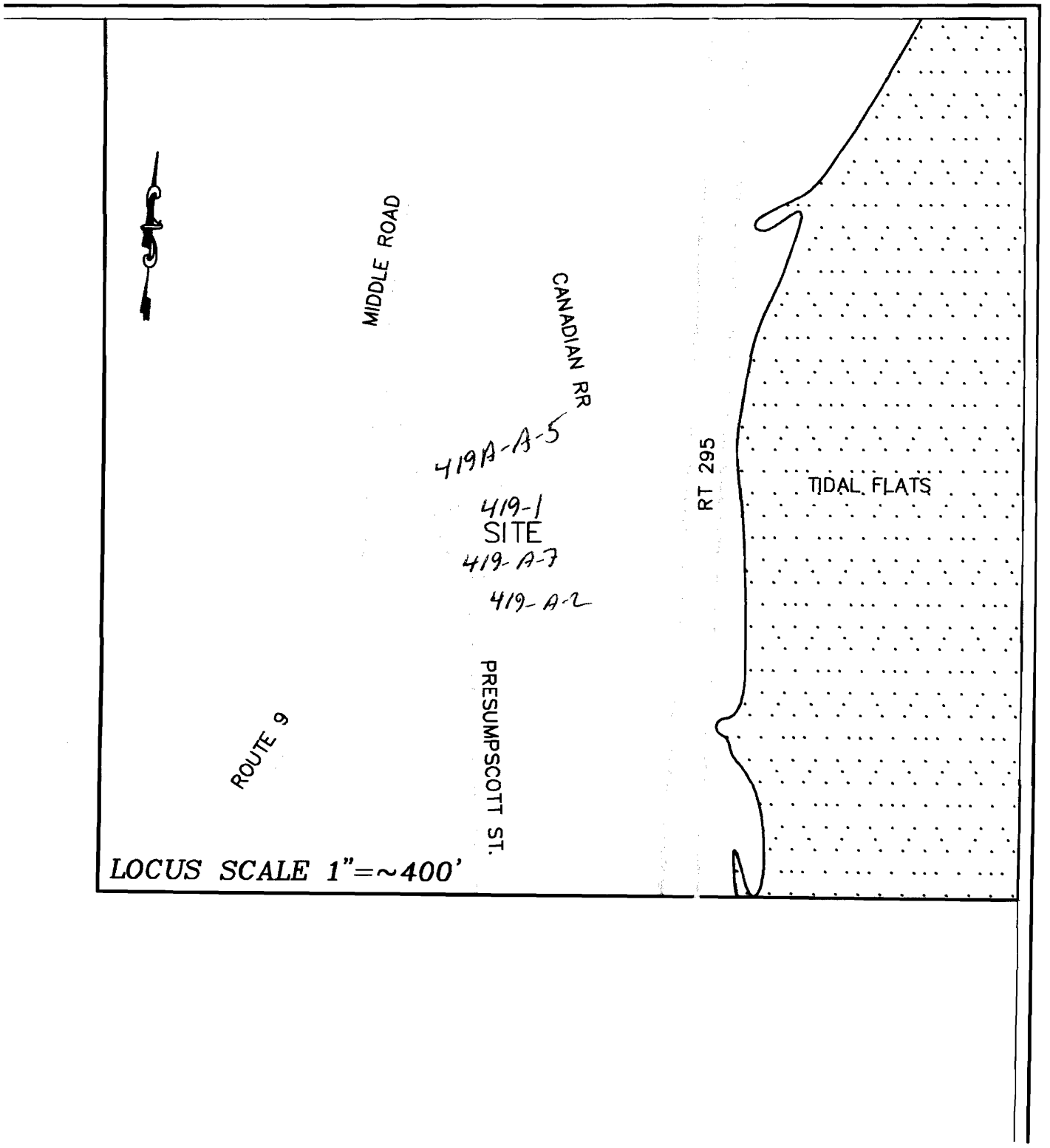
We are proposing to tie into the 10" water main as shown on the enclosed preliminary plan. We estimate the water usage to be 210 gallons per day {max. of 14 employees @15 gal/day/person]. Would you please provide me with a letter indicating availability of water service in at this location to satisfy the City of Portland Planning Staff review. Thank you for your time.

Sincerely,

Ross A. Cudlitz, PE
EA&D, Inc.

Cc: Kevin McQuinn, Applicant


MAGNETIC
SITE DISTANCE 700 FT. TO STOP SIGN
TO R
66.0ft
EXISTING HYDRANT
PRESUMPSCOT STREET
POLE #53
2" IRON PIPE FND
EXISTING 10" WATER
TERMINATE PIPE IN
EXISTING ROAD DITCH
12" ADS, N-12
L=117', S=2.14%
INV. OUT=41.00
RB
TYPICAL
R=35
EOP SPOT GRADE E =43.67
33.20'
UD
30.00'
UD
RELOCATE EXISTING
EXIST. CMP POLE
INTERSECTION C.L
AND PRESUMSCOTT
ELEV.=45.51
ANCE
P
R=35
INTERSECTION C.L ENTRANCE
AND PROPERTY LINE
ELEV.=45.00
12" ADS, N-12
L=25', S=1.0%
INV. OUT=44.00
CB-2
RIM ELEV.=47.50
INV. IN=43.75
INV. OUT=43.50
U-ELEC.
C-2
RELOCATED CMP POLE #52
W/ STANDARD COBRA HIGH
POLE #51
GRANITE CURB
L=-148', SEE DETAIL
12" ADS, N-12
L=126', S=4.76%
CB-1
RIM ELEV.=53.50
INV. IN=49.00
INV. OUT=48.90
N/F
VINCENT & ETHEL DEVITO
MAP/LOT
418A-A-2



GEN

1.

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DATE

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BY

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TOP(

PROJECT _____

FIXTURE TYPE _____

CATALOG NUMBER _____

Design SL-16/21/27

DISTRIBUTIONS

TYPE S	Square (Horiz. Lamp)	**TYPE 3**	Asymmetrical (Horiz. Lamp)
TYPE VS	Square (Vertical Lamp)	**TYPE F**	Forward Throw (Horiz. Lamp)
TYPE VR	Rectangular (Vert. Lamp)	**TYPE V2**	Asymmetrical (Vert. Lamp)
TYPE 1	Asymmetrical (Horiz. Lamp)	**TYPE V**	Symmetrical (Vert. Lamp)

ORDERING EXAMPLE SL-21-VS-HPS-400-CL-DB-120-CWB-FD-CL80 x 360

			MH = Std. Metal Halide MHP = Pulse Start		CL = Convex glass lens FL = Flat glass lens
DESIGN	**DISTRIBUTION**	**HPS**	**MH/MHP**	**LAMP**	**LENS**
SL-16	S	70/100/150	70/100/150/175/200*	ED-17	FL
	1	70/100/150	70/100/150/175/200*	ED-17	FL
	3	70/100/150	70/100/150/175/200*	ED-17	FL
	F	70/100/150	70/100/150/175/200*	ED-17	FL
	VS	70/100/150	70/100/150/175/200*	ED-17	FL
SL-21	VS	250/400		ED-18	CL
	VS		250/400/450*	BT-28/BT-37	CL
	VS		400 Flat Lens	BT-28	FL
	V2	250/400		ED-18	CL
	V2		250/400/450*	BT-28/BT-37	CL
	S	250/400		ED-18	FL
	S		250/400	BT-28/BT-37	FL
	1	250/400		ED-18	FL
	1		250/400	BT-28/BT-37	FL
	3	250/400		ED-18	FL
	3		250/400	BT-28/BT-37	FL
	F	250/400		ED-18	FL
	F		250/400	BT-28/BT-37	FL
SL-27	V or VS	400		ED-18	CL or FL
	V or VS		400/450*	BT-37	CL or FL
	V or VS	750		BT-37	CL or FL
	V or VS		1000	BT-56	CL
	V or VS		1000 Flat Lens	BT-37	FL
	V or VS	1000 Flat Lens		BT-37	FL
	V or VS	1000		E-25	CL
	VR		1000	BT-56	CL
	VR		1000 Flat Lens	BT-37	FL
	VR	1000		E-25	CL
	F	1000		E-25	FL
	F		1000	BT-56	FL

* Available only in Pulse Start 70,100,150,200,450 MHP = Pulse Start

REQUIRED CHOICES

FINISH			**VOLTAGES**	**MOUNTINGS**	
BK	Black		120	SA	Standard Arm (2.5")
BW	White		208	LA	Long Arm (13.5")
DB	Bronze		240	CWB	Cast Wall Bracket
SL	Silver		277	ESF	External Slip Fitter
FG	Gray		347		(for 2-3/8" O.D. Pipe)
CC	Custom	Specify Color	480		

CWB

ESF

OPTIONAL CHOICES

ELECTRICAL OPTIONS

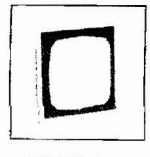
FD	Single Fusing 120V/277V
FDD	Double Fusing 480V
FDFD	Double Fusing 208V/240V
FDC	Single Fusing 347V
PCT	Photo Cell and Receptacle

OPTICAL OPTIONS

LX	Vandal Resistant Lens (SL-21 & SL-16 only)
CL	Convex glass for SL-21 only (Standard - acrylic)

LIGHT TRESPASS OPTIONS

CL80x360	Internal 80° Vert. x 360° Horiz. Lens Shielding
CL60x135	Internal 60° Vert. x 135° Horiz. Lens Shielding
HSS	House Side Shield (75° Standard) (external)
FL	Flat clear glass lens (see ordering information for availability)



CL80x360 - Internal 80° Vert. x 360° Horiz. Lens Shielding

CL60x135 - Internal 60° Vert. x 135° Horiz. Lens Shielding

There is no substitute for

Quality Lighting.

A Division of JJI Lighting Group Inc.

11500 MELROSE AVE. FRANKLIN PARK, IL 60131 · Phone (847) 451-0040 · FAX (847) 451-6768
e-mail: quality@mcs.com · www.qualitylighting.com

SPECIFICATIONS

HOUSING One piece highly tooled formed aluminum, with integral reinforcements and concealed fasteners and welds. The fixtures are C-UL & UL listed "suitable for wet locations."

LENS AND LENS FRAME Clear, heat and impact resistant tempered glass lens, secured in an extruded aluminum door frame. 21" & 27" fixtures with VS, V and VR distribution use square convex lens (unless otherwise noted), all others use square flat lens. Note: Drop acrylic lens (DA) is standard on 21" vertically lamped units.

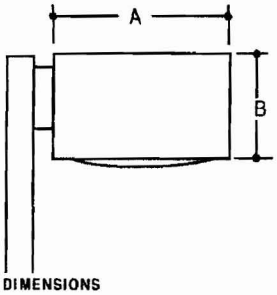
GASKETING The lens is fully gasketed to the lens frame with closed cell neoprene. The lens door frame is gasketed to the housing with a dense silicone extruded gasket featuring twin flexible extensions to provide a double seal.

INSTALLATION Design SL housings are provided with a cast aluminum 2.5" arm for mounting a single fixture or twin fixtures at 180°. A 13.5" long extruded aluminum arm (LA) is supplied for other mounting configurations.

REFLECTOR Reflector systems can be easily rotated in 90° increments or interchanged without the use of tools. Design SL is available with the following reflector systems: 1) Type S (16" & 21 ") — square distribution; 2) Type VS — square distribution; 3) Type VR (27") — rectangular distribution; 4) Type I (16" & 21 ") — asymmetrical distribution; 5) Type III — asymmetrical distribution; 6) Type F — forward throw distribution; 7) Type 2 —asymmetrical distribution; 8) Type V — symmetrical distribution.

BALLAST All CWA ballasts (+10% to -10% lamp power regulation) shall be tray mounted and supplied with quick-disconnects. Ballasts are rated for -20° F operation. All non CWA ballasts shall be HPF.

FINISH Polyester powder coat, electrostatically applied, which is preceded by a five step pre-treatment process including an iron phosphate priming stage for superior coating adhesion. This process meets or exceeds all ASTM testing requirements, including those for 1,000 - hour salt spray endurance testing.



DIMENSIONS

	16"	21"	27"
A	16.00" sq. (406.4 mm)	21.00" sq. (533.4 mm)	27.00" sq. (685.8mm)
B	9.50" (241.3 mm)	11.00" (279.4 mm)	15.00" (381.0 mm)

EFFECTIVE PROJECTED AREA (EPA)

	16"	21"	27"
1 Fixture	1.36 sq. ft. (.13M²)	2.08 sq. ft. (.19M²)	3.65 sq. ft. (.35M²)
2 Fixtures	2.72 sq. ft. (.26M²)	4.16 sq. ft. (.39M²)	7.30 sq. ft. (.70M²)
3 @ 90°	4.00 sq. ft. (.38M²)	6.24 sq. ft. (.59M²)	11.00 sq. ft. (1.05M²)
3 @ 120°	4.50 sq. ft. (.43M²)	6.75 sq. ft. (.64M²)	11.50 sq. ft. (1.1M²)
4 @ 90°	4.50 sq. ft. (43M²)	6.75 sq. ft. (.64M²)	11.50 sq. ft. (1.1M²)

WEIGHT

16"	21"	27"
45 lbs. (20.45 kgs)	54 lbs. (24.54 kgs)	77 lbs. (35 kgs)

There is no substitute for

Quality Lighting.

A Division of JJI Lighting Group Inc.

11500 MELROSE AVE. FRANKLIN PARK, IL 60131 - Phone (847) 451-0040 - FAX (847) 451-6768
e-mail: quality@mcs.com - www.qualitylighting.com

70 & 175W AREA FIXTURES

Applications. Perimeter lighting, parking areas, rural homes, farm yards, loading platforms, and general commercial security lighting.

Factory pre-wired fixture, ready to install. Includes die-cast aluminum housing, twist-lock photoelectric cell, 5" mounting arm, and mounting hardware.

Plug-in twist-lock photoelectric cell. Automatically turns lights On at dusk and Off at dawn.

One-piece acrylic prismatic refractor and aluminum reflector screws directly into housing. Open at bottom for easy maintenance.

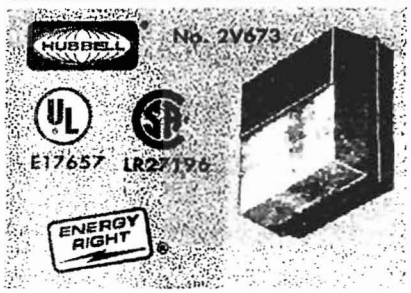
High reactance, 120V, 60 Hz normal power factor ballast starts lamp to -20°F.

Lamp included. Use replacement lamp listed below or see Index under Lamps, HID. No. 2V636 takes a mogul base lamp and 2V866 takes a medium base lamp.

UL Listed (E64726), CSA Certified (LR60920).

Lamp Type	Watts	Suggested Lamp Stock No.	Max Starting Line Amps	Max Operating Line Amps	NCI Model	Stock No.	With Lamp List	With Lamp Each	Shpg. Wt.
Mercury Vapor	175	4V583	4.65	3.00	NH1204M	**2V636**	$78.19	**$33.15**	11.0
HP Sodium (Med. Base)	70	2V632	2.25	1.00	E-70-H	**2V866**	190.67	**66.35**	8.8

100 TO 175 WATT HID WALL PACKS



Applications: Parking lots, garages, shopping centers, office buildings, warehouses.

Ballasts: HPF QuadTap® (120, 208, 240, 277V) class H insulated. HPS -40°F starting; MH -20° starting.

Housing: One piece door with prismatic lens. Hinged front housing locks with two captive screws to insure proper gasket sealing. Provision for photocell use No. 6P005 for 120V or No. 5U791 for 208-277V. When using a photocell, additional gasketing is recommended. Finished bronze.

Rear housing is one piece die cast aluminum. Finished with two ½" feed-trim wiring hubs. 14⅜H x 14⅞W x 7⅛"D.

Reflector: Anodal® finished, aluminum reflector. Designed optimum beam distribution.

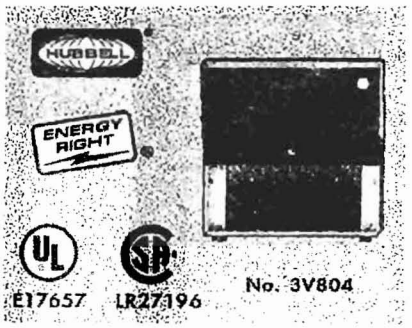
Installation: Mounts flush on wall or over recessed outlet box.

Lamp not included: Use suggested lamp listed below or see Index under Lamps, HID.

UL Listed (E17657), CSA Certified (LR27196).

Mogul Base Lamp Type	Suggested Lamp Stock No.	Starting Amps 120V	208V	240V	277V	Operating Amps 120V	208V	240V	277V	Hubbell Model	Stock No.	Less Lamp List	Less Lamp Each	Shpg. Wt.
100W HPS	2V519	1.3	.8	.7	.6	1.2	.7	.6	.5	PVL-0100S-118	✓**2V673**	$337.53	**$170.25**	19.0
150W HPS	2V452	2.0	1.2	1.0	.9	1.7	1.0	.8	.7	PVL-0150S-118	✓**2V674**	342.81	**173.25**	20.0
175W Metal Halide	4V560	1.3	.8	.7	.6	1.8	1.1	.9	.8	PVL-0175H-118	✓**2V876**	239.57	**170.75**	21.0

70 TO 175 WATT CUTOFF WALL PACKS



Applications: Parking lots, garages, shopping centers, office buildings, warehouses. Vandal resistant wall pack with controlled cutoff light output. For security illumination without glare or light pollution.

Housing: Polycarbonate front and one piece ballast cover is resistant to rocks. Twin captive screws secure door to die-cast back housing. Mounts over recessed wiring boxes or can be through wired. Bronze finish, painted inside polycarbonate. Provision for photocell, use No. 6P005 for 120V or No. 5U791 for 208-277V. When using a photocell, additional gasketing is recommended.

Reflector: Directs light down and out while shielding lamp. Medium base porcelain socket adjusts from 90° to 70° cutoff.

Ballasts: HPF QuadTap® (120, 208, 240, 277V) class H insulated. HPS -40°F starting; MH -20° starting.

UL Listed (E17657) for wet locations; CSA Certified (LR27196) for 120 or 277V indoor/outdoor use.

Dimensions: 14⅜H x 14⅞W x 7⅛"D.

Lamp not included: Use suggested lamp listed below or see Index under Lamps, HID.

Medium Base Lamp Type	Suggested Lamp Stock No.	Starting Amps 120V	208V	240V	277V	Operating Amps 120V	208V	240V	277V	Hubbell Model	Stock No.	Less Lamp List	Less Lamp Each	Shpg. Wt.
70W HPS	2V632	0.9	0.5	0.45	0.40	0.8	0.5	0.4	0.40	PRS-0070S-118LL	✓**3V804**	$263.30	**$177.00**	18.0
150W HPS	2V713	2.0	1.2	1.00	0.90	1.7	1.0	0.8	0.70	PRS-0150S-118LL	✓**3V805**	228.07	**182.50**	18.0
100W MH	6V749	1.2	0.7	0.60	0.45	1.2	0.7	0.6	0.45	PRS-0100H-118LL	✓**3V806**	256.32	**193.75**	18.0
175W MH	6V751	1.3	0.8	0.70	0.60	1.8	1.1	0.9	0.80	PRS-0175H-118LL	✓**3V807**	262.88	**177.00**	18.0

(✓) Denotes energy efficient product.

ACCESSORIES FOR GE ROADWAY FIXTURES

24" ROADWAY MOUNTING BRACKET

Galvanized steel pipe bracket for use with GE fixtures listed on page 1129. Designed for wall or pole mounting. Thru bolts and lag screws not included. 1¾" OD. GE brand (RBSCWH2X1.7GV).

No. 4V280. Shpg. wt. 3.5 lbs. List $20.98. Each.....$20.56

HEAVY-DUTY TWIST-LOCK SWITCH

Heavy-duty photoelectric switch provides dusk to dawn operation for roadway fixtures listed on page 1129. Meets EEI-NEMA standards for locking devices with solid brass terminals. 120-277V. Intermatic brand. (LC4536).

No. 5U792. Shpg. wt. 0.2 lbs. List $17.96. Each.....$8.07

LOADING DOCK LIGHTS

Peoples
A division of Bankmorth, N.A.

One Portland Square
P.O. Box 9540
Portland, ME 04112-9540

tel. 800-462-3666
207-761-8500

July 16, 2004

Planning Department
c/o Sarah Hopkins
City of Portland
389 Congress St.
Portland, Maine 04101

Re: Kevin McQuinn/Stephen Doten

Dear Ms. Hopkins:

This letter will confirm that, based on our preliminary due diligence and subject to our standard underwriting requirements, Kevin McQuinn and Stephen Doten will have the financial capacity to complete a 10,000+/- square foot mixed-use building on the property at 469 Presumpscot Street, Portland, Maine. Please call me at 207-761-8783, should you have any questions.

Very truly yours,

Lawrence A. Wold
Senior Vice President

8/10/04
Letter of Credit expected
8/12/04.

Department of Planning & Development
Lee D. Urban, Director

Division Directors
Mark B. Adelson
Housing & Neighborhood Services

Alexander Q. Jaegerman, AICP
Planning

John N. Lufkin
Ecomonic Development

CITY OF PORTLAND

Notice to Developers, Architects, and Engineers

The municipal code requires that all development falling under site plan and/or subdivision review in the City of Portland be subject to a performance guarantee for various required improvements. The code further requires developers to pay a fee for the administrative costs associated with inspecting construction activity to ensure that it conforms with plans and specifications.

The performance guarantee covers major site improvements related to site plan and subdivision review, such as paving, roadway, utility connections, drainage, landscaping, lighting, etc. A detailed itemized cost estimate is required to be submitted, which upon review and approval by the City, determines the amount of the performance guarantee. The performance guarantee will usually be a letter of credit from a financial institution, although escrow accounts are acceptable. The form, terms, and conditions of the performance guarantee must be approved by the City through this office. The performance guarantee plus a check to the City of Portland in the amount of 2.0% of the performance guarantee or as assessed by the planning or public works engineer must be submitted prior to the issuance of any building permit for affected development.

Administration of performance guarantee and defect bonds is through this office. Inspections for improvements within existing and proposed public right-of-ways are the responsibility of the Department of Parks and Public Works. Inspections for site improvements are the responsibility of the Development Review Coordinator in the Planning Division.

Performance Guarantees will not be released by the City until all required improvements are completed and approved by the City and a Defect Bond has been submitted to and approved by the City.

Attachments

1. Cost Estimate of Improvements Form
2. Letter of Credit Performance Guarantee Form
3. Letter of Credit Defect Guarantee Form
4. Escrow Account (with private financial institution) Performance Guarantee Form
5. Escrow Account (with private financial institution) Defect Guarantee Form
6. Escrow Account (with City of Portland) Performance Guarantee Form
7. Escrow Account (with City of Portland) Defect Guarantee Form

Effective: January 2001

Planning and Development Department
SUBDIVISION/SITE DEVELOPMENT

COST ESTIMATE OF IMPROVEMENTS TO BE COVERED BY PERFORMANCE GUARANTEE

Date: 8/10/04

Name of Project: PreSumpscot Quarry

Address/Location: PreSumpscot Street Portland ME 04103

Developer: Turner Barker Realty

Form of Performance Guarantee: Letter of Credit from BankNorth (Larry Wold)

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

TO BE FILLED OUT BY THE APPLICANT:

	PUBLIC			PRIVATE		
Item	Quantity	Unit Cost	Subtotal	Quantity	Unit Cost	Subtotal
1. STREET/SIDEWALK						
Road						
Granite Curbing	260'	10.00/LF	$2600.00			
Sidewalks	260'	4800.00	$4800.00			
Esplanades	N/A					
Monuments	N/A					
Street Lighting	N/A					
Street Opening Repairs	20x20	$4200.00	$4200.00			
Other						
2. EARTH WORK						
Cut			$500.00			
Fill			$500.00			
3. SANITARY SEWER						
Manholes private			$3000.00			
Piping			$1,500.00			
Connections						
Main Line Piping						
House Sewer Service Piping						
Pump Stations						
Other						
4. WATER MAINS public			$8,000.00			
5. STORM DRAINAGE						
Manholes			$3000.00			
Catchbasins			$3000.00			
Piping						
Detention Basin						
Stormwater Quality Units						
Other						

6. [illegible]						
7. EROSION CONTROL						
Silt Fence			$300.00			
Check Dams						
Pipe Inlet/Outlet Protection						
Level Lip Spreader						
Slope Stabilization						
Geotextile						
Hay Bale Barriers			$500.00			
Catch Basin Inlet Protection			$200.00			
8. RECREATION AND OPEN SPACE AMENITIES						
9. LANDSCAPING (Attach breakdown of plant materials,quantities, and unit costs)			$5000.00			
10. MISCELLANEOUS						
TOTAL:						
GRAND TOTAL:			$37,100.00			

INSPECTION FEE (to be filled out by the City)

		PUBLIC	PRIVATE	TOTAL
A:	2.0% of totals:		$742.00	$742.00
	or			
B:	Alternative Assessment:			
	Assessed by:	(name)	(name)	

Ross A. Cudlitz, PE
10 North Road
Yarmouth, Maine 04096

Engineering **A**ssistance & **D**esign, Inc.
Phone/Fax: 207 - 846 - 0839
Cell / Voice Mail: 207-838 - 7663

August 4, 2004

FAX TRANSMITTAL: 874-8852

Mr. John Giles
City of Portland Public Works Department
55 Portland Street
Portland, Maine 04101

RE: Request for Street Address and 911 Identification for Presumpscott Street Development
Chart 419/Lot 1 & Chart 419/Block A/Lot 7

Dear John:

Kevin McQuinn is proposing a warehouse/distribution facility on the subject combined lots. The parcel is the site of the old Dragon concrete dump located on the east side of Presumpscott Street, approximately 300 feet south of the Route 9 intersection. See attached Locus.

In order to comply with City of Portland Planning Staff review we have been asked to contact you for 911 response identification and a street address at this location. Please fax or call me with the information, or if you need additional clarification from me. Thank you for your time.

Sincerely,

Ross A. Cudlitz, PE
EA&D, Inc.

Cc: Kevin McQuinn, Applicant

SUBSURFACE WASTEWATER DISPOSAL SYSTEM APPLICATION

Maine Department of Human Services
Division of Health Engineering, 10 SHS
(207) 287-5672 Fax: (207) 287-3165

PROPERTY LOCATION

City, Town, or Plantation	PORTLAND
Street or Road	PRESUMPSCOT ST,
Subdivision, Lot #	

>> CAUTION: PERMIT REQUIRED - ATTACH IN SPACE BELOW <<

The Subsurface Wastewater Disposal System ***shall not*** 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): Mc QUINN, KEVIN ☑ Owner ☐ Applicant

Mailing Address of Owner/Applicant	c/o TURNER BARKER REALTY 202 US ROUTE ONE FALMOUTH, ME 04195
Daytime Tel. #	207-450-8700

Municipal Tax Map # _____ Lot # _____

OWNER OR APPLICANT STATEMENT

I state and acknowledge 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.

_____ Signature of Owner or Applicant _____ Date

CAUTION: INSPECTION REQUIRED

I have inspected the installation authorized above and found it to be in compliance with the Subsurface Wastewater Disposal Rules Application. _____ (1st) date approved

_____ Local Plumbing Inspector Signature _____ (2nd) date approved

PERMIT INFORMATION

TYPE OF APPLICATION

- ☑ 1. First Time System
- ☐ 2. Replacement System
  - Type replaced: _____
  - Year installed: _____
- ☐ 3. Expanded System
  - ☐ a. Minor Expansion
  - ☐ b. Major Expansion
- ☐ 4. Experimental System
- ☐ 5. Seasonal Conversion

THIS APPLICATION REQUIRES

- ☑ 1. No Rule Variance
- ☐ 2. First Time System Variance
  - ☐ a. Local Plumbing Inspector Approval
  - ☐ b. State & Local Plumbing Inspector Approval
- ☐ 3. Replacement System Variance
  - ☐ a. Local Plumbing Inspector Approval
  - ☐ b. State & Local Plumbing Inspector Approval
- ☐ 4. Minimum Lot Size Variance
- ☐ 5. Seasonal Conversion Permit

DISPOSAL SYSTEM COMPONENTS

- ☑ 1. Complete Non-engineered System
- ☐ 2. Primitive System (graywater & alt. toilet)
- ☐ 3. Alternative Toilet, specify: _____
- ☐ 4. Non-engineered Treatment Tank (only)
- ☐ 5. Holding Tank, _____ gallons
- ☐ 6. Non-engineered Disposal Field (only)
- ☐ 7. Separated Laundry System
- ☐ 8. Complete Engineered System (2000 gpd or more)
- ☐ 9. Engineered Treatment Tank (only)
- ☐ 10. Engineered Disposal Field (only)
- ☐ 11. Pre-treatment, specify: _____
- ☐ 12. Miscellaneous Components

SIZE OF PROPERTY

2.57 ☐ SQ. FT. ☑ ACRES

SHORELAND ZONING

☑ Yes ☐ No

DISPOSAL SYSTEM TO SERVE

- ☐ 1. Single Family Dwelling Unit, No. of Bedrooms: ___
- ☐ 2. Multiple Family Dwelling, No. of Units: ___
- ☑ 3. Other: COMMERCIAL (specify)

Current Use ☐ Seasonal ☐ Year Round ☑ Undeveloped

TYPE OF WATER SUPPLY

☐ 1. Drilled Well ☐ 2. Dug Well ☐ 3. Private ☑ 4. Public ☐ 5. Other

DESIGN DETAILS (SYSTEM LAYOUT SHOWN ON PAGE 3)

TREATMENT TANK

- ☑ 1. Concrete
  - ☑ a. Regular
  - ☐ b. Low Profile
- ☐ 2. Plastic
- ☐ 3. Other: _____

CAPACITY: 1000 GAL.

WITH LIFT STATION IF PUMPING REQUIRED

DISPOSAL FIELD TYPE & SIZE

- ☐ 1. Stone Bed ☐ 2. Stone Trench
- ☑ 3. Proprietary Device
  - ☐ a. cluster array ☐ c. Linear
  - ☐ b. regular load ☐ d. H-20 load
- ☐ 4. Other: _____

SIZE: 396 ☑ sq. ft. ☐ lin. ft.

GARBAGE DISPOSAL UNIT

☑ 1. No ☐ 2. Yes ☐ 3. Maybe

If Yes or Maybe, specify one below:

- ☐ a. multi-compartment tank
- ☐ b. ___ tanks in series
- ☐ c. increase in tank capacity
- ☐ d. Filter on Tank Outlet

DESIGN FLOW

210 gallons per day

BASED ON:

- ☐ 1. Table 501.1 (dwelling unit(s))
- ☑ 2. Table 501.2 (other facilities)

SHOW CALCULATIONS — for other facilites —

14 EMPLOYEES AT PLACE OF EMPLOYMENT, NO SHOWERS
15 GPD/EMPLOYEE
× 14 = 210 GPD TOTAL

- ☐ 3. Section 503.0 (meter readings) ATTACH WATER METER DATA

SOIL DATA & DESIGN CLASS

PROFILE	CONDITION	DESIGN
9	C	1

at Observation Hole # 7P1

Depth 15"

of Most Limiting Soil Factor

DISPOSAL FIELD SIZING

- ☐ 1. Small—2.0 sq. ft. / gpd
- ☐ 2. Medium—2.6 sq. ft. / gpd
- ☐ 3. Medium—Large 3.3 sq. ft / gpd
- ☐ 4. Large—4.1 sq. ft. / gpd
- ☑ 5. Extra Large—5.0 sq. ft. / gpd

EFFLUENT/EJECTOR PUMP

- ☐ 1. Not Required
- ☑ 2. May Be Required
- ☐ 3. Required

Specify only for engineered systems:

DOSE: _____ gallons

SITE EVALUATOR STATEMENT

I certify that on 8/3/04 (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).

Site Evaluator Signature	SE #	Date
	#346	8/6/04

Site Evaluator Name Printed	Telephone Number	E-mail Address
Scott McLaren	329-7435	

Note: Changes to or deviations from the design should be confirmed with the Site Evaluator.

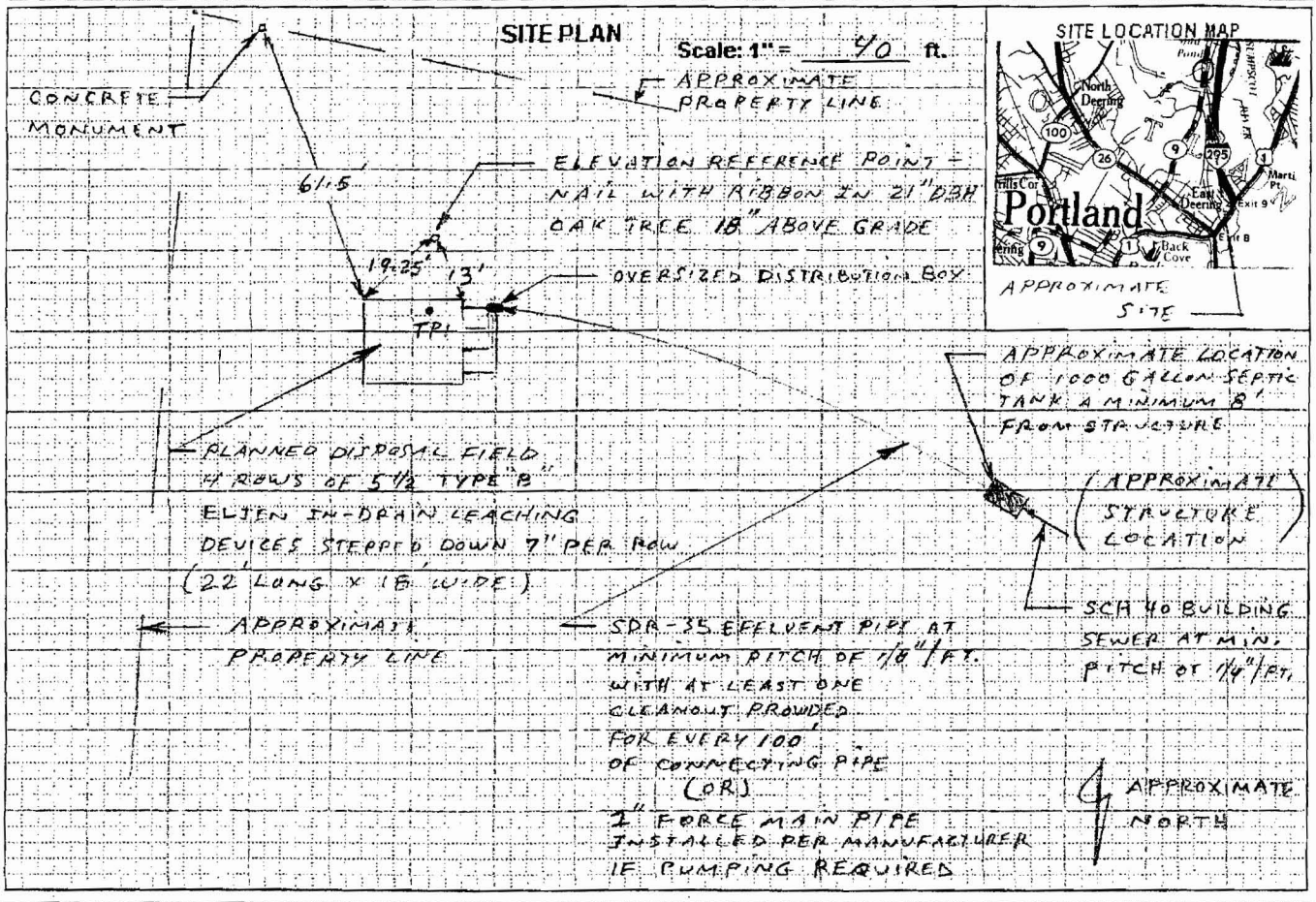
SUBSURFACE WASTEWATER DISPOSAL SYSTEM APPLICATION

Maine Department of Human Services
Division of Health Engineering, Station 10
(207) 287-5672 Fax: (207) 287-3165

Town, City, Plantation	Street, Road, Subdivision	Owner or Applicant Name
PORTLAND	PRESUMPSCOT STREET	KEVIN McQUINN

SITE PLAN

Scale: 1" = 40 ft.



SITE LOCATION MAP

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

Observation Hole # TP1 ☑ Test Pit ☐ Boring

4 1/2" Depth of organic horizon above mineral soil

Depth below mineral soil surface (inches)

	Texture	Consistency	Color	Mottling
0	SILT LOAM	FRIABLE	GRAYISH BROWN	
6			LIGHT OLIVE BROWN	
12				
18				COMMON FAINT
	SILTY CLAY	FIRM	DARK GRAY	
24				
30				
36				
42	LIMIT OF TEST PIT			
48				

Soil Profile	Classification Condition	Slope Percent	Limiting Factor Depth	
9	C	16-17	15.	☑ Groundwater ☐ Restrictive Layer ☐ Bedrock

Observation Hole # _____ ☐ Test Pit ☐ Boring

_____" Depth of organic horizon above mineral soil

Depth below mineral soil surface (inches)

	Texture	Consistency	Color	Mottling
0				
6				
12				
18				
24				
30				
36				
42				
48				

Soil Profile	Classification Condition	Slope Percent	Limiting Factor Depth	
			.	☐ Groundwater ☐ Restrictive Layer ☐ Bedrock

Site Evaluator Signature _____ SE # #346 Date 8/6/04

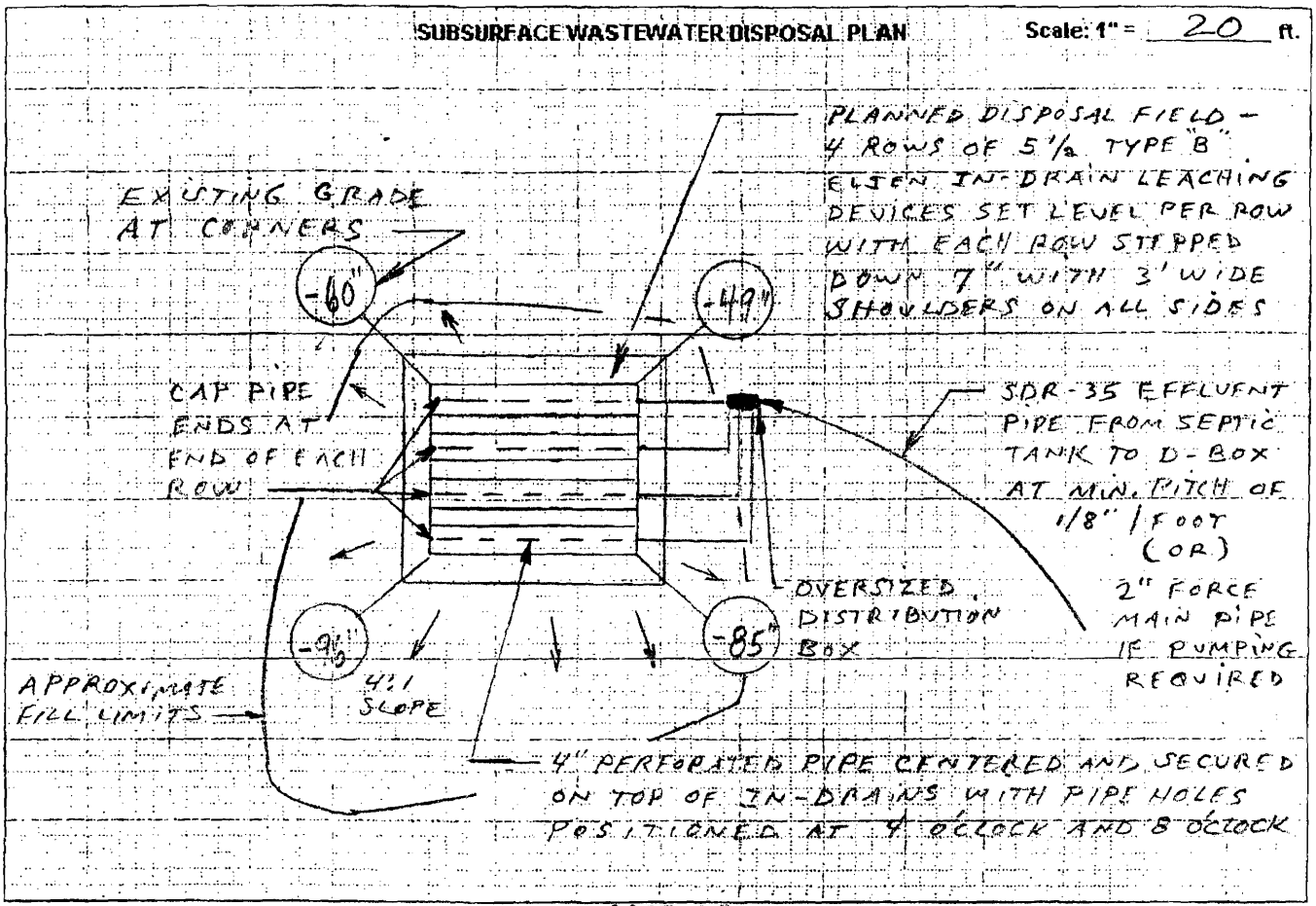
SUBSURFACE WASTEWATER DISPOSAL SYSTEM APPLICATION

Maine Department of Human Services
Division of Health Engineering, Station 10
(207) 287-5672 Fax: (207) 287-3165

Town, City, Plantation	Street, Road, Subdivision	Owner or Applicant Name
PORTLAND	PRESUMPSOT STREET	KEVIN McQUINN

SUBSURFACE WASTEWATER DISPOSAL PLAN

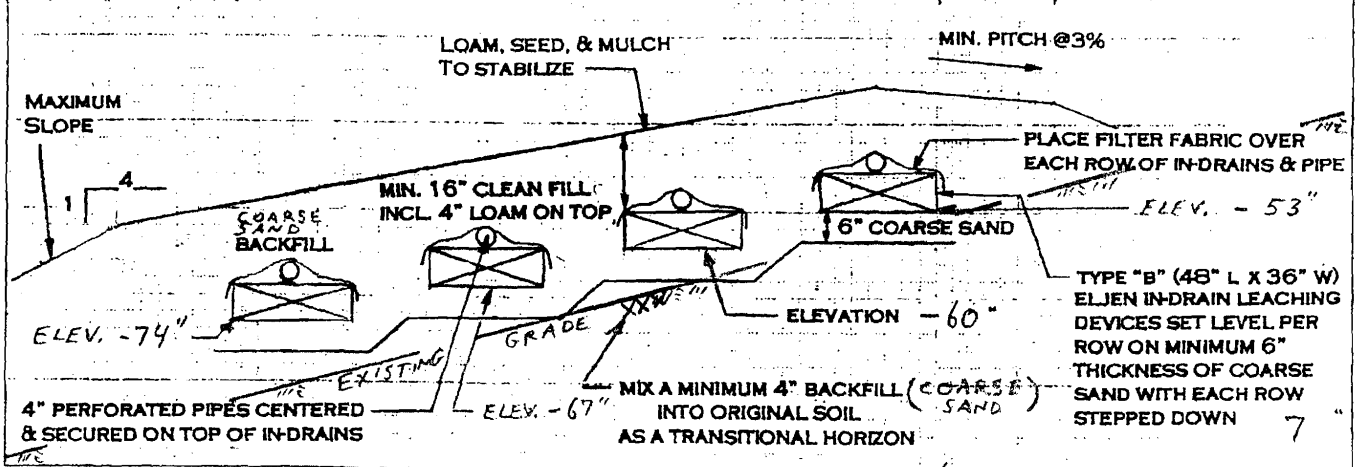
Scale: 1" = 20 ft.



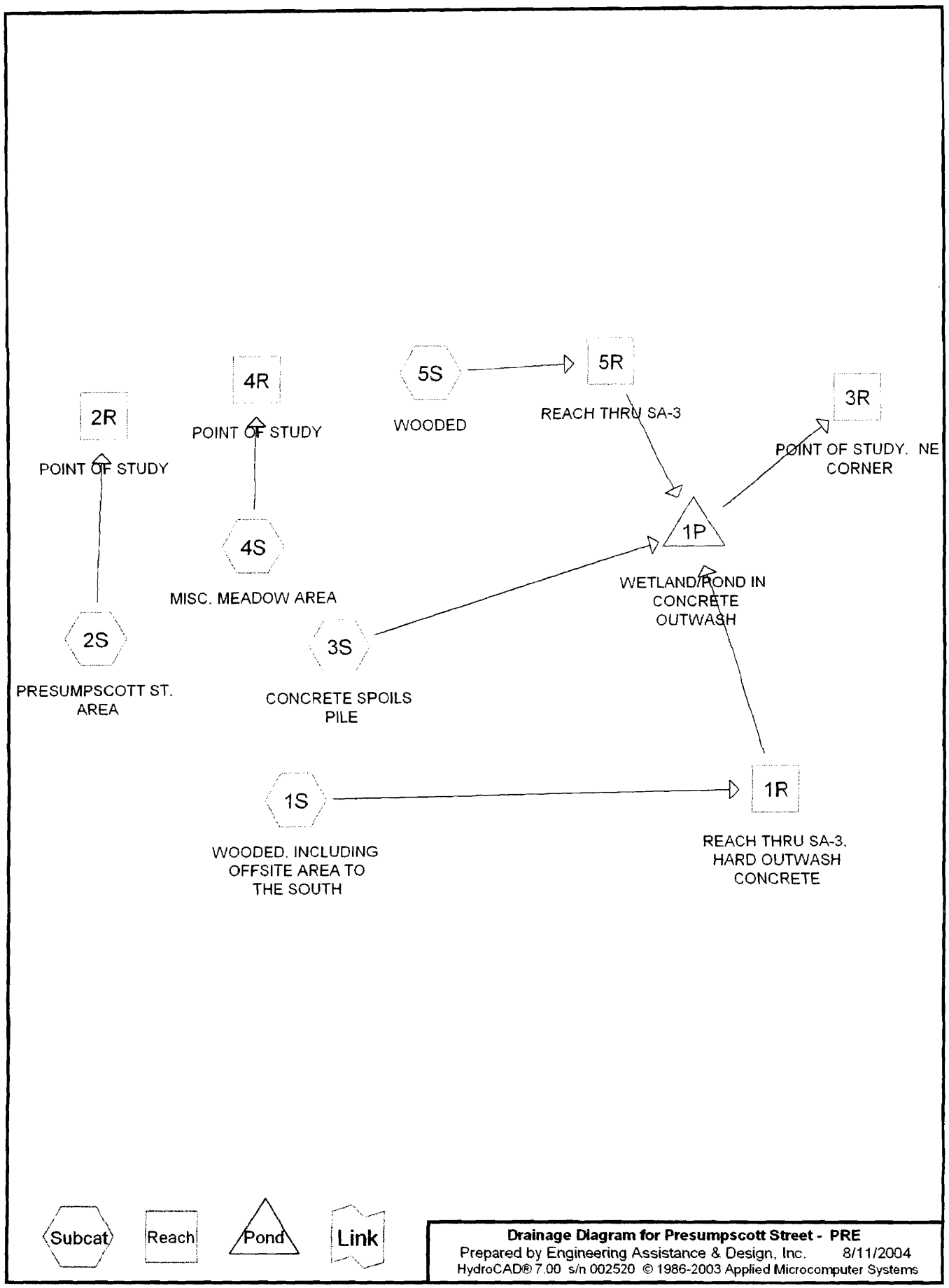
BACKFILL REQUIREMENTS		CONSTRUCTION ELEVATIONS (BOTTOM ROW / TOP ROW)			ELEVATION REFERENCE POINT
Depth of Backfill (upslope)	19"-30"	Finished Grade Elevation	-51"	-30"	Location & Description: NAIL W/RIBBON IN 21" DBH OAK TREE 18" ABOVE GRADE
Depth of Backfill (downslope)	34"-45"	Top of Distribution Pipe or Proprietary Device	-46"	-46"	
DEPTHS AT CROSS-SECTION (shown below)		Bottom of Disposal Field	-67" -74"	-53"	Reference Elevation is: 0.0" or: 00"

DISPOSAL FIELD CROSS-SECTION FOR ELJEN IN-DRAIN SYSTEM

Scales:
Vertical: 1" = 3' ft.
Horizontal: 1" = 5' ft.



Scott Allen — Site Evaluator Signature
#346 — SE #
8/6/04 — Date



Drainage Diagram for Presumpscott Street - PRE
Prepared by Engineering Assistance & Design, Inc. 8/11/2004

Time span=0.50-15.00 hrs, dt=0.02 hrs, 726 points
Runoff by SCS TR-20 method, UH=SCS
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment 1S: WOODED, INCLUDING OFFSITE AREA TO THE Runoff Area=2.670 ac Runoff Depth=2.25"
Flow Length=725' Tc=41.7 min CN=77 Runoff=4.60 cfs 0.501 af

Subcatchment 2S: PRESUMPSCOTT ST. AREA Runoff Area=0.650 ac Runoff Depth=3.89"
Flow Length=645' Tc=4.2 min CN=93 Runoff=3.55 cfs 0.211 af

Subcatchment 3S: CONCRETE SPOILS PILE Runoff Area=1.190 ac Runoff Depth=3.90"
Flow Length=350' Tc=1.4 min CN=93 Runoff=7.16 cfs 0.387 af

Subcatchment 4S: MISC. MEADOW AREA Runoff Area=0.150 ac Runoff Depth=3.08"
Flow Length=73' Tc=4.7 min CN=85 Runoff=0.69 cfs 0.038 af

Subcatchment 5S: WOODED Runoff Area=0.250 ac Runoff Depth=2.32"
Flow Length=185' Tc=20.3 min CN=77 Runoff=0.60 cfs 0.048 af

Reach 1R: REACH THRU SA-3, HARD OUTWASH Peak Depth=0.14' Max Vel=1.5 fps Inflow=4.60 cfs 0.501 af
n=0.025 L=130.0' S=0.0154 '/' Capacity=70.88 cfs Outflow=4.59 cfs 0.498 af

Reach 2R: POINT OF STUDY Inflow=3.55 cfs 0.211 af
Outflow=3.55 cfs 0.211 af

Reach 3R: POINT OF STUDY, NE CORNER Inflow=7.59 cfs 0.891 af
Outflow=7.59 cfs 0.891 af

Reach 4R: POINT OF STUDY Inflow=0.69 cfs 0.038 af
Outflow=0.69 cfs 0.038 af

Reach 5R: REACH THRU SA-3 Peak Depth=0.13' Max Vel=0.2 fps Inflow=0.60 cfs 0.048 af
n=0.240 L=60.0' S=0.0333 '/' Capacity=10.87 cfs Outflow=0.57 cfs 0.047 af

Pond 1P: WETLAND/POND IN CONCRETE OUTW Peak Elev=11.15' Storage=2,623 cf Inflow=8.21 cfs 0.932 af
Outflow=7.59 cfs 0.891 af

Total Runoff Area = 4.910 ac Runoff Volume = 1.185 af Average Runoff Depth = 2.90"

Time span=0.50-15.00 hrs, dt=0.02 hrs, 726 points
Runoff by SCS TR-20 method, UH=SCS
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment 1S: WOODED, INCLUDING OFFSITE AREA TO THE Runoff Area=2.670 ac Runoff Depth=1.73"
Flow Length=725' Tc=41.7 min CN=77 Runoff=3.57 cfs 0.384 af

Subcatchment 2S: PRESUMPSCOTT ST. AREA Runoff Area=0.650 ac Runoff Depth=3.22"
Flow Length=645' Tc=4.2 min CN=93 Runoff=2.99 cfs 0.175 af

Subcatchment 3S: CONCRETE SPOILS PILE Runoff Area=1.190 ac Runoff Depth=3.23"
Flow Length=350' Tc=1.4 min CN=93 Runoff=6.02 cfs 0.321 af

Subcatchment 4S: MISC. MEADOW AREA Runoff Area=0.150 ac Runoff Depth=2.46"
Flow Length=73' Tc=4.7 min CN=85 Runoff=0.56 cfs 0.031 af

Subcatchment 5S: WOODED Runoff Area=0.250 ac Runoff Depth=1.78"
Flow Length=185' Tc=20.3 min CN=77 Runoff=0.46 cfs 0.037 af

Reach 1R: REACH THRU SA-3, HARD OUTWASH Peak Depth=0.13' Max Vel=1.4 fps Inflow=3.57 cfs 0.384 af
n=0.025 L=130.0' S=0.0154 '/' Capacity=70.88 cfs Outflow=3.56 cfs 0.381 af

Reach 2R: POINT OF STUDY Inflow=2.99 cfs 0.175 af
Outflow=2.99 cfs 0.175 af

Reach 3R: POINT OF STUDY, NE CORNER Inflow=6.20 cfs 0.698 af
Outflow=6.20 cfs 0.698 af

Reach 4R: POINT OF STUDY Inflow=0.56 cfs 0.031 af
Outflow=0.56 cfs 0.031 af

Reach 5R: REACH THRU SA-3 Peak Depth=0.11' Max Vel=0.2 fps Inflow=0.46 cfs 0.037 af
n=0.240 L=60.0' S=0.0333 '/' Capacity=10.87 cfs Outflow=0.44 cfs 0.036 af

Pond 1P: WETLAND/POND IN CONCRETE OUTW Peak Elev=11.13' Storage=2,483 cf Inflow=6.77 cfs 0.738 af
Outflow=6.20 cfs 0.698 af

Total Runoff Area = 4.910 ac Runoff Volume = 0.947 af Average Runoff Depth = 2.31"

Time span=0.50-15.00 hrs, dt=0.02 hrs, 726 points
Runoff by SCS TR-20 method, UH=SCS
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment 1S: WOODED, INCLUDING OFFSITE AREA TO THE Runoff Area=2.670 ac Runoff Depth=0.73"
Flow Length=725' Tc=41.7 min CN=77 Runoff=1.55 cfs 0.162 af

Subcatchment 2S: PRESUMPSCOTT ST. AREA Runoff Area=0.650 ac Runoff Depth=1.83"
Flow Length=645' Tc=4.2 min CN=93 Runoff=1.78 cfs 0.099 af

Subcatchment 3S: CONCRETE SPOILS PILE Runoff Area=1.190 ac Runoff Depth=1.84"
Flow Length=350' Tc=1.4 min CN=93 Runoff=3.58 cfs 0.182 af

Subcatchment 4S: MISC. MEADOW AREA Runoff Area=0.150 ac Runoff Depth=1.22"
Flow Length=73' Tc=4.7 min CN=85 Runoff=0.29 cfs 0.015 af

Subcatchment 5S: WOODED Runoff Area=0.250 ac Runoff Depth=0.76"
Flow Length=185' Tc=20.3 min CN=77 Runoff=0.20 cfs 0.016 af

Reach 1R: REACH THRU SA-3, HARD OUTWASH Peak Depth=0.09' Max Vel=1.1 fps Inflow=1.55 cfs 0.162 af
n=0.025 L=130.0' S=0.0154 '/' Capacity=70.88 cfs Outflow=1.55 cfs 0.161 af

Reach 2R: POINT OF STUDY Inflow=1.78 cfs 0.099 af
Outflow=1.78 cfs 0.099 af

Reach 3R: POINT OF STUDY, NE CORNER Inflow=3.34 cfs 0.320 af
Outflow=3.34 cfs 0.320 af

Reach 4R: POINT OF STUDY Inflow=0.29 cfs 0.015 af
Outflow=0.29 cfs 0.015 af

Reach 5R: REACH THRU SA-3 Peak Depth=0.08' Max Vel=0.2 fps Inflow=0.20 cfs 0.016 af
n=0.240 L=60.0' S=0.0333 '/' Capacity=10.87 cfs Outflow=0.19 cfs 0.015 af

Pond 1P: WETLAND/POND IN CONCRETE OUTW Peak Elev=11.09' Storage=2,155 cf Inflow=3.78 cfs 0.358 af
Outflow=3.34 cfs 0.320 af

Total Runoff Area = 4.910 ac Runoff Volume = 0.475 af Average Runoff Depth = 1.16"

Subcatchment 1S: WOODED, INCLUDING OFFSITE AREA TO THE SOUTH

OFFSITE AREA TAKEN FROM USGA TOPO QUAD

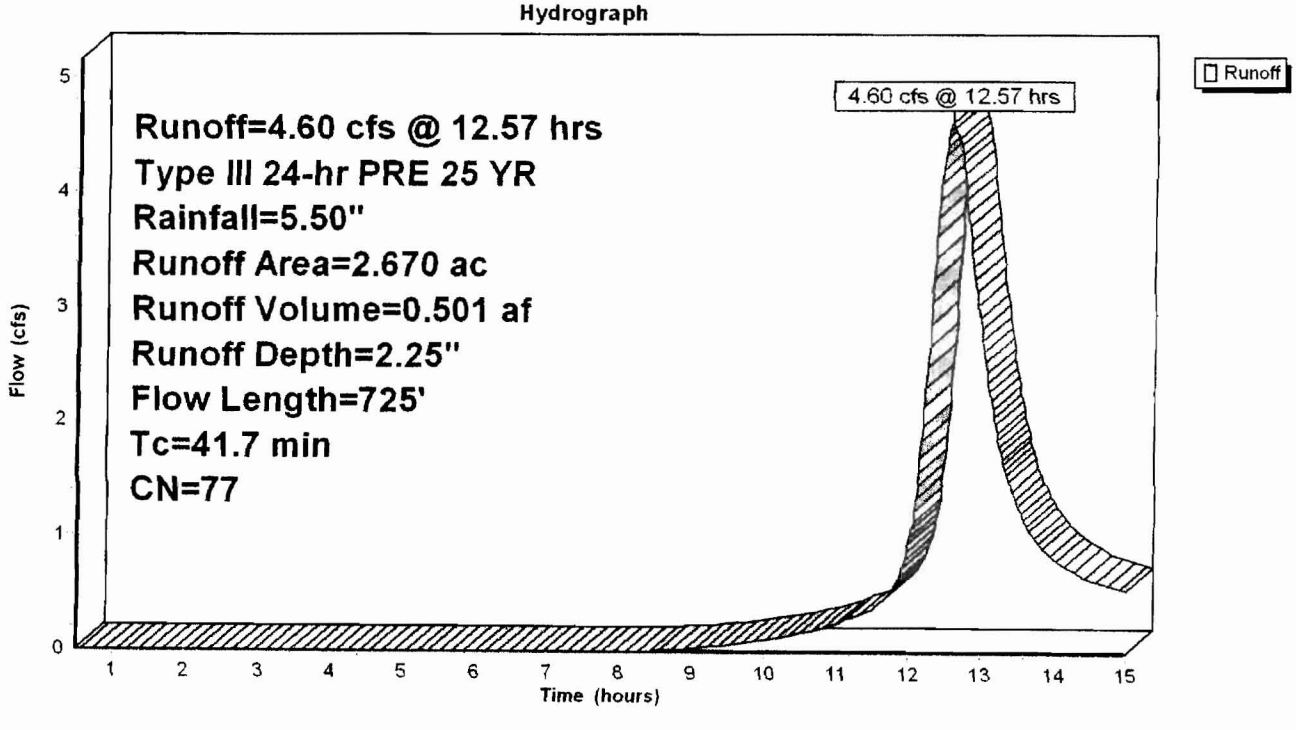
Runoff = 4.60 cfs @ 12.57 hrs, Volume= 0.501 af, Depth= 2.25"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.50-15.00 hrs, dt= 0.02 hrs
Type III 24-hr PRE 25 YR Rainfall=5.50"

Area (ac)	CN	Description
2.670	77	GOOD WOODS HOLLIS C/D

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
31.0	120	0.0500	0.1		**Sheet Flow, AB** Woods: Dense underbrush n= 0.800 P2= 3.00"
5.7	340	0.1600	1.0		**Shallow Concentrated Flow, BC** Forest w/Heavy Litter Kv= 2.5 fps
1.5	110	0.2400	1.2		**Shallow Concentrated Flow, CD** Forest w/Heavy Litter Kv= 2.5 fps
2.0	51	0.0300	0.4		**Shallow Concentrated Flow, DE** Forest w/Heavy Litter Kv= 2.5 fps
1.5	104	0.0130	1.1		**Shallow Concentrated Flow, EF** Nearly Bare & Untilled Kv= 10.0 fps
41.7	725	Total			

Subcatchment 1S: WOODED, INCLUDING OFFSITE AREA TO THE SOUTH



Subcatchment 2S: PRESUMPSCOTT ST. AREA

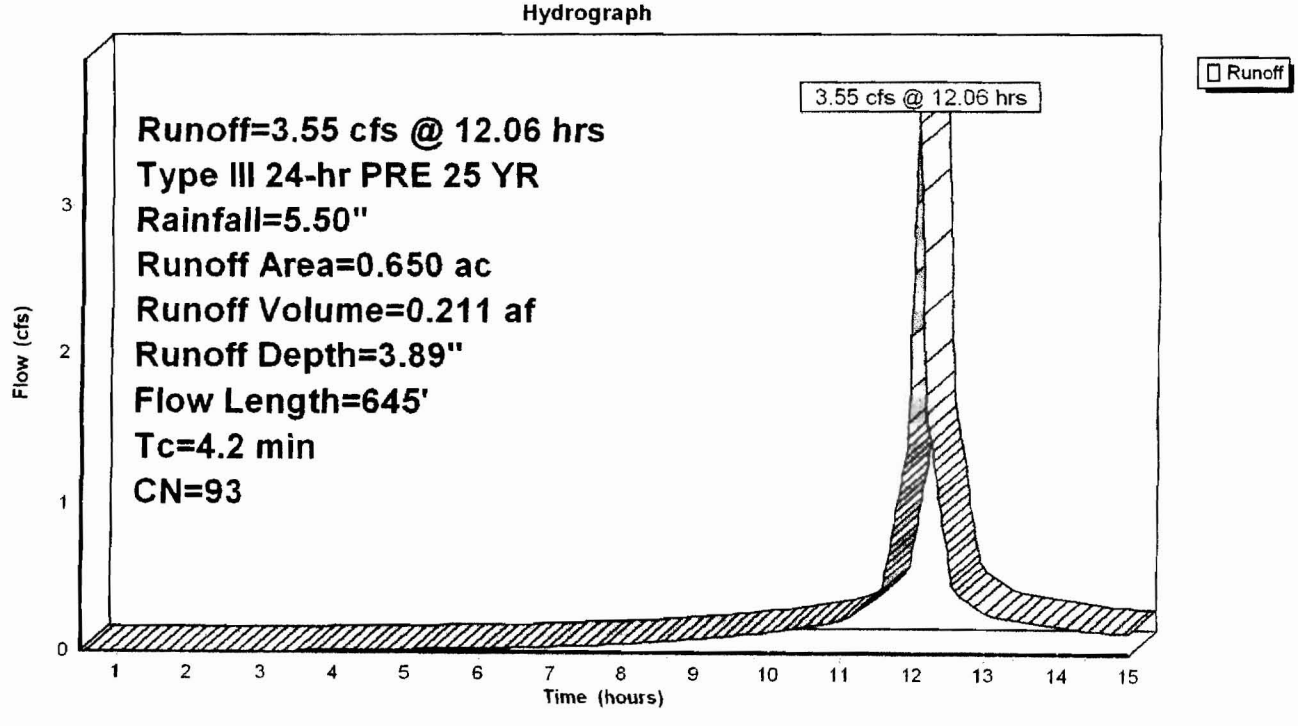
Runoff = 3.55 cfs @ 12.06 hrs, Volume= 0.211 af, Depth= 3.89"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.50-15.00 hrs, dt= 0.02 hrs
Type III 24-hr PRE 25 YR Rainfall=5.50"

Area (ac)	CN	Description
0.490	98	PAVED ROAD/WASTE CONCRETE
0.160	77	GOOD VEGETATION HOLLIS C/D
0.650	93	Weighted Average

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.6	30	0.0100	0.8		**Sheet Flow, AB TOP OF STREEET** Smooth surfaces n= 0.011 P2= 3.00"
1.0	395	0.1000	6.4		**Shallow Concentrated Flow, BC CURBED GUTTER** Paved Kv= 20.3 fps
2.6	220	0.0500	1.4	11.08	**Channel Flow, CD GRASS ROADSIDE SWALE** Area= 8.0 sf Perim= 8.0' r= 1.00' n= 0.240
4.2	645	Total			

Subcatchment 2S: PRESUMPSCOTT ST. AREA



Subcatchment 3S: CONCRETE SPOILS PILE

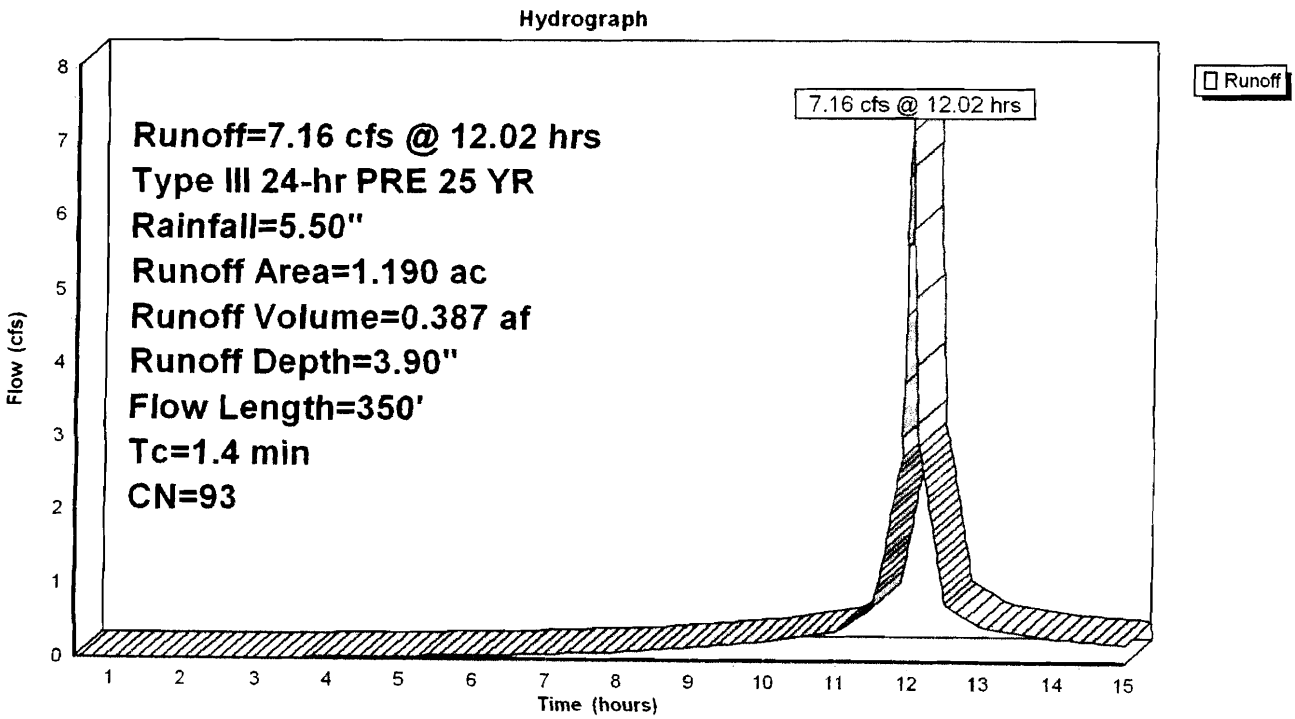
Runoff = 7.16 cfs @ 12.02 hrs, Volume= 0.387 af, Depth= 3.90"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.50-15.00 hrs, dt= 0.02 hrs
Type III 24-hr PRE 25 YR Rainfall=5.50"

Area (ac)	CN	Description
0.940	98	OUTWASH CONCRETE
0.250	73	WETLAND "D"
1.190	93	Weighted Average

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.2	40	0.2000	2.8		**Sheet Flow, AB** Smooth surfaces n= 0.011 P2= 3.00"
0.3	180	0.2200	9.5		**Shallow Concentrated Flow, BC** Paved Kv= 20.3 fps
0.9	130	0.0150	2.5		**Shallow Concentrated Flow, CD** Paved Kv= 20.3 fps
1.4	350	Total			

Subcatchment 3S: CONCRETE SPOILS PILE



Subcatchment 4S: MISC. MEADOW AREA

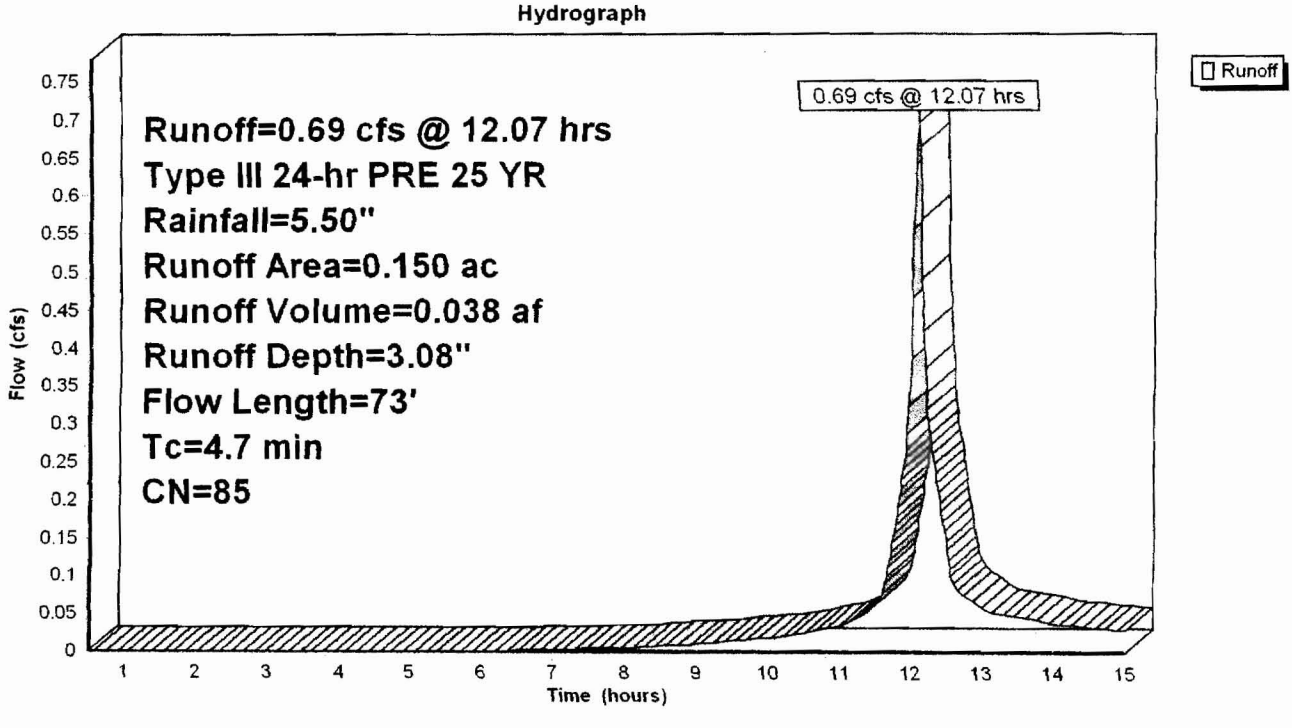
Runoff = 0.69 cfs @ 12.07 hrs, Volume= 0.038 af, Depth= 3.08"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.50-15.00 hrs, dt= 0.02 hrs
Type III 24-hr PRE 25 YR *Rainfall=5.50"*

Area (ac)	CN	Description
0.050	98	WASTE CONCRETE
0.090	78	MEADOW GRASS HOLIS C/D
0.010	77	GOOD WOODS HOLLIS C/D
0.150	85	Weighted Average

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
4.7	73	0.1900	0.3		**Sheet Flow, AB** Grass: Dense n= 0.240 P2= 3.00"

Subcatchment 4S: MISC. MEADOW AREA



Subcatchment 5S: WOODED

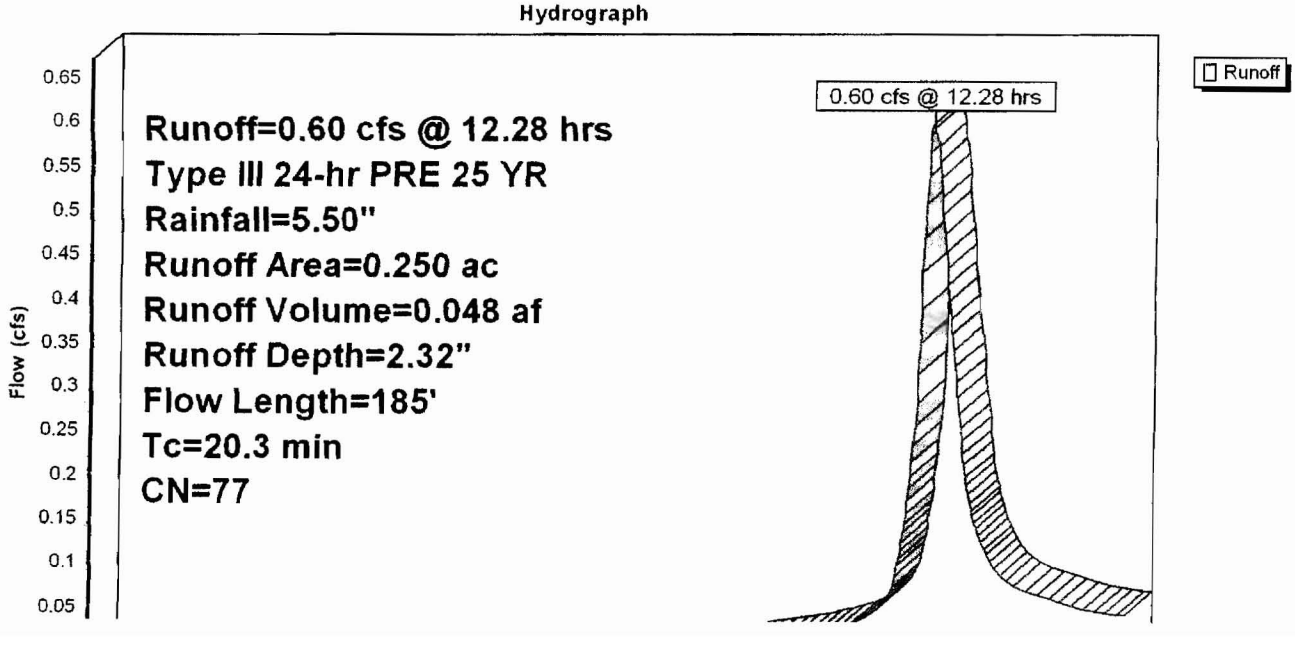
Runoff = 0.60 cfs @ 12.28 hrs, Volume= 0.048 af, Depth= 2.32"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.50-15.00 hrs, dt= 0.02 hrs
Type III 24-hr PRE 25 YR Rainfall=5.50"

Area (ac)	CN	Description
0.250	77	GOOD WOODS HOLLIS C/D

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
18.7	70	0.0600	0.1		**Sheet Flow, AB** Woods: Dense underbrush n= 0.800 P2= 3.00"
1.6	115	0.2400	1.2		**Shallow Concentrated Flow, BC** Forest w/Heavy Litter Kv= 2.5 fps
20.3	185	Total			

Subcatchment 5S: WOODED



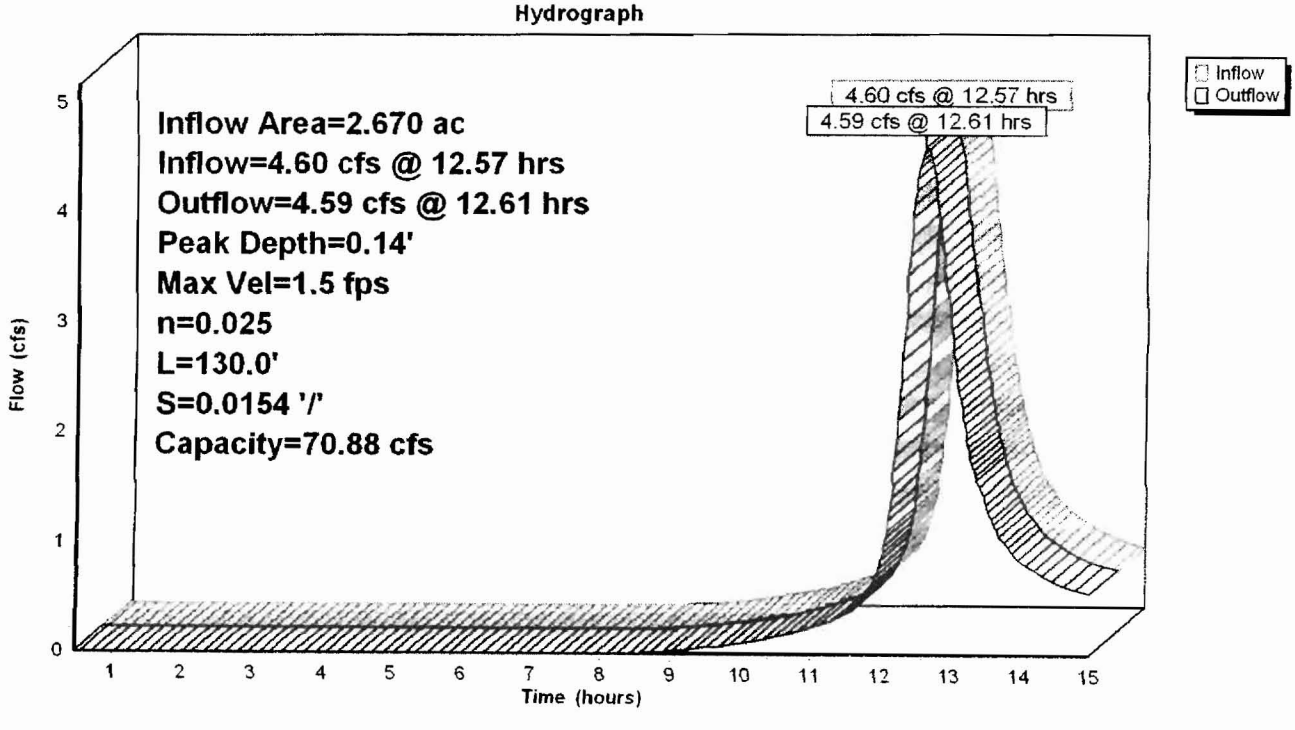
Reach 1R: REACH THRU SA-3, HARD OUTWASH CONCRETE

Inflow Area = 2.670 ac, Inflow Depth = 2.25" for PRE 25 YR event
Inflow = 4.60 cfs @ 12.57 hrs, Volume= 0.501 af
Outflow = 4.59 cfs @ 12.61 hrs, Volume= 0.498 af, Atten= 0%, Lag= 2.8 min

Routing by Stor-Ind+Trans method, Time Span= 0.50-15.00 hrs, dt= 0.02 hrs
Max. Velocity= 1.5 fps, Min. Travel Time= 1.4 min
Avg. Velocity = 0.7 fps, Avg. Travel Time= 3.0 min

Peak Depth= 0.14' @ 12.59 hrs
Capacity at bank full= 70.88 cfs
Inlet Invert= 10.00', Outlet Invert= 8.00'
60.00' x 0.50' deep Parabolic Channel, n= 0.025 Length= 130.0' Slope= 0.0154 '/'

Reach 1R: REACH THRU SA-3, HARD OUTWASH CONCRETE

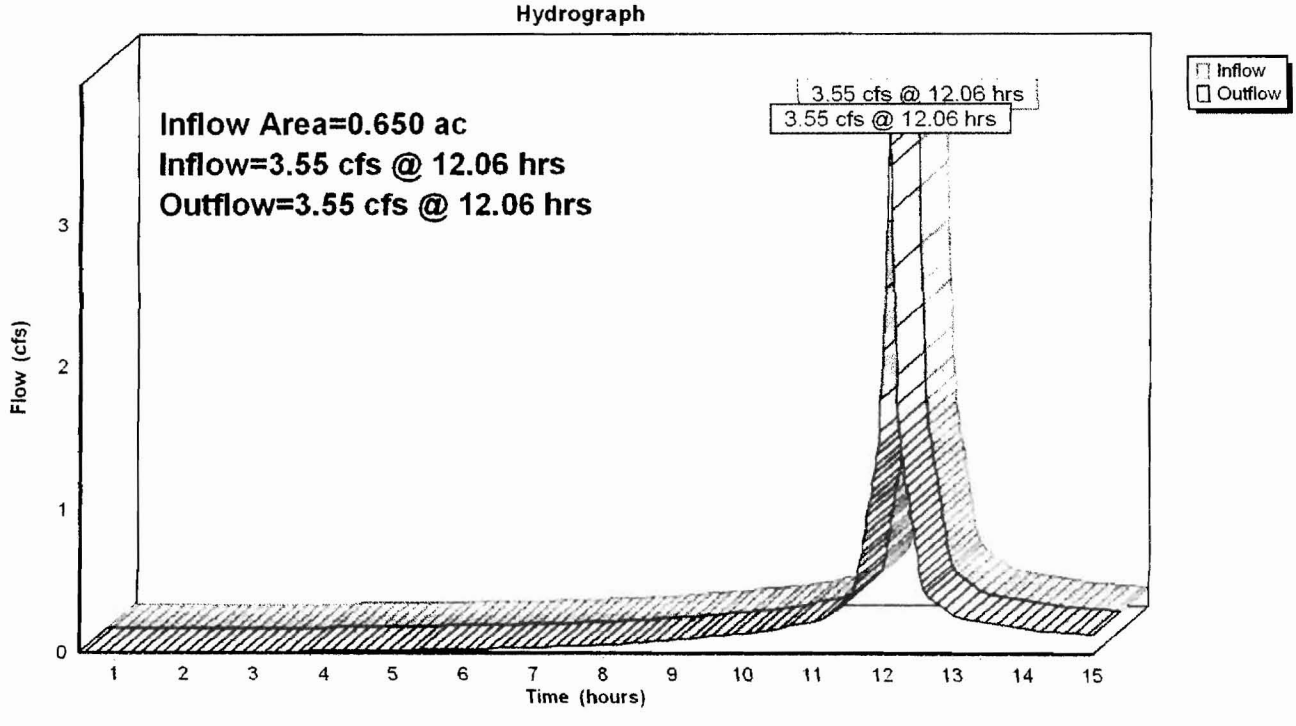


Reach 2R: POINT OF STUDY

Inflow Area = 0.650 ac, Inflow Depth = 3.89" for PRE 25 YR event
Inflow = 3.55 cfs @ 12.06 hrs, Volume= 0.211 af
Outflow = 3.55 cfs @ 12.06 hrs, Volume= 0.211 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.50-15.00 hrs, dt= 0.02 hrs

Reach 2R: POINT OF STUDY

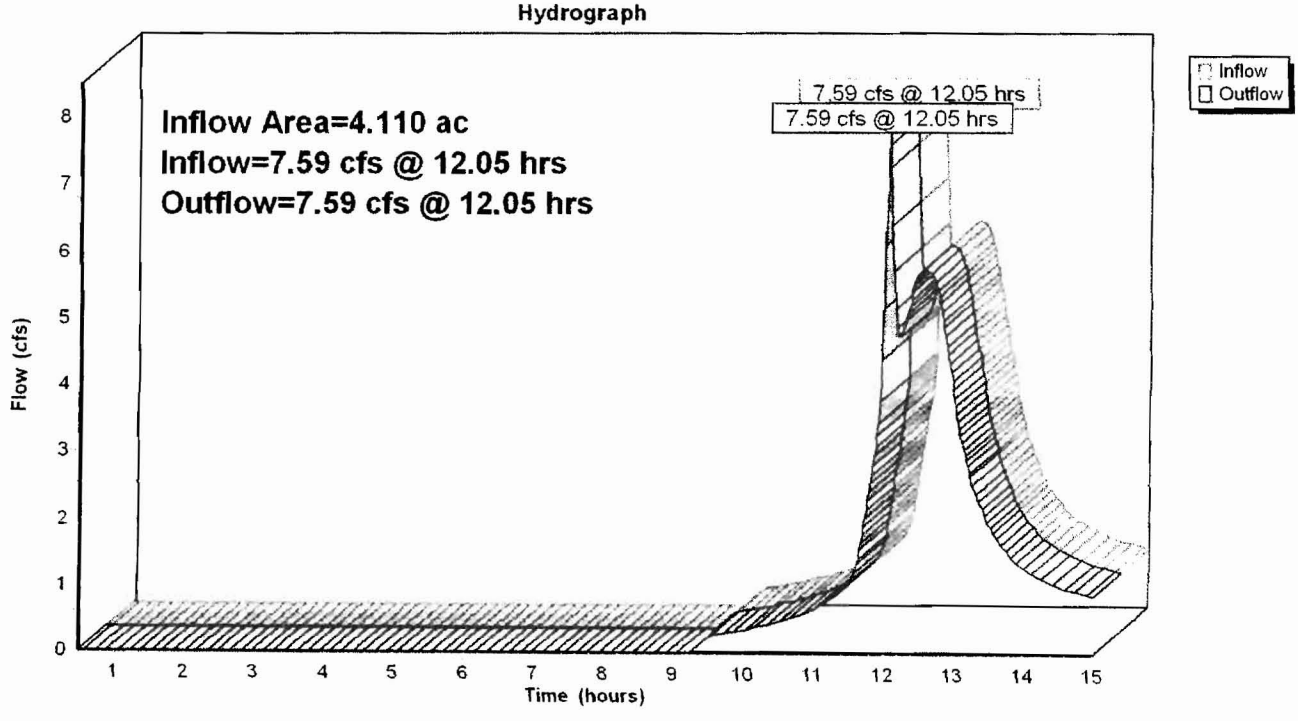


Reach 3R: POINT OF STUDY, NE CORNER

Inflow Area = 4.110 ac, Inflow Depth = 2.60" for PRE 25 YR event
Inflow = 7.59 cfs @ 12.05 hrs, Volume= 0.891 af
Outflow = 7.59 cfs @ 12.05 hrs, Volume= 0.891 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.50-15.00 hrs, dt= 0.02 hrs

Reach 3R: POINT OF STUDY, NE CORNER

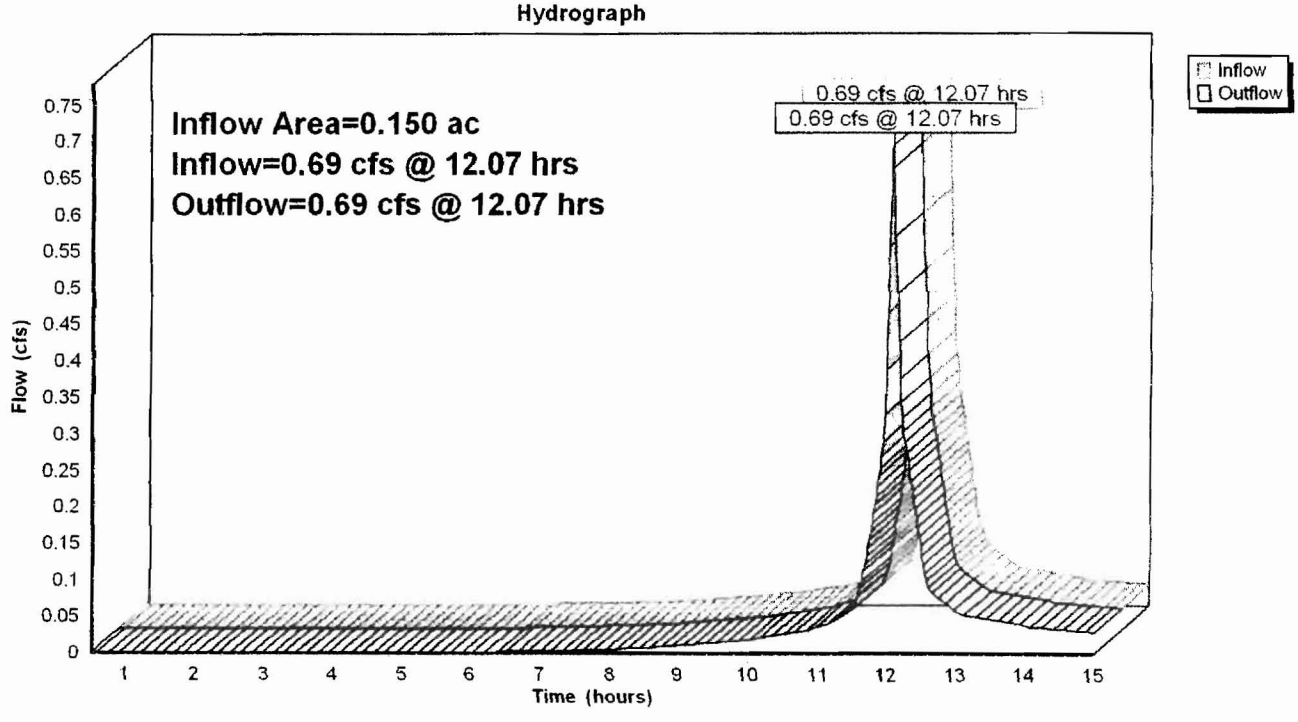


Reach 4R: POINT OF STUDY

Inflow Area = 0.150 ac, Inflow Depth = 3.08" for PRE 25 YR event
Inflow = 0.69 cfs @ 12.07 hrs, Volume= 0.038 af
Outflow = 0.69 cfs @ 12.07 hrs, Volume= 0.038 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.50-15.00 hrs, dt= 0.02 hrs

Reach 4R: POINT OF STUDY



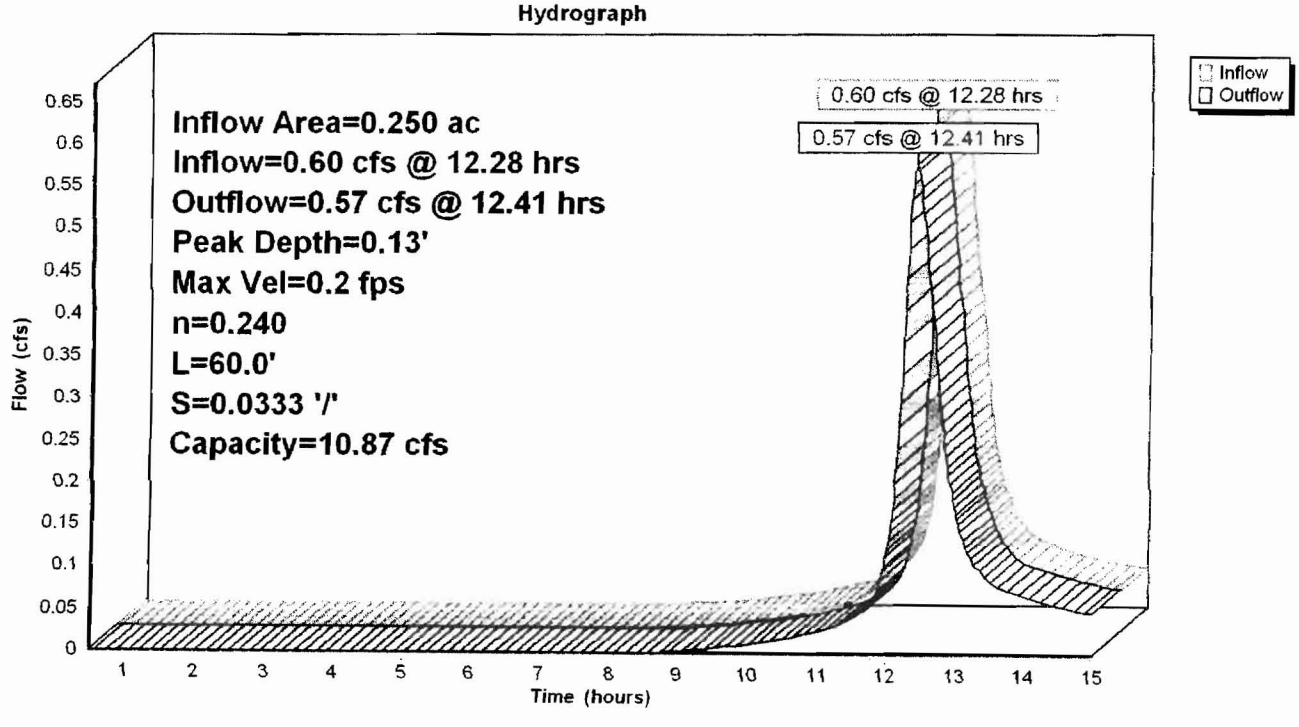
Reach 5R: REACH THRU SA-3

Inflow Area = 0.250 ac, Inflow Depth = 2.32" for PRE 25 YR event
Inflow = 0.60 cfs @ 12.28 hrs, Volume= 0.048 af
Outflow = 0.57 cfs @ 12.41 hrs, Volume= 0.047 af, Atten= 4%, Lag= 7.9 min

Routing by Stor-Ind+Trans method, Time Span= 0.50-15.00 hrs, dt= 0.02 hrs
Max. Velocity= 0.2 fps, Min. Travel Time= 4.5 min
Avg. Velocity = 0.1 fps, Avg. Travel Time= 10.3 min

Peak Depth= 0.13' @ 12.34 hrs
Capacity at bank full= 10.87 cfs
Inlet Invert= 10.00', Outlet Invert= 8.00'
60.00' x 0.50' deep Parabolic Channel, n= 0.240 Length= 60.0' Slope= 0.0333 '/'

Reach 5R: REACH THRU SA-3



Pond 1P: WETLAND/POND IN CONCRETE OUTWASH

LIMITED PONDING IS TRAPPED WATER IN A CAT TAIL DEPRESSION

Inflow Area = 4.110 ac, Inflow Depth = 2.72" for PRE 25 YR event
Inflow = 8.21 cfs @ 12.02 hrs, Volume= 0.932 af
Outflow = 7.59 cfs @ 12.05 hrs, Volume= 0.891 af, Atten= 8%, Lag= 1.5 min
Primary = 7.59 cfs @ 12.05 hrs, Volume= 0.891 af

Routing by Stor-Ind method, Time Span= 0.50-15.00 hrs, dt= 0.02 hrs
Peak Elev= 11.15' @ 12.05 hrs Surf.Area= 4,688 sf Storage= 2,623 cf
Flood Elev= 12.00' Surf.Area= 10,944 sf Storage= 8,767 cf
Plug-Flow detention time= 20.0 min calculated for 0.891 af (96% of inflow)
Center-of-Mass det. time= 13.8 min (755.9 - 742.1)

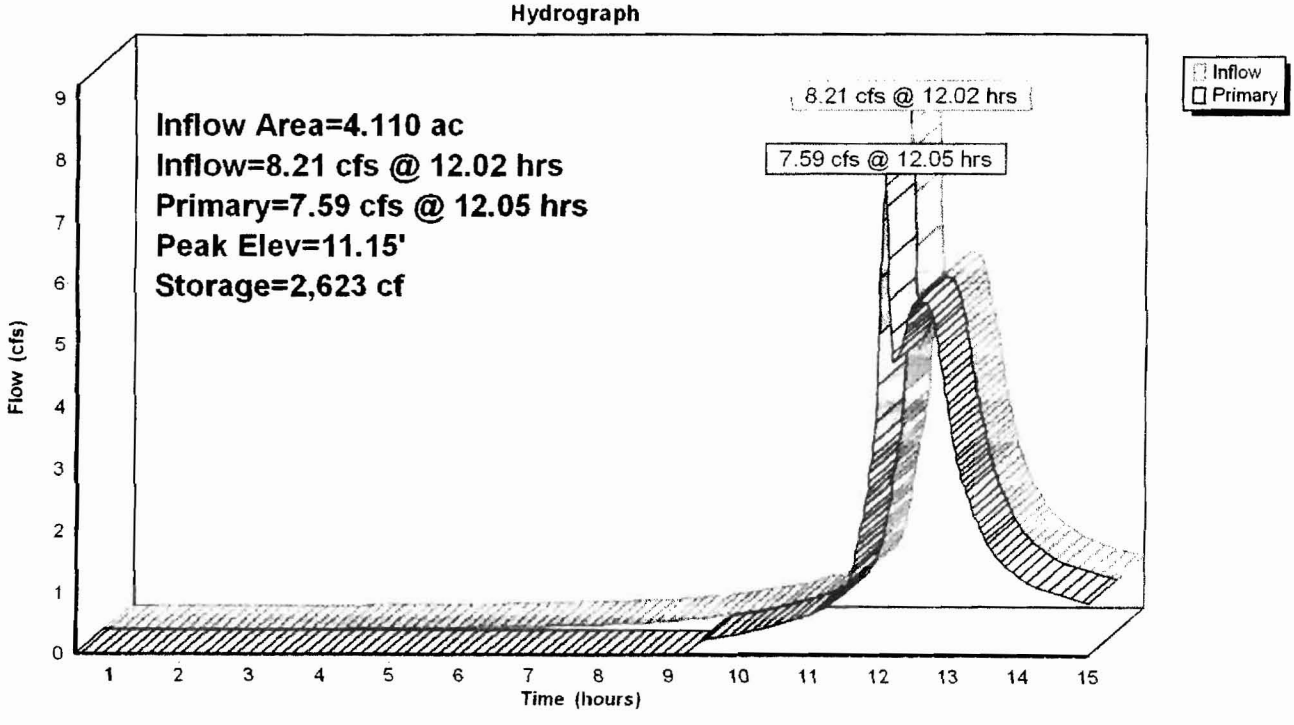
#	Invert	Avail.Storage	Storage Description
1	10.50'	8,767 cf	**Custom Stage Data (Prismatic)** Listed below

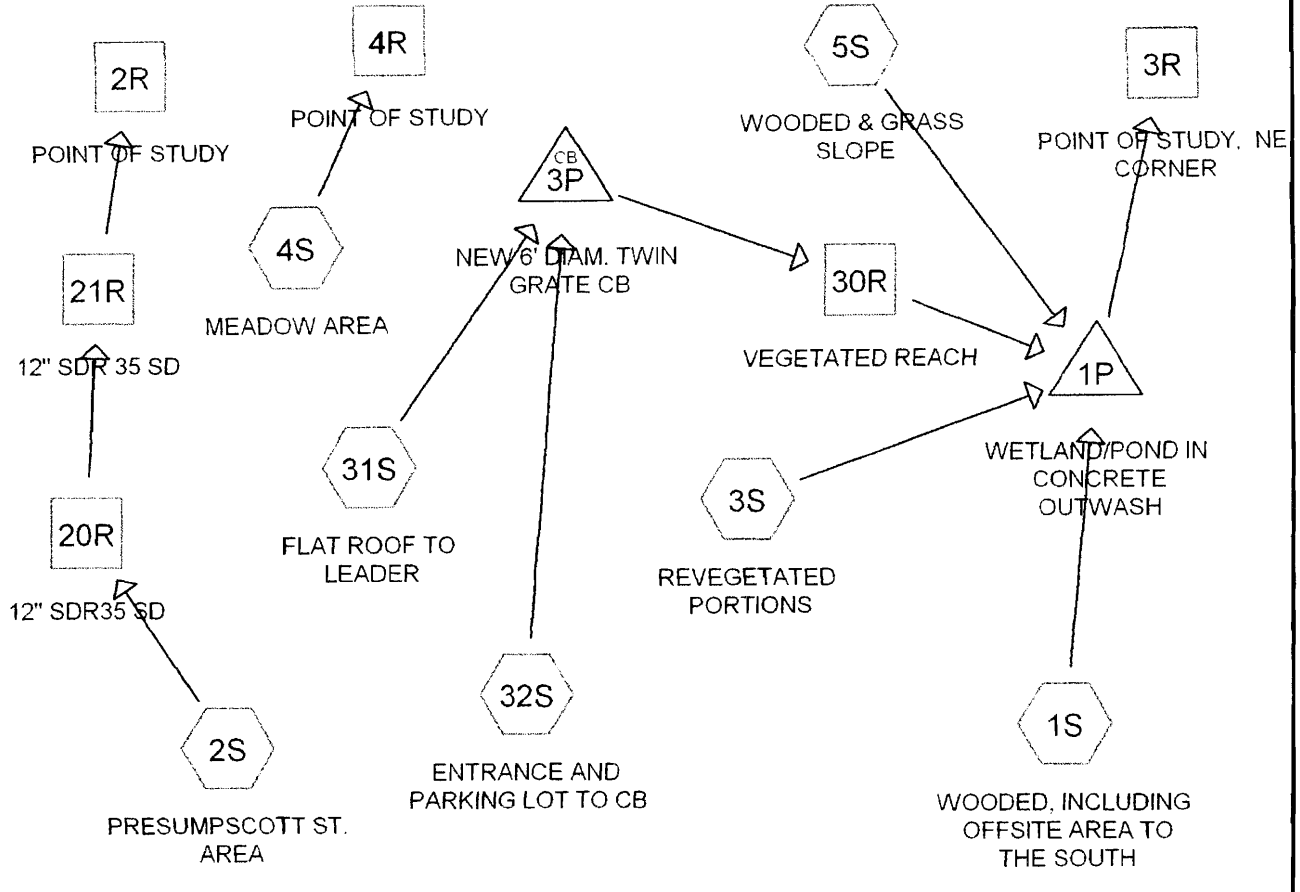
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
10.50	2,500	0	0
11.00	3,560	1,515	1,515
12.00	10,944	7,252	8,767

#	Routing	Invert	Outlet Devices
1	Primary	11.00'	***50.0' long x 2.0' breadth Broad-Crested Rectangular Weir*** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 Coef. (English) 2.54 2.61 2.61 2.60 2.66 2.70 2.77 2.89 2.88 2.85 3.07 3.20 3.32

Primary OutFlow Max=7.51 cfs @ 12.05 hrs HW=11.15' (Free Discharge)
↑—**1=Broad-Crested Rectangular Weir** (Weir Controls 7.51 cfs @ 1.0 fps)

Pond 1P: WETLAND/POND IN CONCRETE OUTWASH





Subcat Reach Pond Link

Drainage Diagram for Presumpscott Street - POST

Prepared by Engineering Assistance & Design, Inc. 8/11/2004

Time span=0.50-15.00 hrs, dt=0.02 hrs, 726 points
Runoff by SCS TR-20 method, UH=SCS
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment 1S: WOODED, INCLUDING OFFSITE AREA TO THE Runoff Area=2.530 ac Runoff Depth=2.26"
Flow Length=685' Tc=40.1 min CN=77 Runoff=4.44 cfs 0.476 af

Subcatchment 2S: PRESUMPSCOTT ST. AREA Runoff Area=0.480 ac Runoff Depth=3.38"
Flow Length=565' Tc=3.3 min CN=88 Runoff=2.49 cfs 0.135 af

Subcatchment 3S: REVEGETATED PORTIONS Runoff Area=0.610 ac Runoff Depth=2.36"
Flow Length=280' Tc=4.4 min CN=77 Runoff=2.31 cfs 0.120 af

Subcatchment 4S: MEADOW AREA Runoff Area=0.040 ac Runoff Depth=2.45"
Flow Length=30' Tc=3.4 min CN=78 Runoff=0.16 cfs 0.008 af

Subcatchment 5S: WOODED & GRASS SLOPE Runoff Area=0.160 ac Runoff Depth=2.45"
Flow Length=200' Tc=32.4 min CN=79 Runoff=0.33 cfs 0.033 af

Subcatchment 31S: FLAT ROOF TO LEADER Runoff Area=0.230 ac Runoff Depth=4.46"
Flow Length=170' Tc=2.4 min CN=98 Runoff=1.40 cfs 0.085 af

Subcatchment 32S: ENTRANCE AND PARKING LOT TO CB Runoff Area=0.580 ac Runoff Depth=4.34"
Flow Length=175' Tc=3.0 min CN=97 Runoff=3.45 cfs 0.210 af

Reach 2R: POINT OF STUDY Inflow=2.45 cfs 0.135 af
Outflow=2.45 cfs 0.135 af

Reach 3R: POINT OF STUDY, NE CORNER Inflow=7.78 cfs 0.840 af
Outflow=7.78 cfs 0.840 af

Reach 4R: POINT OF STUDY Inflow=0.16 cfs 0.008 af
Outflow=0.16 cfs 0.008 af

Reach 20R: 12" SDR35 SD Peak Depth=0.35' Max Vel=10.1 fps Inflow=2.49 cfs 0.135 af
D=12.0" n=0.010 L=126.0' S=0.0409 '/' Capacity=9.36 cfs Outflow=2.47 cfs 0.135 af

Reach 21R: 12" SDR 35 SD Peak Depth=0.42' Max Vel=7.9 fps Inflow=2.47 cfs 0.135 af
D=12.0" n=0.010 L=117.0' S=0.0214 '/' Capacity=6.77 cfs Outflow=2.45 cfs 0.135 af

Reach 30R: VEGETATED REACH Peak Depth=0.82' Max Vel=0.4 fps Inflow=4.84 cfs 0.295 af
n=0.240 L=65.0' S=0.0154 '/' Capacity=1.84 cfs Outflow=4.41 cfs 0.293 af

Pond 1P: WETLAND/POND IN CONCRETE OUTW Peak Elev=11.41' Storage=4,454 cf Inflow=8.07 cfs 0.922 af
Outflow=7.78 cfs 0.840 af

Pond 3P: NEW 6' DIAM. TWIN GRATE CB Peak Elev=42.64' Inflow=4.84 cfs 0.295 af
12.0" x 161.0' Culvert Outflow=4.84 cfs 0.295 af

Total Runoff Area = 4.630 ac Runoff Volume = 1.067 af Average Runoff Depth = 2.77"

Time span=0.50-15.00 hrs, dt=0.02 hrs, 726 points
Runoff by SCS TR-20 method, UH=SCS
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment 1S: WOODED, INCLUDING OFFSITE AREA TO THE Runoff Area=2.530 ac Runoff Depth=1.73"
Flow Length=685' Tc=40.1 min CN=77 Runoff=3.45 cfs 0.365 af

Subcatchment 2S: PRESUMPSCOTT ST. AREA Runoff Area=0.480 ac Runoff Depth=2.74"
Flow Length=565' Tc=3.3 min CN=88 Runoff=2.05 cfs 0.109 af

Subcatchment 3S: REVEGETATED PORTIONS Runoff Area=0.610 ac Runoff Depth=1.82"
Flow Length=280' Tc=4.4 min CN=77 Runoff=1.79 cfs 0.092 af

Subcatchment 4S: MEADOW AREA Runoff Area=0.040 ac Runoff Depth=1.89"
Flow Length=30' Tc=3.4 min CN=78 Runoff=0.13 cfs 0.006 af

Subcatchment 5S: WOODED & GRASS SLOPE Runoff Area=0.160 ac Runoff Depth=1.90"
Flow Length=200' Tc=32.4 min CN=79 Runoff=0.26 cfs 0.025 af

Subcatchment 31S: FLAT ROOF TO LEADER Runoff Area=0.230 ac Runoff Depth=3.78"
Flow Length=170' Tc=2.4 min CN=98 Runoff=1.19 cfs 0.072 af

Subcatchment 32S: ENTRANCE AND PARKING LOT TO CB Runoff Area=0.580 ac Runoff Depth=3.66"
Flow Length=175' Tc=3.0 min CN=97 Runoff=2.93 cfs 0.177 af

Reach 2R: POINT OF STUDY Inflow=2.02 cfs 0.109 af
Outflow=2.02 cfs 0.109 af

Reach 3R: POINT OF STUDY, NE CORNER Inflow=6.27 cfs 0.648 af
Outflow=6.27 cfs 0.648 af

Reach 4R: POINT OF STUDY Inflow=0.13 cfs 0.006 af
Outflow=0.13 cfs 0.006 af

Reach 20R: 12" SDR35 SD Peak Depth=0.32' Max Vel=9.5 fps Inflow=2.05 cfs 0.109 af
D=12.0" n=0.010 L=126.0' S=0.0409 '/' Capacity=9.36 cfs Outflow=2.03 cfs 0.109 af

Reach 21R: 12" SDR 35 SD Peak Depth=0.38' Max Vel=7.5 fps Inflow=2.03 cfs 0.109 af
D=12.0" n=0.010 L=117.0' S=0.0214 '/' Capacity=6.77 cfs Outflow=2.02 cfs 0.109 af

Reach 30R: VEGETATED REACH Peak Depth=0.74' Max Vel=0.4 fps Inflow=4.12 cfs 0.249 af
n=0.240 L=65.0' S=0.0154 '/' Capacity=1.84 cfs Outflow=3.75 cfs 0.247 af

Pond 1P: WETLAND/POND IN CONCRETE OUTW Peak Elev=11.38' Storage=4,304 cf Inflow=6.54 cfs 0.730 af
Outflow=6.27 cfs 0.648 af

Pond 3P: NEW 6' DIAM. TWIN GRATE CB Peak Elev=42.19' Inflow=4.12 cfs 0.249 af
12.0" x 161.0' Culvert Outflow=4.12 cfs 0.249 af

Total Runoff Area = 4.630 ac Runoff Volume = 0.847 af Average Runoff Depth = 2.20"

Time span=0.50-15.00 hrs, dt=0.02 hrs, 726 points
Runoff by SCS TR-20 method, UH=SCS
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment 1S: WOODED, INCLUDING OFFSITE AREA TO THE Runoff Area=2.530 ac Runoff Depth=0.73"
Flow Length=685' Tc=40.1 min CN=77 Runoff=1.50 cfs 0.154 af

Subcatchment 2S: PRESUMPSCOTT ST. AREA Runoff Area=0.480 ac Runoff Depth=1.43"
Flow Length=565' Tc=3.3 min CN=88 Runoff=1.12 cfs 0.057 af

Subcatchment 3S: REVEGETATED PORTIONS Runoff Area=0.610 ac Runoff Depth=0.78"
Flow Length=280' Tc=4.4 min CN=77 Runoff=0.78 cfs 0.039 af

Subcatchment 4S: MEADOW AREA Runoff Area=0.040 ac Runoff Depth=0.83"
Flow Length=30' Tc=3.4 min CN=78 Runoff=0.06 cfs 0.003 af

Subcatchment 5S: WOODED & GRASS SLOPE Runoff Area=0.160 ac Runoff Depth=0.84"
Flow Length=200' Tc=32.4 min CN=79 Runoff=0.12 cfs 0.011 af

Subcatchment 31S: FLAT ROOF TO LEADER Runoff Area=0.230 ac Runoff Depth=2.33"
Flow Length=170' Tc=2.4 min CN=98 Runoff=0.76 cfs 0.045 af

Subcatchment 32S: ENTRANCE AND PARKING LOT TO CB Runoff Area=0.580 ac Runoff Depth=2.22"
Flow Length=175' Tc=3.0 min CN=97 Runoff=1.84 cfs 0.107 af

Reach 2R: POINT OF STUDY Inflow=1.10 cfs 0.057 af
Outflow=1.10 cfs 0.057 af

Reach 3R: POINT OF STUDY, NE CORNER Inflow=3.14 cfs 0.276 af
Outflow=3.14 cfs 0.276 af

Reach 4R: POINT OF STUDY Inflow=0.06 cfs 0.003 af
Outflow=0.06 cfs 0.003 af

Reach 20R: 12" SDR35 SD Peak Depth=0.23' Max Vel=8.0 fps Inflow=1.12 cfs 0.057 af
D=12.0" n=0.010 L=126.0' S=0.0409 '/' Capacity=9.36 cfs Outflow=1.11 cfs 0.057 af

Reach 21R: 12" SDR 35 SD Peak Depth=0.27' Max Vel=6.4 fps Inflow=1.11 cfs 0.057 af
D=12.0" n=0.010 L=117.0' S=0.0214 '/' Capacity=6.77 cfs Outflow=1.10 cfs 0.057 af

Reach 30R: VEGETATED REACH Peak Depth=0.57' Max Vel=0.4 fps Inflow=2.59 cfs 0.152 af
n=0.240 L=65.0' S=0.0154 '/' Capacity=1.84 cfs Outflow=2.34 cfs 0.151 af

Pond 1P: WETLAND/POND IN CONCRETE OUTW Peak Elev=11.33' Storage=3,942 cf Inflow=3.45 cfs 0.356 af
Outflow=3.14 cfs 0.276 af

Pond 3P: NEW 6' DIAM. TWIN GRATE CB Peak Elev=41.46' Inflow=2.59 cfs 0.152 af
12.0" x 161.0' Culvert Outflow=2.59 cfs 0.152 af

Total Runoff Area = 4.630 ac Runoff Volume = 0.417 af Average Runoff Depth = 1.08"

Subcatchment 1S: WOODED, INCLUDING OFFSITE AREA TO THE SOUTH

OFFSITE AREA TAKEN FROM USGA TOPO QUAD

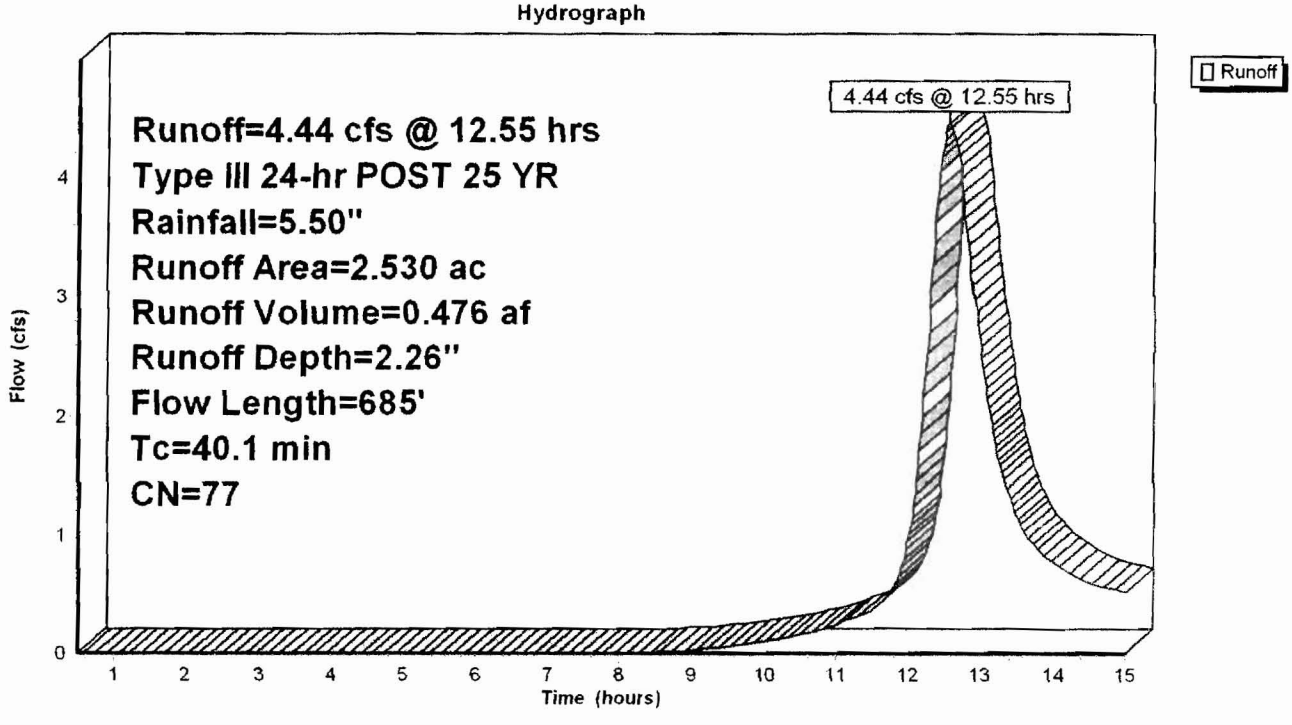
Runoff = 4.44 cfs @ 12.55 hrs, Volume= 0.476 af, Depth= 2.26"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.50-15.00 hrs, dt= 0.02 hrs
Type III 24-hr POST 25 YR Rainfall=5.50"

Area (ac)	CN	Description
2.390	77	GOOD WOODS HOLLIS C/D
0.140	80	GOOD GRASS HOLLIS C/D
2.530	77	Weighted Average

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
31.0	120	0.0500	0.1		**Sheet Flow, AB** Woods: Dense underbrush n= 0.800 P2= 3.00"
5.7	340	0.1600	1.0		**Shallow Concentrated Flow, BC** Forest w/Heavy Litter Kv= 2.5 fps
0.9	65	0.2400	1.2		**Shallow Concentrated Flow, CD** Forest w/Heavy Litter Kv= 2.5 fps
0.1	45	0.2500	7.5		**Shallow Concentrated Flow, DE** Grassed Waterway Kv= 15.0 fps
2.4	115	0.0130	0.8		**Shallow Concentrated Flow, EF** Short Grass Pasture Kv= 7.0 fps
40.1	685	Total			

Subcatchment 1S: WOODED, INCLUDING OFFSITE AREA TO THE SOUTH



Subcatchment 2S: PRESUMPSCOTT ST. AREA

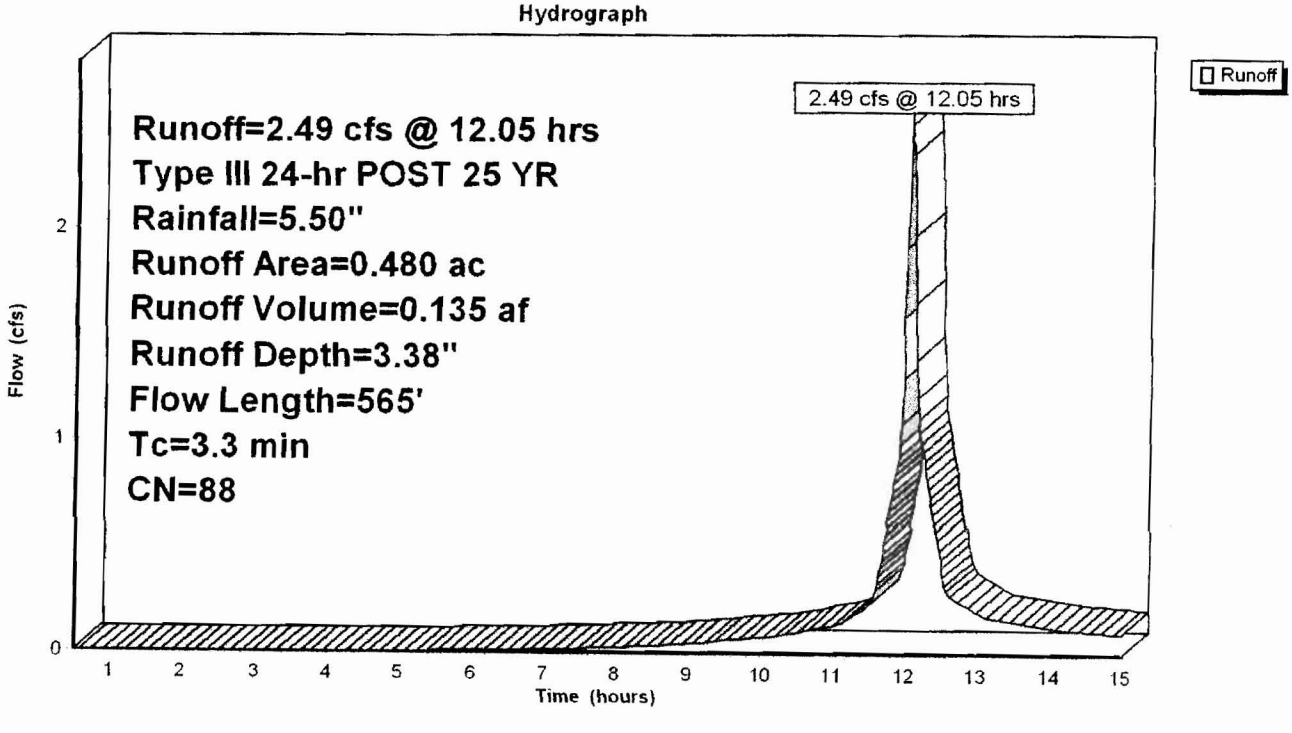
Runoff = 2.49 cfs @ 12.05 hrs, Volume= 0.135 af, Depth= 3.38"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.50-15.00 hrs, dt= 0.02 hrs
Type III 24-hr POST 25 YR Rainfall=5.50"

Area (ac)	CN	Description
0.250	98	PAVED ROAD& ENTRANCE
0.160	77	GOOD VEGETATION HOLLIS C/D
0.070	80	ROW GRASS DITCH
0.480	88	Weighted Average

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.6	30	0.0100	0.8		**Sheet Flow, AB TOP OF STREEET** Smooth surfaces n= 0.011 P2= 3.00"
1.0	395	0.1000	6.4		**Shallow Concentrated Flow, BC CURBED GUTTER** Paved Kv= 20.3 fps
1.7	140	0.0500	1.4	11.08	**Channel Flow, CD GRASS ROADSIDE SWALE** Area= 8.0 sf Perim= 8.0' r= 1.00' n= 0.240
3.3	565	Total			

Subcatchment 2S: PRESUMPSCOTT ST. AREA



Subcatchment 3S: REVEGETATED PORTIONS

THIS AREA PREVIOUISLY WAS OUTWASH CONCRETE. RECLIAMED TO UNMOWED MEADOW GRASSES

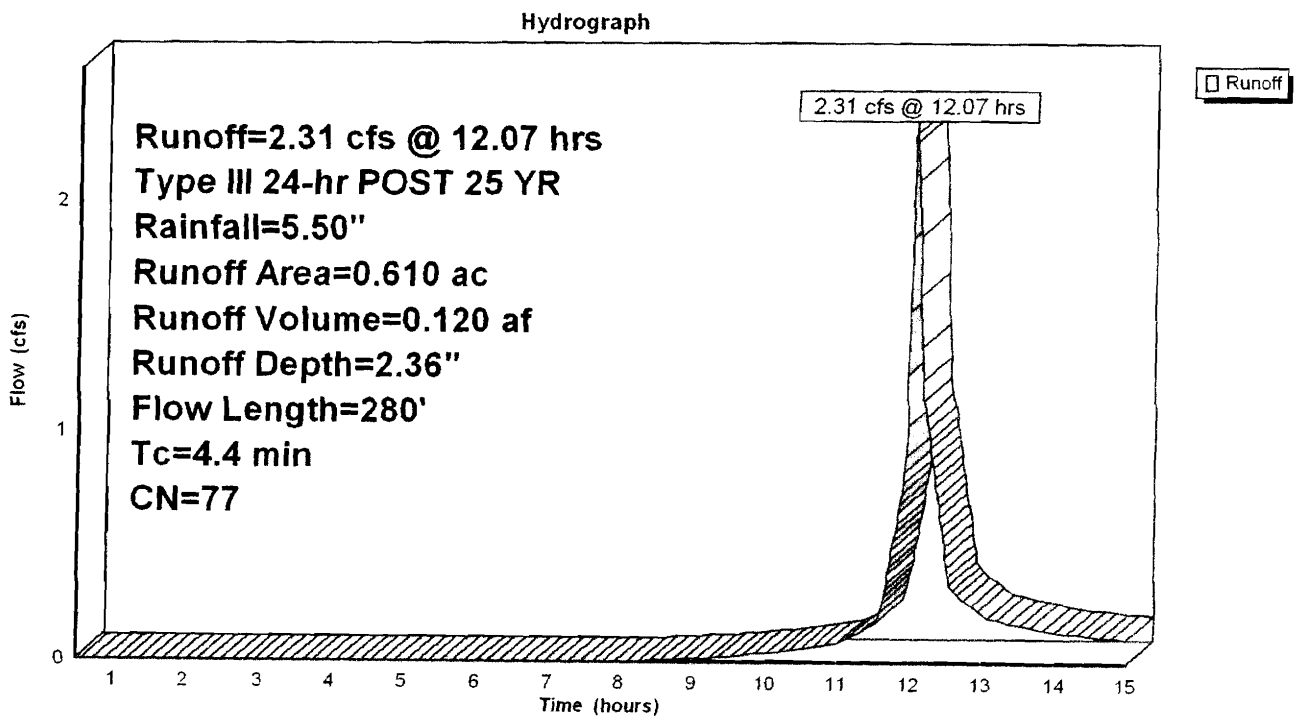
Runoff = 2.31 cfs @ 12.07 hrs, Volume= 0.120 af, Depth= 2.36"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.50-15.00 hrs, dt= 0.02 hrs
Type III 24-hr POST 25 YR Rainfall=5.50"

Area (ac)	CN	Description
0.360	80	NEW GRASS OVER BACKFILL
0.250	73	WETLAND BRUSH "D"
0.610	77	Weighted Average

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.2	40	0.5000	4.0		**Sheet Flow, AB VEGETATED SLOPE** Smooth surfaces n= 0.011 P2= 3.00"
1.7	100	0.0200	1.0		**Shallow Concentrated Flow, BC SHALLOW GRASS DIVERESION** Short Grass Pasture Kv= 7.0 fps
0.2	30	0.1500	2.7		**Shallow Concentrated Flow, CD SLOPE NEXT TO WOODS** Short Grass Pasture Kv= 7.0 fps
2.3	110	0.0130	0.8		**Shallow Concentrated Flow, DE OLD VEGETATION** Short Grass Pasture Kv= 7.0 fps
4.4	280	Total			

Subcatchment 3S: REVEGETATED PORTIONS



Subcatchment 4S: MEADOW AREA

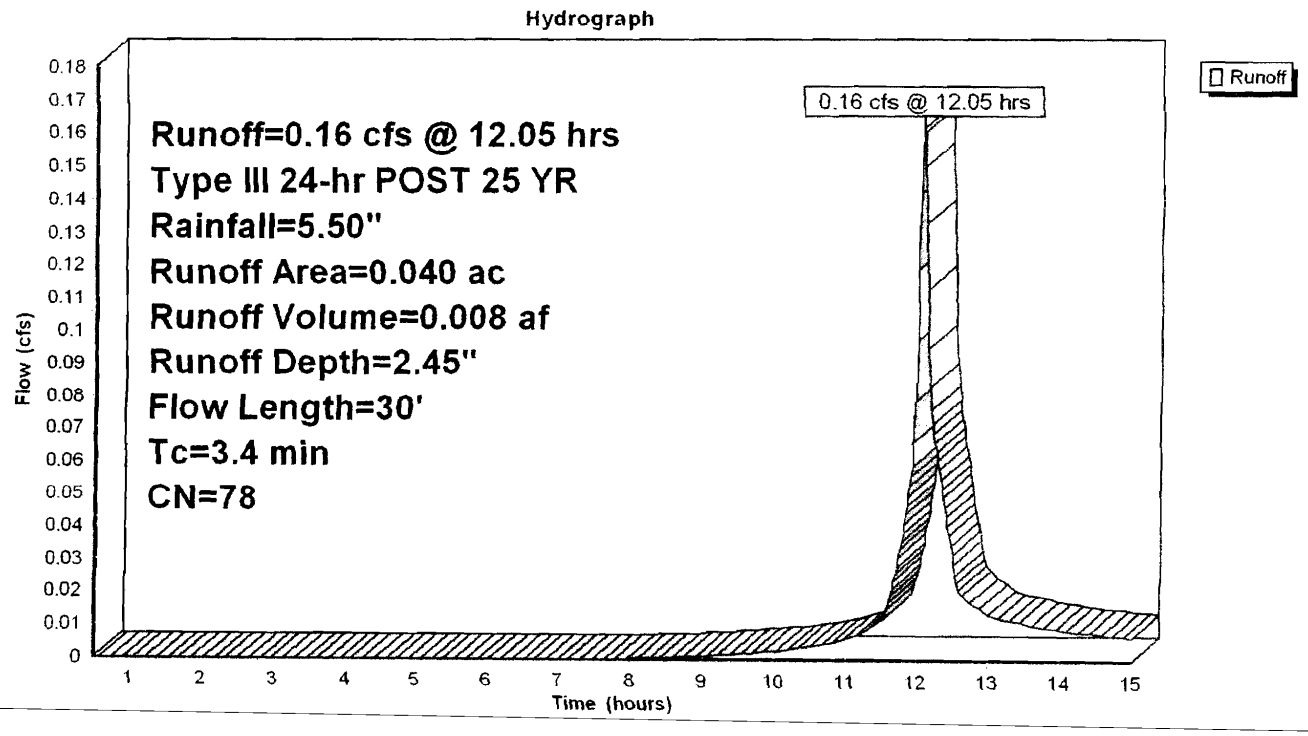
Runoff = 0.16 cfs @ 12.05 hrs, Volume= 0.008 af, Depth= 2.45"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.50-15.00 hrs, dt= 0.02 hrs
Type III 24-hr POST 25 YR Rainfall=5.50"

Area (ac)	CN	Description
0.010	77	GOOD WOODS HOLLIS C/D
0.030	78	MEADOW GRASS HOLLIS C/D
0.040	78	Weighted Average

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
3.4	30	0.2000	0.1		**Sheet Flow, AB** Woods: Light underbrush n= 0.400 P2= 3.00"

Subcatchment 4S: MEADOW AREA



Subcatchment 5S: WOODED & GRASS SLOPE

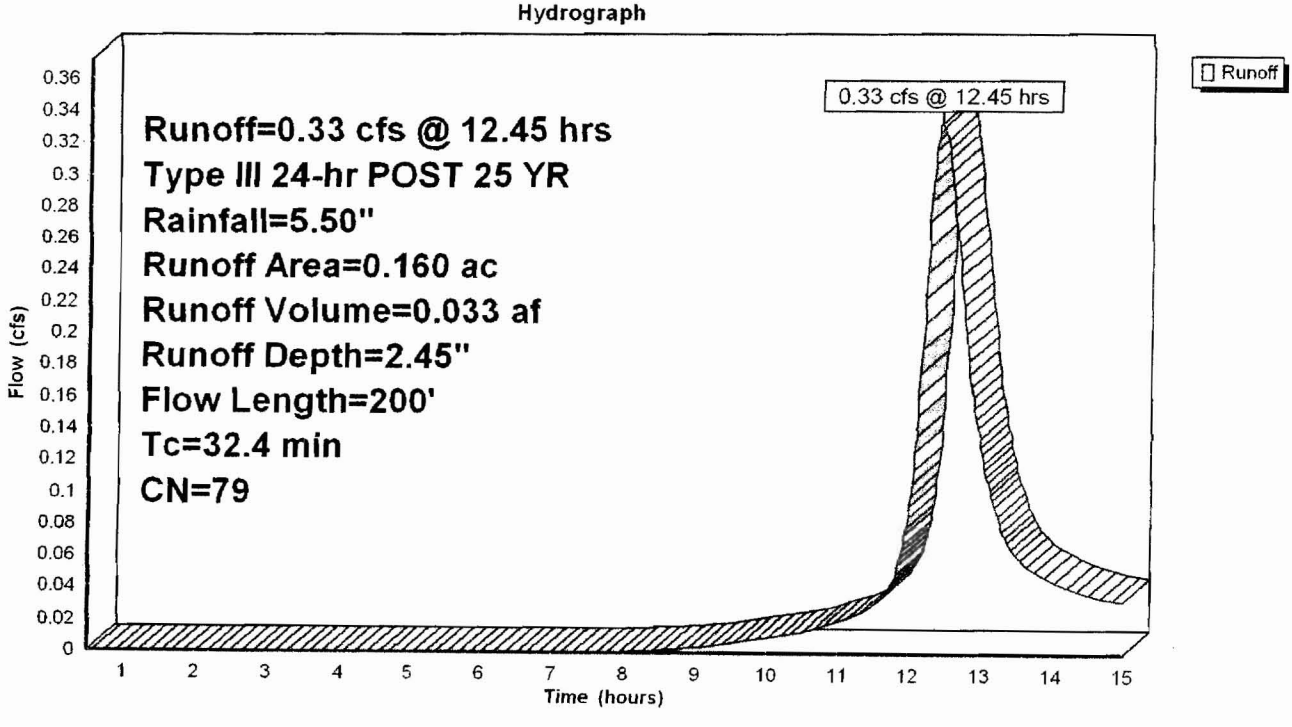
Runoff = 0.33 cfs @ 12.45 hrs, Volume= 0.033 af, Depth= 2.45"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.50-15.00 hrs, dt= 0.02 hrs
Type III 24-hr POST 25 YR Rainfall=5.50"

Area (ac)	CN	Description
0.080	77	GOOD WOODS HOLLIS C/D
0.080	80	GOOD GRASS HOLLIS C/D
0.160	79	Weighted Average

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
32.1	85	0.0230	0.0		**Sheet Flow, AB** Woods: Dense underbrush n= 0.800 P2= 3.00"
0.3	115	0.2400	7.3		**Shallow Concentrated Flow, BC** Grassed Waterway Kv= 15.0 fps
32.4	200	Total			

Subcatchment 5S: WOODED & GRASS SLOPE



Subcatchment 31S: FLAT ROOF TO LEADER

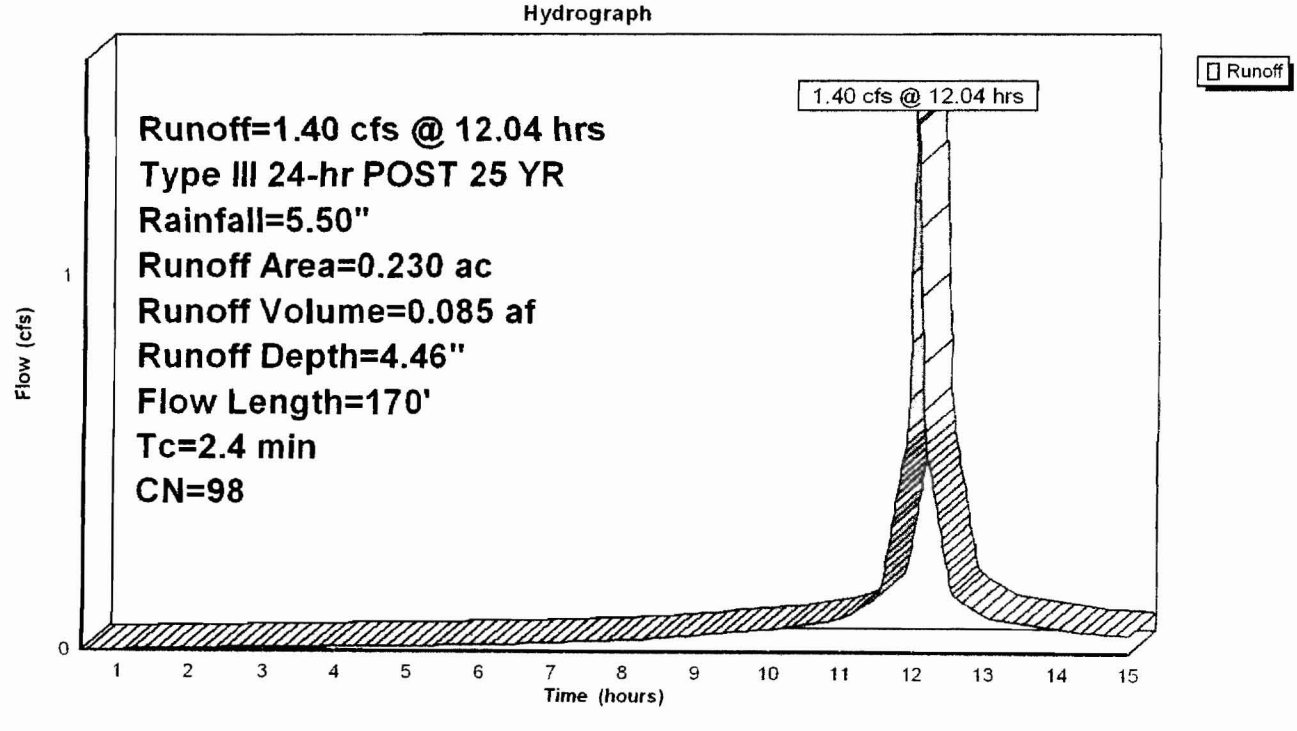
Runoff = 1.40 cfs @ 12.04 hrs, Volume= 0.085 af, Depth= 4.46"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.50-15.00 hrs, dt= 0.02 hrs
Type III 24-hr POST 25 YR Rainfall=5.50"

Area (ac)	CN	Description
0.230	98	NEW ROOF

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.1	95	0.0050	0.8		**Sheet Flow, AB FLAT ROOF MEMBRANE** Smooth surfaces n= 0.011 P2= 3.00"
0.3	75	0.0100	3.7	0.73	**Circular Channel (pipe), BC ROOF LEADER TO CB** Diam= 6.0" Area= 0.2 sf Perim= 1.6' r= 0.13' n= 0.010
2.4	170	Total			

Subcatchment 31S: FLAT ROOF TO LEADER



Subcatchment 32S: ENTRANCE AND PARKING LOT TO CB

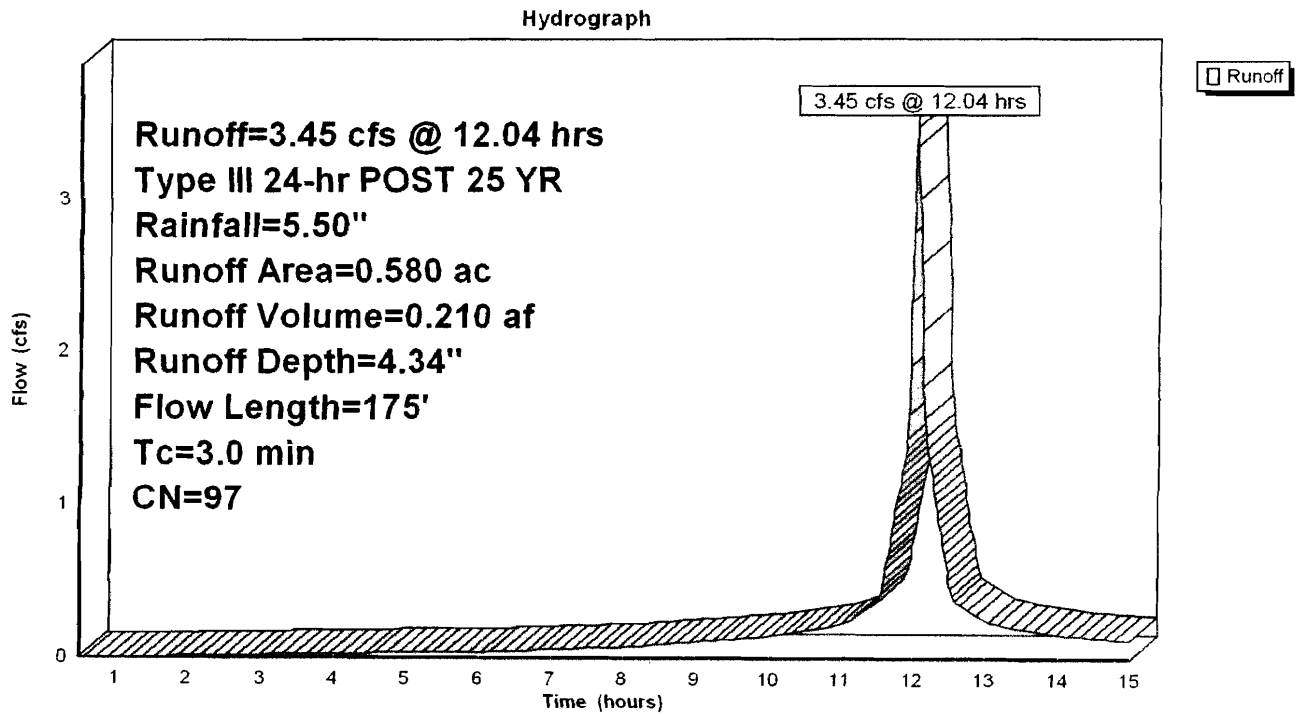
Runoff = 3.45 cfs @ 12.04 hrs, Volume= 0.210 af, Depth= 4.34"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.50-15.00 hrs, dt= 0.02 hrs
Type III 24-hr POST 25 YR Rainfall=5.50"

Area (ac)	CN	Description
0.030	80	MISC. LAWN
0.550	98	ENTRANCE AND PARKING LOT
0.580	97	Weighted Average

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
3.0	175	0.0068	1.0		**Sheet Flow, AB PARKING LOT** Smooth surfaces n= 0.011 P2= 3.00"

Subcatchment 32S: ENTRANCE AND PARKING LOT TO CB

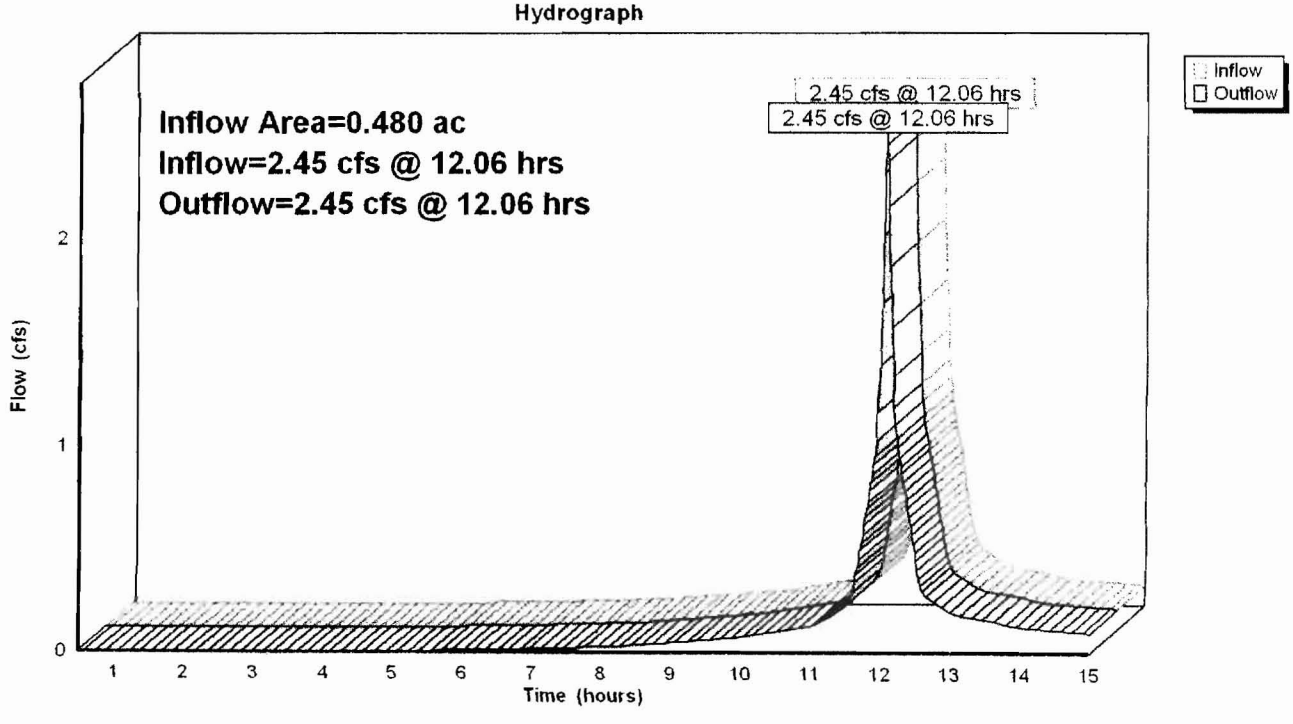


Reach 2R: POINT OF STUDY

Inflow Area = 0.480 ac, Inflow Depth = 3.37" for POST 25 YR event
Inflow = 2.45 cfs @ 12.06 hrs, Volume= 0.135 af
Outflow = 2.45 cfs @ 12.06 hrs, Volume= 0.135 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.50-15.00 hrs, dt= 0.02 hrs

Reach 2R: POINT OF STUDY

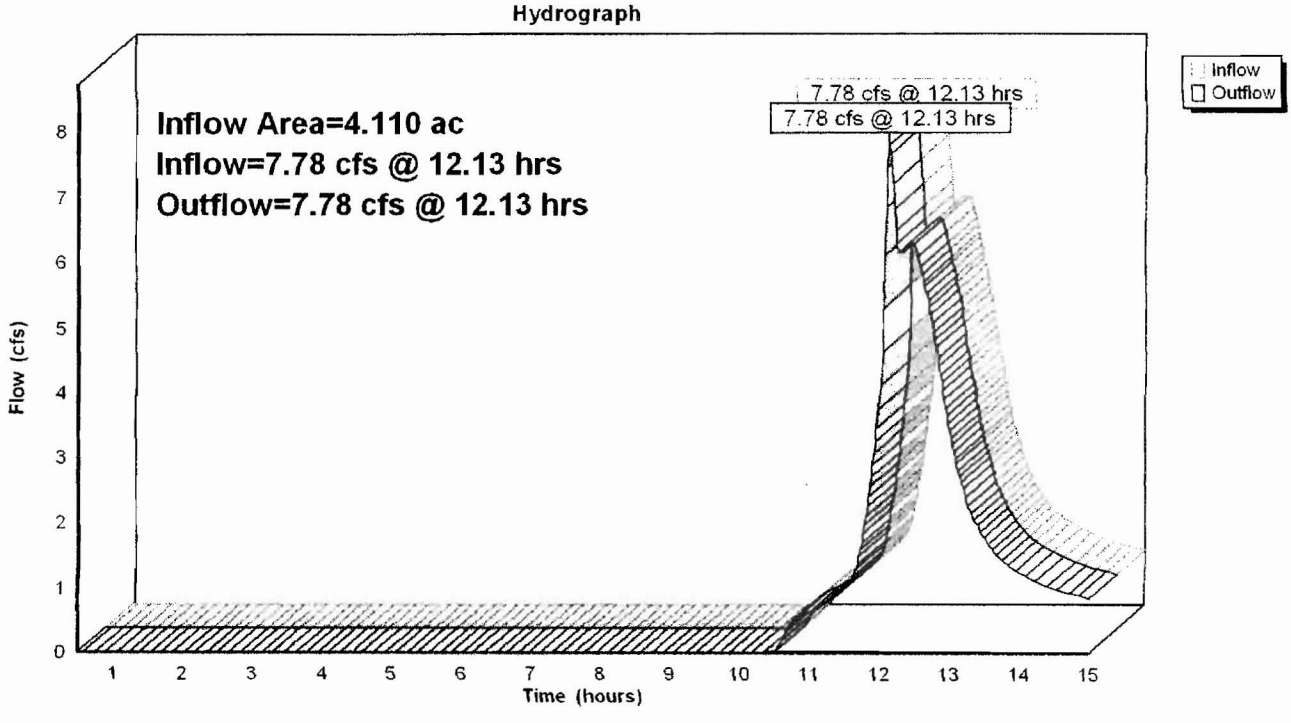


Reach 3R: POINT OF STUDY, NE CORNER

Inflow Area = 4.110 ac, Inflow Depth = 2.45" for POST 25 YR event
Inflow = 7.78 cfs @ 12.13 hrs, Volume= 0.840 af
Outflow = 7.78 cfs @ 12.13 hrs, Volume= 0.840 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.50-15.00 hrs, dt= 0.02 hrs

Reach 3R: POINT OF STUDY, NE CORNER

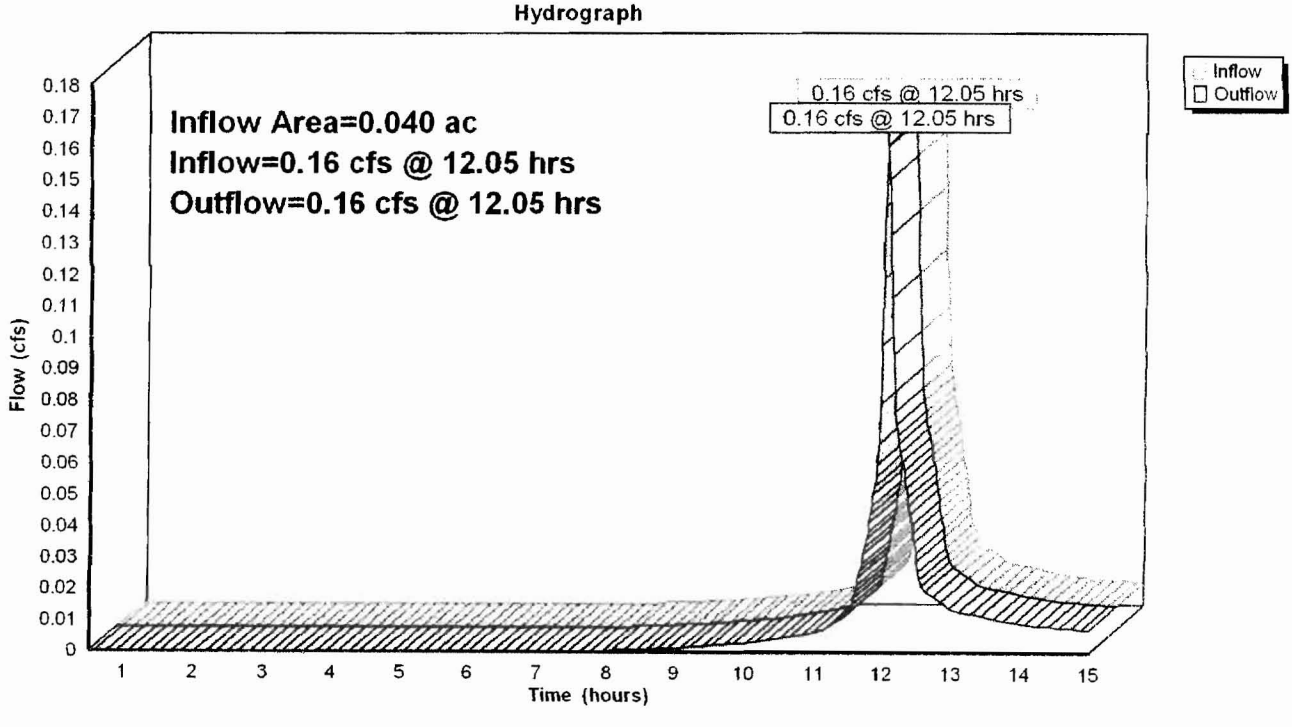


Reach 4R: POINT OF STUDY

Inflow Area = 0.040 ac, Inflow Depth = 2.45" for POST 25 YR event
Inflow = 0.16 cfs @ 12.05 hrs, Volume= 0.008 af
Outflow = 0.16 cfs @ 12.05 hrs, Volume= 0.008 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.50-15.00 hrs, dt= 0.02 hrs

Reach 4R: POINT OF STUDY



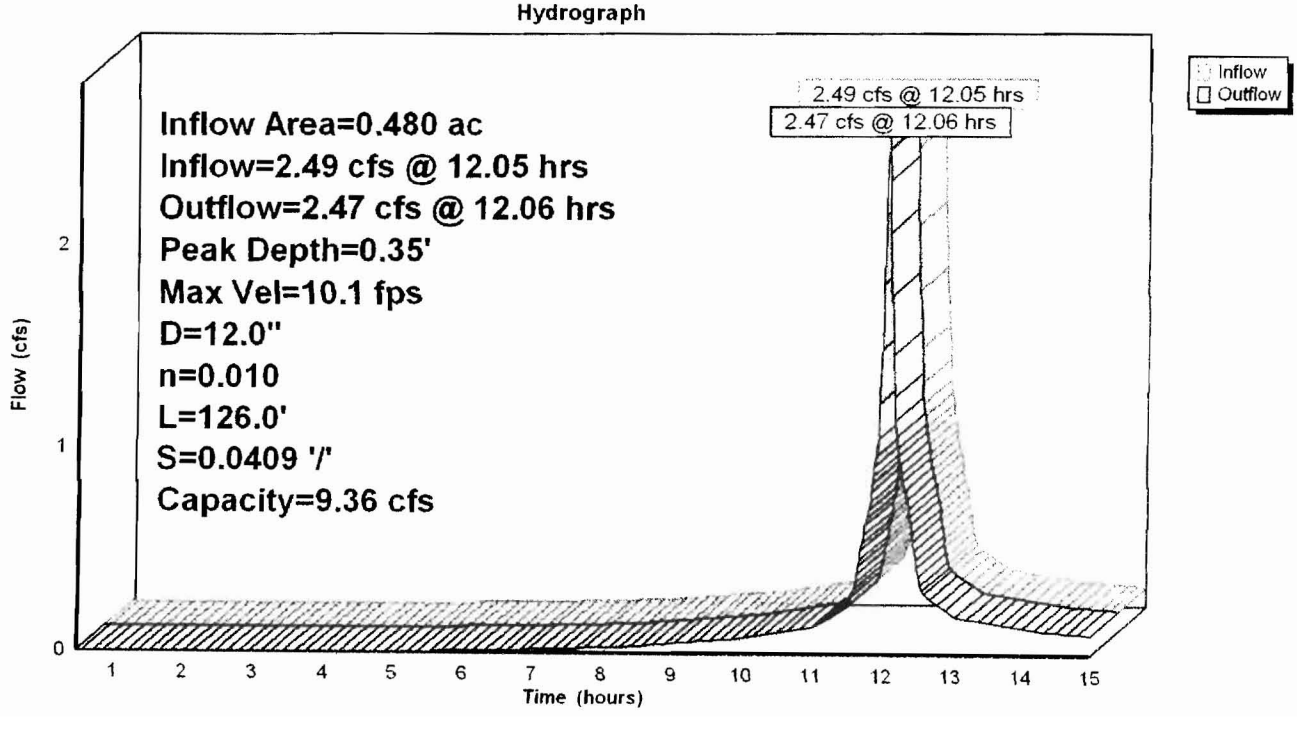
Reach 20R: 12" SDR35 SD

Inflow Area = 0.480 ac, Inflow Depth = 3.38" for POST 25 YR event
Inflow = 2.49 cfs @ 12.05 hrs, Volume= 0.135 af
Outflow = 2.47 cfs @ 12.06 hrs, Volume= 0.135 af, Atten= 1%, Lag= 0.4 min

Routing by Stor-Ind+Trans method, Time Span= 0.50-15.00 hrs, dt= 0.02 hrs
Max. Velocity= 10.1 fps, Min. Travel Time= 0.2 min
Avg. Velocity = 3.6 fps, Avg. Travel Time= 0.6 min

Peak Depth= 0.35' @ 12.05 hrs
Capacity at bank full= 9.36 cfs
Inlet Invert= 48.90', Outlet Invert= 43.75'
12.0" Diameter Pipe n= 0.010 Length= 126.0' Slope= 0.0409 '/'

Reach 20R: 12" SDR35 SD



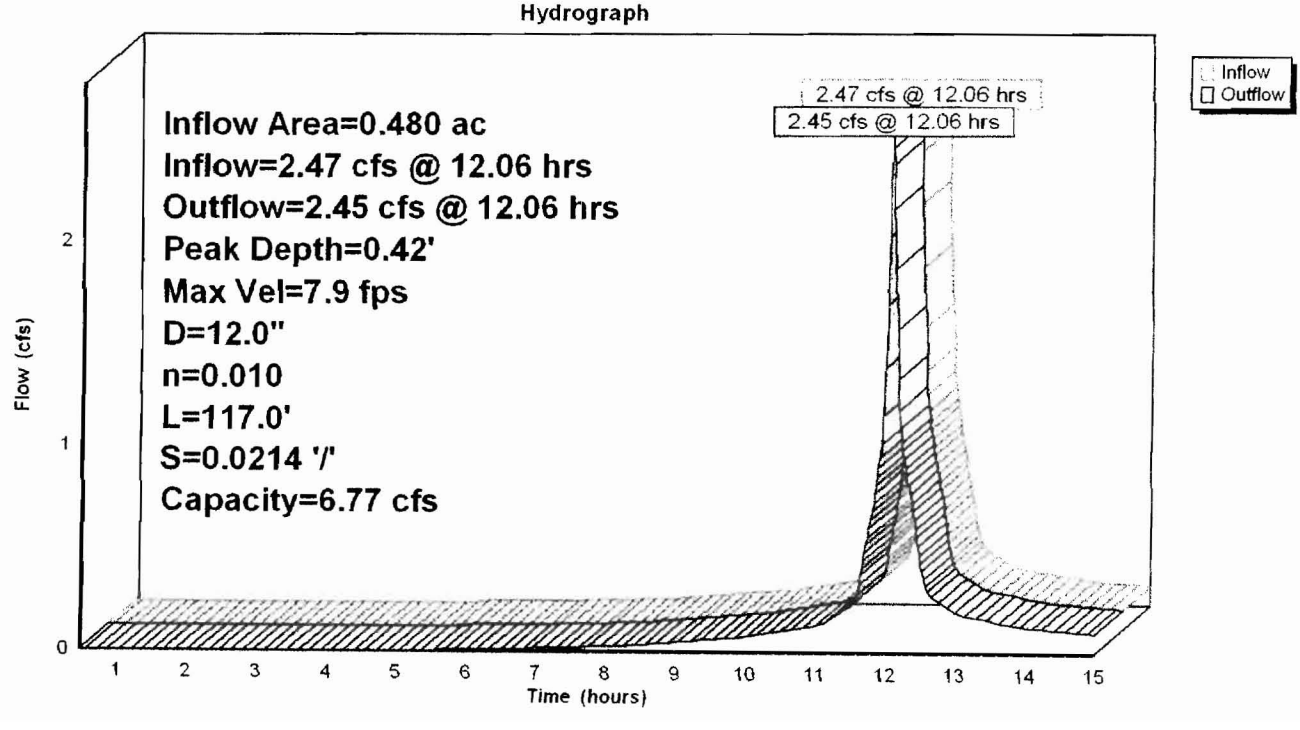
Reach 21R: 12" SDR 35 SD

Inflow Area = 0.480 ac, Inflow Depth = 3.37" for POST 25 YR event
Inflow = 2.47 cfs @ 12.06 hrs, Volume= 0.135 af
Outflow = 2.45 cfs @ 12.06 hrs, Volume= 0.135 af, Atten= 1%, Lag= 0.4 min

Routing by Stor-Ind+Trans method, Time Span= 0.50-15.00 hrs, dt= 0.02 hrs
Max. Velocity= 7.9 fps, Min. Travel Time= 0.2 min
Avg. Velocity = 2.8 fps, Avg. Travel Time= 0.7 min

Peak Depth= 0.42' @ 12.06 hrs
Capacity at bank full= 6.77 cfs
Inlet Invert= 43.50', Outlet Invert= 41.00'
12.0" Diameter Pipe n= 0.010 Length= 117.0' Slope= 0.0214 '/'

Reach 21R: 12" SDR 35 SD



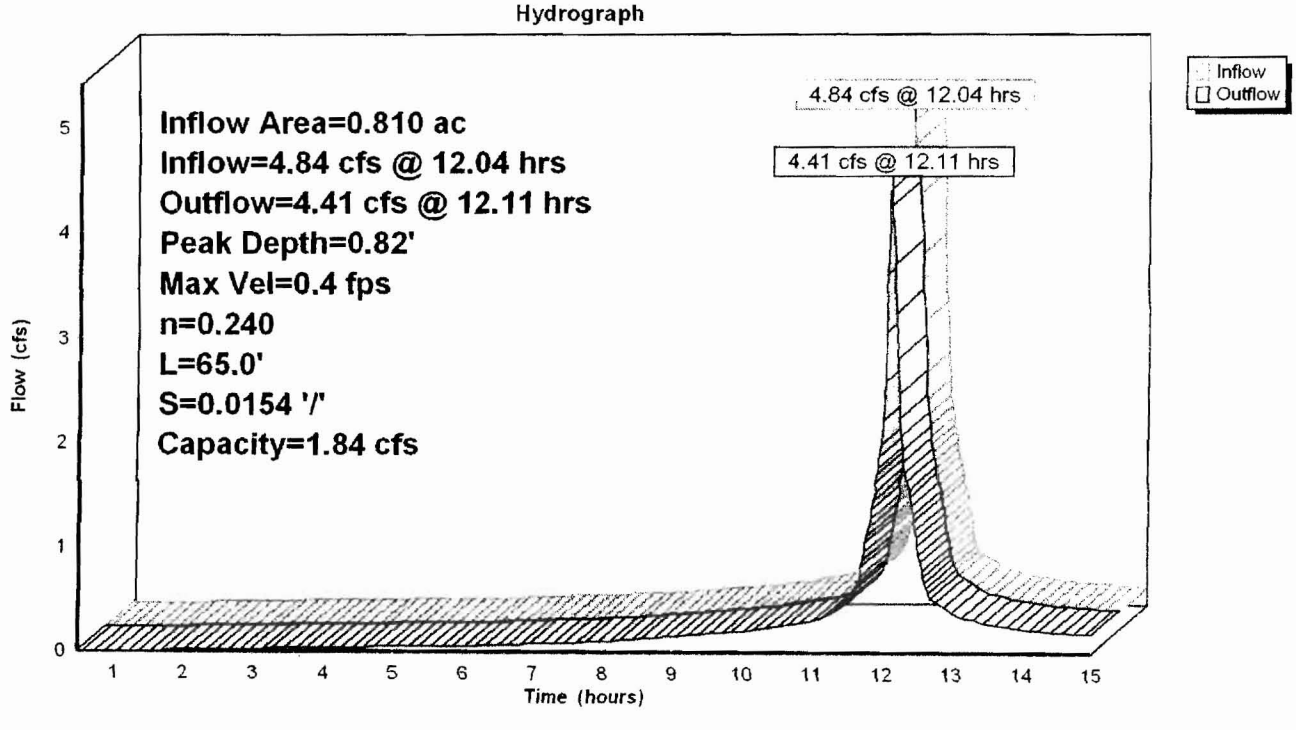
Reach 30R: VEGETATED REACH

Inflow Area = 0.810 ac, Inflow Depth = 4.37" for POST 25 YR event
Inflow = 4.84 cfs @ 12.04 hrs, Volume= 0.295 af
Outflow = 4.41 cfs @ 12.11 hrs, Volume= 0.293 af, Atten= 9%, Lag= 4.1 min

Routing by Stor-Ind+Trans method, Time Span= 0.50-15.00 hrs, dt= 0.02 hrs
Max. Velocity= 0.4 fps, Min. Travel Time= 2.4 min
Avg. Velocity = 0.2 fps, Avg. Travel Time= 6.8 min

Peak Depth= 0.82' @ 12.07 hrs
Capacity at bank full= 1.84 cfs
Inlet Invert= 12.00', Outlet Invert= 11.00'
15.00' x 0.50' deep Parabolic Channel, n= 0.240 Length= 65.0' Slope= 0.0154 '/'

Reach 30R: VEGETATED REACH



Pond 1P: WETLAND/POND IN CONCRETE OUTWASH

LIMITED PONDING IS WATER TRAPPED IN A CAT TAIL DEPRESSION

Inflow Area = 4.110 ac, Inflow Depth = 2.69" for POST 25 YR event
Inflow = 8.07 cfs @ 12.10 hrs, Volume= 0.922 af
Outflow = 7.78 cfs @ 12.13 hrs, Volume= 0.840 af, Atten= 4%, Lag= 1.7 min
Primary = 7.78 cfs @ 12.13 hrs, Volume= 0.840 af

Routing by Stor-Ind method, Time Span= 0.50-15.00 hrs, dt= 0.02 hrs
Peak Elev= 11.41' @ 12.13 hrs Surf.Area= 6,553 sf Storage= 4,454 cf
Flood Elev= 12.00' Surf.Area= 10,944 sf Storage= 8,767 cf
Plug-Flow detention time= 36.0 min calculated for 0.840 af (91% of inflow)
Center-of-Mass det. time= 23.6 min (761.8 - 738.1)

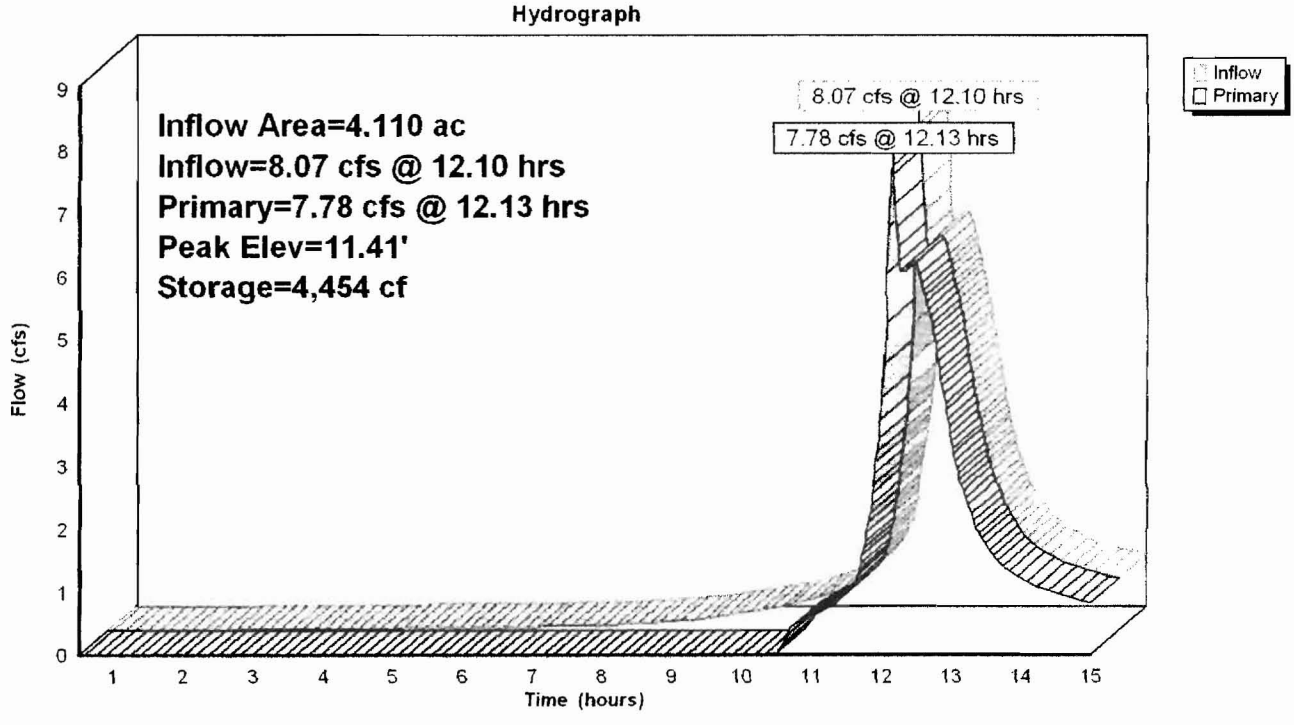
#	Invert	Avail.Storage	Storage Description
1	10.50'	8,767 cf	**Custom Stage Data (Prismatic)** Listed below

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
10.50	2,500	0	0
11.00	3,560	1,515	1,515
12.00	10,944	7,252	8,767

#	Routing	Invert	Outlet Devices
1	Primary	11.25'	**50.0' long x 2.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 Coef. (English) 2.54 2.61 2.61 2.60 2.66 2.70 2.77 2.89 2.88 2.85 3.07 3.20 3.32

Primary OutFlow Max=7.74 cfs @ 12.13 hrs HW=11.40' (Free Discharge)
↑—**1=Broad-Crested Rectangular Weir** (Weir Controls 7.74 cfs @ 1.0 fps)

Pond 1P: WETLAND/POND IN CONCRETE OUTWASH



Pond 3P: NEW 6' DIAM. TWIN GRATE CB

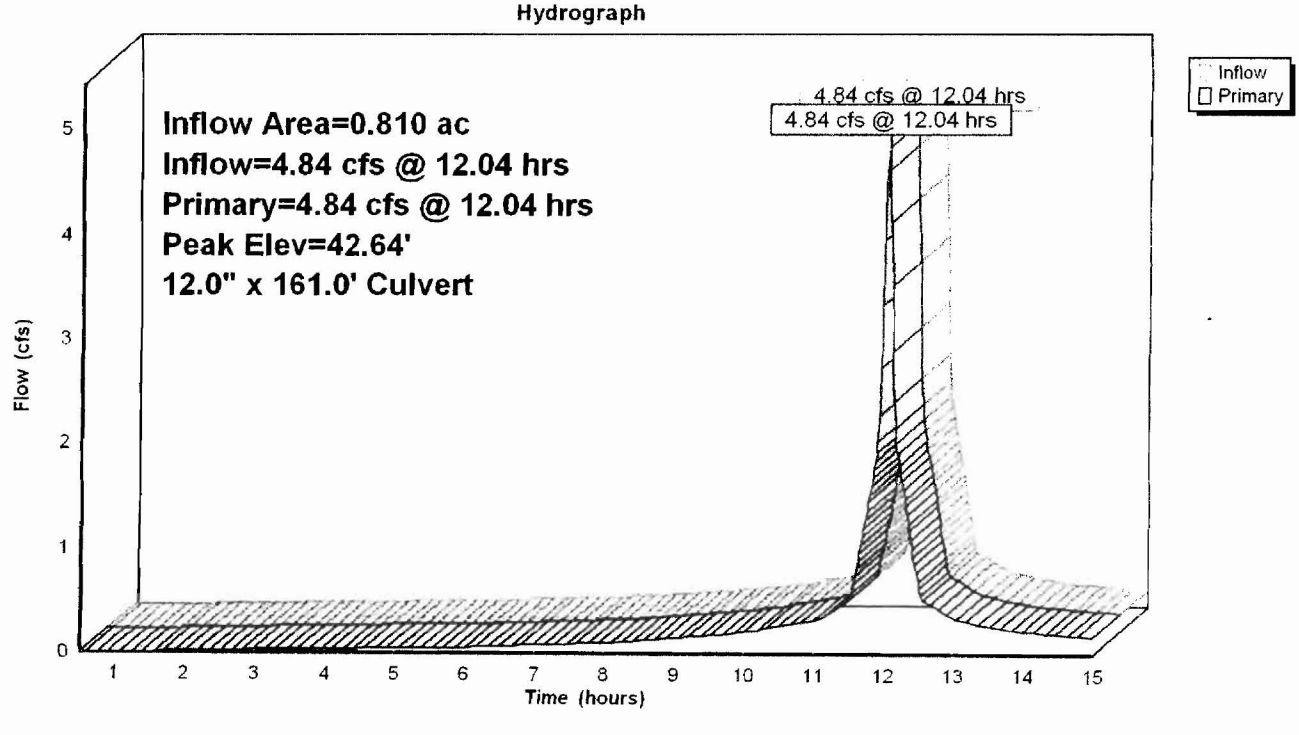
Inflow Area = 0.810 ac, Inflow Depth = 4.37" for POST 25 YR event
Inflow = 4.84 cfs @ 12.04 hrs, Volume= 0.295 af
Outflow = 4.84 cfs @ 12.04 hrs, Volume= 0.295 af, Atten= 0%, Lag= 0.0 min
Primary = 4.84 cfs @ 12.04 hrs, Volume= 0.295 af

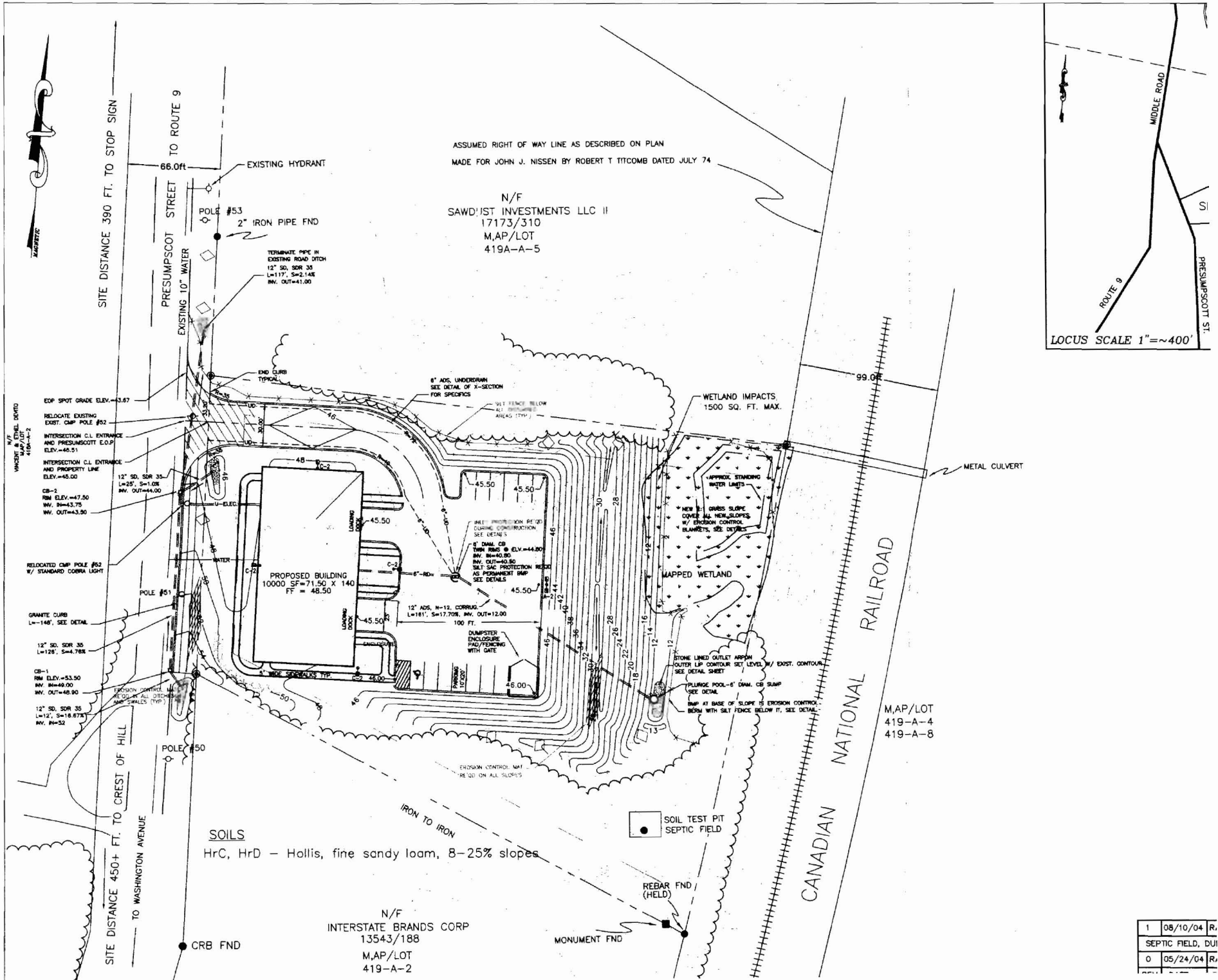
Routing by Stor-Ind method, Time Span= 0.50-15.00 hrs, dt= 0.02 hrs
Peak Elev= 42.64' @ 12.04 hrs
Plug-Flow detention time= (not calculated)
Center-of-Mass det. time= (not calculated)

#	Routing	Invert	Outlet Devices
1	Primary	40.50'	**12.0" x 161.0' long 12 " ADS CORRUGATED CULVERT** CPP, square edge headwall, Ke= 0.500 Outlet Invert= 12.00' S= 0.1770 '/' n= 0.025 Cc= 0.900

Primary OutFlow Max=4.83 cfs @ 12.04 hrs HW=42.63' (Free Discharge)
1=12 " ADS CORRUGATED CULVERT (Inlet Controls 4.83 cfs @ 6.1 fps)

Pond 3P: NEW 6' DIAM. TWIN GRATE CB





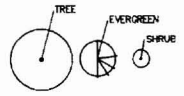
1	08/10/04	RA
SEPTIC FIELD, DU		
0	05/24/04	RA

PLANT LIST

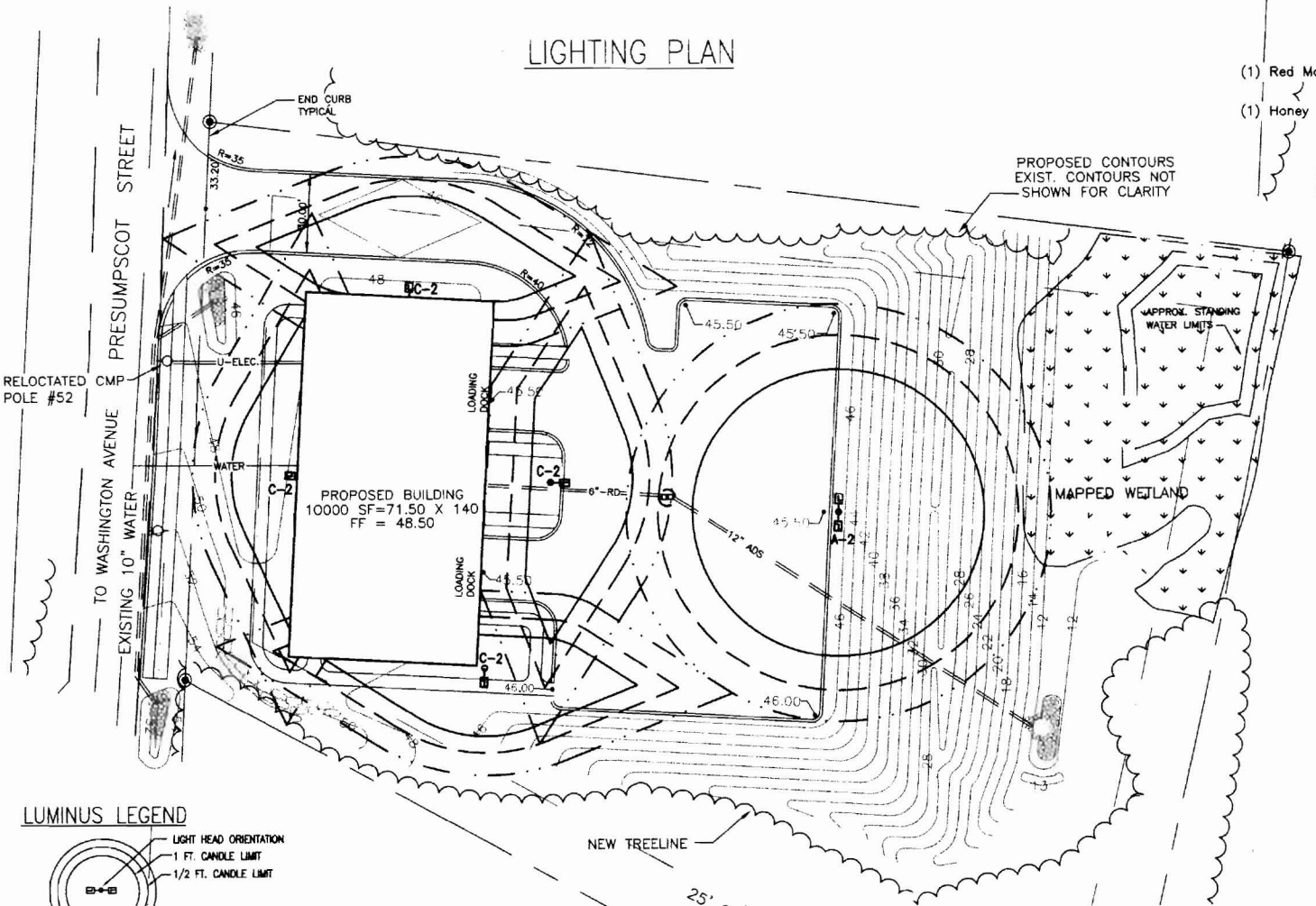
QTY	COMMON NAME	BOTANICAL NAME	SIZE	TYPE
TREES				
1	GREEN ASH	Fraxinus pennsylvanica	3-3.5" CAL	B&B
3	HEDGE MAPLE	Acer campestre	8-10FT, MULTISTEM	B&B
4	EASTERN WHITE PINE	Pinus strobus	6-7FT	B&B
2	RED MAPLE	Acer rubrum	1.5-2.0" CAL	B&B
2	HONEY LOCUS	Gleditsia triacanthos intermis	1.5-2.0" CAL	B&B
SHRUBS				
10	RED CHOKEBERRY	Aronia arbutifolia	3-4FT	B&B
8	RED CHOKEBERRY	Aronia arbutifolia	18-24"	3 Gal.
20	BAYBERRY	Myrica pensylvanica	3-4FT	B&B

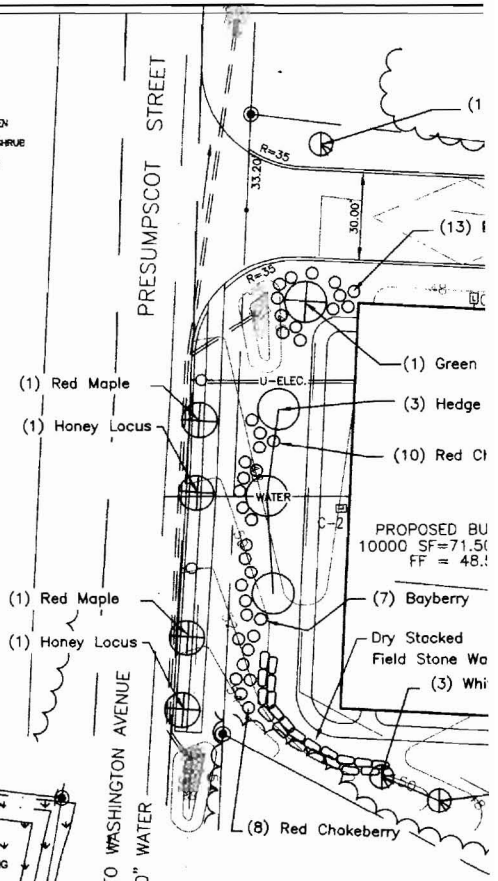
PLANT KEY:

Proposed Plants



LIGHTING PLAN





LUMINUS LEGEND

EROSION AND SEDIMENTATION NOTES

1. CONTRACTOR SHALL FOLLOW BEST MANAGEMENT PRACTICES OF THE CUMBERLAND COUNTY SOIL CONSERVATION SERVICE AND THE MAINE DEP BEST MANAGEMENT PRACTICES HANDBOOK.

GENERAL EROSION AND SEDIMENTATION CONTROL PRACTICES

1. EROSION/SEDIMENT CONTROL DEVICES
THE FOLLOWING EROSION SEDIMENTATION CONTROL DEVICES ARE PROPOSED FOR CONSTRUCTION ON THIS PROJECT. INSTALL THESE DEVICES AS INDICATED ON THE PLANS.

1.1 SILT FENCE: SILT FENCE WILL BE INSTALLED ALONG THE DOWN GRADING EDGES OF DISTURBED AREAS TO TRAP RUNOFF BORNE SEDIMENTS UNTIL THE SITE IS STABILIZED. IN AREAS WHERE STORMWATER DISCHARGES THE SILT FENCE WILL BE REINFORCED WITH HAY BALES TO HELP MAINTAIN THE INTEGRITY OF THE SILT FENCE AND TO PROVIDE ADDITIONAL TREATMENT.

1.2 HAY BALES TO BE PLACED IN LOW FLOW DRAINAGE SWALES AND PATHS TO TRAP SEDIMENTS AND REDUCE RUNOFF VELOCITIES. DO NOT PLACE HAY BALES IN FLOWING WATER OR STREAMS.

1.3 RIPRAP: PROVIDE RIPRAP IN AREAS WHERE CULVERTS DISCHARGE OR AS SHOWN ON THE PLANS.

1.4 LOAM, SEED, & MULCH: ALL DISTURBED AREAS, WHICH ARE NOT OTHERWISE TREATED, SHALL RECEIVE PERMANENT SEEDING AND MULCH TO STABILIZE THE DISTURBED AREAS. THE DISTURBED AREAS WILL BE REVEGETATED WITHIN 5 DAYS OF FINAL GRADING. SEEDING REQUIREMENTS ARE PROVIDED AT THE END OF THIS SPECIFICATION.

1.5 STRAW AND HAY MULCH; USED TO COVER DENUDED AREAS UNTIL PERMANENT SEED OR EROSION CONTROL MEASURES ARE IN PLACE. MULCH BY ITSELF CAN BE USED ON SLOPES LESS THAN 15% IN SUMMER AND 8% IN WINTER. ALL OTHER SLOPES MUST BE COVERED WITH JUTE MESH OVER MULCH, OR CURLEX II OR EXCELSIOR MAY BE USED IN PLACE OF JUTE MESH AND MULCH OVER LOAM AND SEED.

1.6 MULCH NETTING SHALL BE USED TO ANCHOR MULCH IN ALL DRAINAGE WAYS WITH A SLOPE GREATER THAN 3% FOR SLOPES EXPOSED TO DIRECT WINDS AND FOR ALL OTHER SLOPES GREATER THAN 8%. VEGETATED DRAINAGE SWALES SHALL BE LINED WITH EXCELSIOR OR CURLEX.

2. TEMPORARY EROSION/SEDIMENTATION CONTROL MEASURES
PROVIDE THE FOLLOWING TEMPORARY EROSION/SEDIMENTATION CONTROL MEASURES DURING CONSTRUCTION OF THE DEVELOPMENT:

2.1 SILTATION FENCE ALONG THE DOWNGRADIENT SIDE OF THE PARKING AREAS AND OF ALL FILL SECTIONS. THE SILTATION FENCE WILL REMAIN IN PLACE UNTIL THE SITE IS 85% REVEGETATED.

2.2 HAY BALES PLACED AT KEY LOCATIONS TO SUPPLEMENT THE SILT FENCE.

2.3 PROTECT TEMPORARY STOCKPILES OF STUMPS, GRUBBINGS, OR COMMON EXCAVATION AS FOLLOWS:

A. SOIL STOCKPILE SIDE SLOPES SHALL NOT EXCEED 2:1.
B. AVOID PLACING TEMPORARY STOCKPILES IN AREAS WITH SLOPES OVER 10 PERCENT, OR NEAR DRAINAGE SWALES. SEE ITEM 3 IN CONSTRUCTION PHASE NOTES BELOW.
C. STABILIZE STOCKPILES WITHIN 15 DAYS BY TEMPORARILY SEEDING WITH A HYDROSEED METHOD CONTAINING AN EMULSIFIED MULCH TACKIFIER OR BY COVERING THE STOCKPILE WITH MULCH.
D. SURROUND STOCKPILE SOIL WITH SILTATION FENCE AT BASE OF PILE.

2.4 ALL DENUDED AREAS WHICH HAVE BEEN ROUGH GRADED AND ARE NOT LOCATED WITHIN THE BUILDING PAD, OR PARKING AND DRIVEWAY SUBBASE AREA SHALL RECEIVE MULCH WITHIN 30 DAYS OF INITIAL DISTURBANCE OF SOIL OR WITHIN 15 DAYS AFTER COMPLETING THE ROUGH GRADING OPERATIONS. IN THE EVENT THE CONTRACTOR COMPLETES FINAL GRADING AND INSTALLATION OF LOAM AND SOD WITHIN THE TIME PERIODS PRESENTED ABOVE, INSTALLATION OF MULCH AND NETTING, WHERE APPLICABLE, IS NOT REQUIRED.

2.5 IF WORK IS CONDUCTED BETWEEN OCTOBER 15 AND APRIL 15, ALL DENUDED AREAS ARE TO BE COVERED WITH HAY MULCH, APPLIED AT TWICE THE NORMAL APPLICATION RATE, AND ANCHORED WITH FABRIC NETTING. THE PERIOD BETWEEN FINAL GRADING AND MULCHING SHALL BE REDUCED TO A 15 DAY MAXIMUM.

2.6 TEMPORARY EROSION CONTROL MEASURES SHALL BE REMOVED ONCE THE SITE HAS BEEN STABILIZED OR IN AREAS WHERE PERMANENT EROSION CONTROL MEASURES HAVE BEEN INSTALLED.

3. PERMANENT EROSION CONTROL MEASURES
THE FOLLOWING PERMANENT CONTROL MEASURES ARE REQUIRED BY THIS EROSION/SEDIMENTATION CONTROL PLAN:

3.1 ALL AREAS DISTURBED DURING CONSTRUCTION, BUT NOT SUBJECT TO OTHER RESTORATION (PAVING, RIPRAP, ETC.), WILL BE LOAMED, LIMED, FERTILIZED AND SEEDED. NATIVE TOPSOIL SHALL BE STOCKPILED AND REUSED FOR FINAL RESTORATION WHEN IT IS OF SUFFICIENT QUALITY.

3.2 SLOPES GREATER THAN 2:1 WILL RECEIVE RIPRAP.

CONSTRUCTION PHASE

THE FOLLOWING GENERAL PRACTICES WILL BE USED TO PREVENT EROSION DURING CONSTRUCTION OF THIS PROJECT.

1. ONLY THOSE AREAS UNDER ACTIVE CONSTRUCTION WILL BE CLEARED AND LEFT IN AN UNTREATED OR UNVEGETATED CONDITION. IF FINAL GRADING, LOAMING AND SEEDING WILL NOT OCCUR WITHIN 15 DAYS, SEE ITEM NO. 4.

2. PRIOR TO THE START OF CONSTRUCTION IN A SPECIFIC AREA, SILT FENCING AND/OR HAY BALES WILL BE INSTALLED AT THE TOE OF SLOPE AND IN AREAS AS LOCATED ON THE PLANS TO PROTECT AGAINST ANY CONSTRUCTION RELATED EROSION. IMMEDIATELY FOLLOWING CONSTRUCTION OF CULVERTS AND SWALES, RIP RAP APRONS SHALL BE INSTALLED, AS SHOWN ON THE PLANS.

3. TOPSOIL WILL BE STOCKPILED WHEN NECESSARY IN AREAS WHICH HAVE MINIMUM POTENTIAL FOR EROSION AND WILL BE KEPT AS FAR AS POSSIBLE FROM THE EXISTING DRAINAGE COURSE. NO STOCKPILE SHALL BE CLOSER THEN 100' OF A RESOURCE INCLUDING, BUT NOT LIMITED TO, WETLANDS, STREAMS, AND OPEN WATER BODIES. ALL STOCKPILES SHALL HAVE A SILTATION FENCE BELOW THEM REGARDLESS OF TIME OF PRESENCE. ALL STOCKPILES EXPECTED TO REMAIN LONGER THAN 15 DAYS SHALL BE:
A. TREATED WITH ANCHORED MULCH (WITHIN 5 DAYS OF THE LAST DEPOSIT OF STOCKPILED SOIL).
B. SEEDED WITH CONSERVATION MIX AND MULCHED IMMEDIATELY.
C. INSTALL SILT FENCE AROUND STOCKPILE AT BASE OF PILE.
STOCKPILES TO HAVE SILT FENCE INSTALLED AT TIME OF ESTABLISHMENT AT BASE OF PILE.

4. ALL DISTURBED AREAS EXPECTED TO REMAIN LONGER THAN 30 DAYS SHALL BE EITHER:
A. TREATED WITH ANCHORED MULCH IMMEDIATELY, OR
B. SEEDED WITH CONSERVATION MIX OF ANNUAL RYE GRASS (0.9 LBS/1000 SQ. FT) AND MULCHED IMMEDIATELY.

5. ALL GRADING WILL BE HELD TO A MAXIMUM 2:1 SLOPE WHERE PRACTICAL. ALL SLOPES WILL BE STABILIZED WITH PERMANENT SEEDING, OR WITH STONE, WITHIN 5 DAYS AFTER FINAL GRADING IS COMPLETE. (SEE POST-CONSTRUCTION REVEGETATION FOR SEEDING SPECIFICATION.)

6. ALL CULVERTS WILL BE PROTECTED WITH STONE RIPRAP (D50 = 6" UNLESS OTHERWISE SPECIFIED) AT INLETS AND OUTLETS.

POST-CONSTRUCTION REVEGETATION

THE FOLLOWING GENERAL PRACTICES WILL BE USED TO PREVENT EROSION AS SOON AS AN AREA IS READY TO UNDERGO FINAL GRADING.

1. A MINIMUM OF 4" OF LOAM WILL BE SPREAD OVER DISTURBED AREAS AND GRADED TO A UNIFORM DEPTH AND NATURAL APPEARANCE, OR STONE WILL BE PLACED ON SLOPES TO STABILIZE SURFACES.

2. IF FINAL GRADING IS REACHED DURING THE NORMAL GROWING SEASON (4/15 TO 9/15), PERMANENT SEEDING WILL BE DONE AS SPECIFIED BELOW. PRIOR TO SEEDING, LIMESTONE SHALL BE APPLIED AT A RATE OF 138 LBS/1000 SQ. FT. AND 10:20:20 FERTILIZER AT A RATE OF 18.4 LBS/1000 SQ.FT WILL BE APPLIED. BROADCAST SEEDING AT THE FOLLOWING RATES:

LAWNS	SWALES
KENTUCKY BLUEGRASS 0.46 LBS/1000 SF.	RED TOP 0.05 LBS/1000 SF.
CREEPING RED FESCUE 0.46 LBS/1000 SF.	TALL FESCUE 0.46 LBS/1000 SF.
PERENNIAL RYE GRASS 0.11 LB/1000 SF.	

3. AN AREA SHALL BE MULCHED IMMEDIATELY AFTER IS HAS BEEN SEEDED. MULCHING SHALL CONSIST OF HAY MULCH, HYDRO-MULCH, JUTE NET OVER MULCH, PRE-MANUFACTURED EROSION MATS OR ANY SUITABLE SUBSTITUTE DEEMED ACCEPTABLE BY THE DESIGNER.
A. HAY MULCH SHALL BE APPLIED AT THE RATE OF 2 TONS PER ACRE. HAY MULCH SHALL BE SECURED BY EITHER: (NOTE: SOIL SHALL NOT BE VISIBLE)
I. BEING DRIVEN OVER BY TRACKED CONSTRUCTION EQUIPMENT ON GRADES OF 5% AND LESS.
II. BLANKETED BY TACKED PHOTODEGRADABLE/BIODEGRADABLE NETTING, OR WITH SPRAY, ON GRADES GREATER THAN 5%.
III. SEE NOTE 6, GENERAL NOTES, AND NOTE 8, WINTER CONSTRUCTION.
B. HYDRO-MULCH SHALL CONSIST OF A MIXTURE OF EITHER ASPHALT, WOOD FIBER OR PAPER FIBER AND WATER SPRAYED OVER A SEEDED AREA. HYDRO-MULCH SHALL NOT BE USED BETWEEN 9/15 AND 4/15.

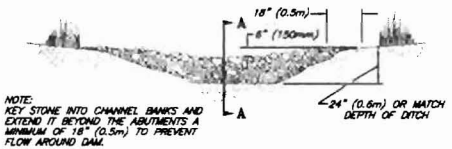
4. CONSTRUCTION SHALL BE PLANNED TO ELIMINATE THE NEED FOR SEEDING BETWEEN SEPTEMBER 15 AND APRIL 15. SHOULD SEEDING BE NECESSARY BETWEEN SEPTEMBER 15 AND APRIL 15 THE FOLLOWING PROCEDURE SHALL BE FOLLOWED. ALSO REFER TO NOTE 9 OF WINTER CONSTRUCTION.
A. ONLY UNFROZEN LOAM SHALL BE USED.
B. LOAMING, SEEDING AND MULCHING WILL NOT BE DONE OVER SNOW OR ICE COVER. IF SNOW EXISTS, IT MUST BE REMOVED PRIOR TO PLACEMENT OF SEED.
C. WHERE PERMANENT SEEDING IS NECESSARY, ANNUAL WINTER RYE (1.2 LBS/1000 SQ.FT) SHALL BE ADDED TO THE PREVIOUSLY NOTED AREAS.
D. WHERE TEMPORARY SEEDING IS REQUIRED, ANNUAL WINTER RYE (2.6 LBS/1000 SQ. FT.) SHALL BE SOWN INSTEAD OF THE PREVIOUSLY NOTED SEEDING RATE.
E. FERTILIZING, SEEDING AND MULCHING SHALL BE APPLIED TO LOAM THE DAY THE LOAM IS SPREAD BY MACHINERY.
F. ALTERNATIVE HAY MULCH SHALL BE SECURED WITH PHOTODEGRADABLE/BIODEGRADABLE NETTING. TRACKING BY MACHINERY ALONE WILL NOT SUFFICE.

5. FOLLOWING FINAL SEEDING, THE SITE WILL BE INSPECTED EVERY 30 DAYS UNTIL 85% COVER HAS BEEN ESTABLISHED. RESEEDING WILL BE CARRIED OUT BY THE CONTRACTOR WITHIN 10 DAYS OF NOTIFICATION BY THE ENGINEER THAT THE EXISTING CATCH IS INADEQUATE.

MONITORING SCHEDULE

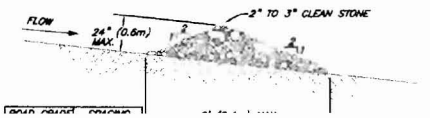
THE CONTRACTOR IS RESPONSIBLE FOR INSTALLING, MONITORING, MAINTAINING, REPAIRING, REPLACING AND REMOVING ALL OF THE EROSION AND SEDIMENTATION CONTROLS OR APPOINTING A QUALIFIED SUBCONTRACTOR TO DO SO.
MAINTENANCE MEASURES WILL BE APPLIED AS NEEDED DURING THE ENTIRE CONSTRUCTION CYCLE. AFTER EACH RAINFALL, A VISUAL INSPECTION WILL BE MADE OF ALL EROSION AND SEDIMENTATION CONTROLS AS FOLLOWS:

1. HAY BALE BARRIERS, SILT FENCE, AND STONE CHECK DAMS SHALL BE INSPECTED AND REPAIRED ONCE A WEEK OR IMMEDIATELY FOLLOWING ANY SIGNIFICANT RAINFALL. SEDIMENT TRAPPED BEHIND THESE BARRIERS SHALL BE EXCAVATED WHEN IT REACHES A DEPTH OF 6" AND REDISTRIBUTED TO AREAS UNDERGOING FINAL GRADING. SHOULD THE HAY BALE BARRIERS PROVE TO BE INEFFECTIVE, THE CONTRACTOR SHALL INSTALL SILT FENCE BEHIND THE HAY BALES.
2. VISUALLY INSPECT RIPRAP ONCE A WEEK OR AFTER EACH SIGNIFICANT RAINFALL AND REPAIR AS NEEDED. REMOVE SEDIMENT TRAPPED BEHIND THESE DEVICES ONCE IT ATTAINS A DEPTH EQUAL TO 1/2 THE HEIGHT OF THE DAM OR RISER. DISTRIBUTE REMOVED SEDIMENT OFF-SITE OR TO AN AREA UNDERGOING FINAL GRADING.
3. REVEGETATION OF DISTURBED AREAS WITHIN 25' OF DRAINAGE-COURSE/STREAM WILL BE SEEDED WITH THE "MEADOW AREA MIX" AND INSPECTED ON A WEEKLY BASIS OR AFTER EACH SIGNIFICANT RAINFALL AND RESEEDED AS NEEDED. EXPOSED AREAS WILL BE RESEEDED AS NEEDED UNTIL THE AREA HAS OBTAINED 100% GROWTH RATE. PROVIDE PERMANENT RIPRAP FOR SLOPES IN EXCESS OF 3:1 AND WITHIN 25' OF DRAINAGE COURSE.



NOTE:
KEY STONE INTO CHANNEL BANKS AND EXTEND IT BEYOND THE ABUTMENTS A MINIMUM OF 18" (0.5m) TO PREVENT FLOW AROUND DAM.

VIEW LOOKING UPSTREAM

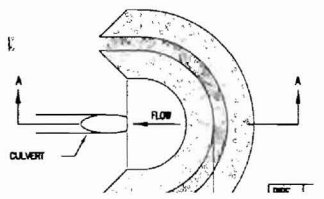


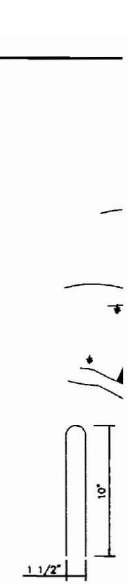
EROSION CONTROL DURING WINTER CONSTRUCTION

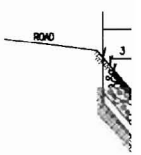
1. WINTER CONSTRUCTION PERIOD: NOVEMBER 1 THROUGH APRIL 15.
2. WINTER EXCAVATION AND EARTHWORK SHALL BE COMPLETED SUCH THAT NO MORE THAN 1 ACRE OF THE SITE IS WITHOUT STABILIZATION AT ANY ONE TIME.
3. EXPOSED AREA SHALL BE LIMITED TO THOSE AREAS TO BE MULCHED IN ONE DAY PRIOR TO ANY SNOW EVENT. AT THE END OF EACH WORK WEEK NO AREAS MAY BE LEFT UNSTABILIZED OVER THE WEEKEND.
4. CONTINUATION OF EARTHWORK OPERATIONS ON ADDITIONAL AREAS SHALL NOT BEGIN UNTIL THE EXPOSED SOIL SURFACE ON THE AREA BEING WORKED HAS BEEN STABILIZED, SUCH THAT NO LARGER AREA OF THE SITE IS WITHOUT EROSION CONTROL PROTECTION AS LISTED IN ITEM 2 ABOVE.
5. AN AREA SHALL BE CONSIDERED TO HAVE BEEN STABILIZED WHEN EXPOSED SURFACES HAVE BEEN EITHER MULCHED WITH STRAW OR HAY AT A RATE OF 150 LB. PER 1000 S.F. (WITH OR WITHOUT SEEDING) OR DORMANT SEEDED, MULCHED AND ANCHORED SUCH THAT SOIL SURFACE IS NOT VISIBLE THROUGH THE MULCH. NOTE: AN AREA IS ALSO CONSIDERED STABLE IF SODDED, COVERED WITH GRAVEL (PARKING LOTS) OR STRUCTURAL SAND.
6. BETWEEN THE DATES OF OCTOBER 15 AND APRIL 1, LOAM OR SEED WILL NOT BE REQUIRED. DURING PERIODS OF ABOVE FREEZING TEMPERATURES THE SLOPES SHALL BE FINE GRADED AND EITHER PROTECTED WITH MULCH OR TEMPORARILY SEEDED AND MULCHED UNTIL SUCH TIME AS THE FINAL TREATMENT CAN BE APPLIED. IF THE DATE IS AFTER NOVEMBER 1 AND IF THE EXPOSED AREA HAS BEEN LOAMED, FINAL GRADED WITH A UNIFORM SURFACE, THEN THE AREA MAY BE DORMANT SEEDED AT A RATE OF 3 TIMES HIGHER THAN SPECIFIED FOR PERMANENT SEED AND THEN MULCHED. IF CONSTRUCTION CONTINUES DURING FREEZING WEATHER, ALL EXPOSED AREAS SHALL BE CONTINUOUSLY GRADED BEFORE FREEZING AND THE SURFACE TEMPORARILY PROTECTED FROM EROSION BY THE APPLICATION OF MULCH. SLOPES SHALL NOT BE LEFT UNEXPOSED OVER THE WINTER OR ANY OTHER EXTENDED TIME OF WORK SUSPENSION UNLESS TREATED IN THE ABOVE MANNER. UNTIL SUCH TIME AS WEATHER CONDITIONS ALLOW, DITCHES TO BE FINISHED WITH THE PERMANENT SURFACE TREATMENT, EROSION SHALL BE CONTROLLED BY THE INSTALLATION OF BALES OF HAY, SILT FENCE OR STONE CHECK DAMS IN ACCORDANCE WITH THE STANDARD DETAILS SHOWN ON THE DESIGN DRAWINGS. NOTE: DORMANT SEEDING SHOULD NOT BE ATTEMPTED UNLESS SOIL TEMPERATURE REMAINS BELOW 50 DEGREES AND DAY TIME TEMPERATURES REMAIN IN THE 30'S.
7. MULCH NETTING SHALL BE USED TO ANCHOR MULCH IN ALL DRAINAGE WAYS WITH A SLOPE GREATER THAN 3% FOR SLOPES EXPOSED TO DIRECT WINDS AND FOR ALL OTHER SLOPES GREATER THAN 8%. VEGETATED DRAINAGE SWALES SHALL BE LINED WITH EXCELSIOR OR CURLEX.
8. MULCH NETTING SHALL BE USED TO ANCHOR MULCH IN ALL DRAINAGE WAYS WITH SLOPES GREATER THAN 15%. AFTER OCTOBER 1 THE SAME APPLIES FOR ALL SLOPES GREATER THAN 8%.
9. BETWEEN THE DATES OF OCTOBER 15 TO NOVEMBER 1, WINTER RYE IS RECOMMENDED FOR STABILIZATION. AFTER NOVEMBER 1, WINTER RYE IS NOT EFFECTIVE. AROUND NOVEMBER 15 OR LATER, ONCE TEMPERATURES OF THE AIR AND SOIL PERMIT, DORMANT SEEDING IS EFFECTIVE.
10. IN THE EVENT OF SNOWFALL (FRESH OR CUMULATIVE) GREATER THAN 1 INCH DURING WINTER CONSTRUCTION PERIOD ALL SNOW SHALL BE REMOVED FROM THE AREAS OF SEEDING AND MULCHING PRIOR TO PLACEMENT.

SITE INSPECTION AND MAINTENANCE

1. WEEKLY INSPECTIONS, AS WELL AS ROUTINE INSPECTIONS FOLLOWING RAIN FALLS, SHALL BE CONDUCTED BY THE GENERAL CONTRACTOR OF ALL TEMPORARY AND PERMANENT EROSION CONTROL DEVICES UNTIL FINAL ACCEPTANCE OF THE PROJECT (85% GRASS CATCH). NECESSARY REPAIRS SHALL BE MADE TO CORRECT UNDERMINING OR DETERIORATION. FINAL ACCEPTANCE SHALL INCLUDE A SITE INSPECTION TO VERIFY THE STABILITY OF ALL DISTURBED AREAS AND SLOPES. UNTIL FINAL INSPECTION, ALL EROSION AND SEDIMENTATION CONTROL MEASURES SHALL IMMEDIATELY BE CLEANED, AND REPAIRED BY THE GENERAL CONTRACTOR AS REQUIRED. DISPOSAL OF ALL TEMPORARY EROSION AND CONTROL DEVICES SHALL BE THE RESPONSIBILITY OF THE GENERAL CONTRACTOR.
IT IS RECOMMENDED THAT THE OWNER HIRE THE SERVICES OF THE DESIGN ENGINEER TO PROVIDE COMPLIANCE INSPECTIONS (DURING ACTIVE CONSTRUCTION) RELATIVE TO IMPLEMENTATION OF THE STORMWATER AND EROSION CONTROL PLANS. SUCH INSPECTIONS SHOULD BE LIMITED TO ONCE A WEEK OR AS NECESSARY AND BE REPORTABLE TO THE OWNER, TOWN AND DEP.
2. SHORT-TERM SEDIMENTATION MAINTENANCE SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO CLEAN OUT ALL SWALES AND STRUCTURES PRIOR TO TURNING PROJECT OVER TO THE CITY.
3. LONG-TERM PROVISIONS FOR PERMANENT MAINTENANCE OF ALL EROSION AND SEDIMENTATION CONTROL FACILITIES AFTER ACCEPTANCE OF THE PROJECT SHALL BE THE RESPONSIBILITY OF THE CITY OR THEIR DESIGNEE. SUCH RESPONSIBILITIES INCLUDE BUT ARE NOT LIMITED TO THOSE DETAILED AS FOLLOWS:
A. PARKING LOT SHALL BE MECHANICALLY SWEPT TWICE PER YEAR. THE FIRST SHALL TAKE PLACE IN THE MID WINTER (JANUARY THAW) TO REMOVE ACCUMULATED SANDS FROM WINTER SANDING TO THIS POINT. THE SECOND SWEEPING SHALL TAKE PLACE AFTER WINTER SANDING OPERATIONS TERMINATE BUT PRIOR TO MAY 1.
B. INSPECTION OF STORMWATER OUTLET STRUCTURE SHOULD BE CONDUCTED TWICE PER YEAR. ACCESS TO THE STRUCTURE IS THROUGH THE TOP. THE OIL/WATER SEPARATOR UNIT SHALL BE PUMPED DOWN AND THE SEDIMENT AND TRASH SHALL BE REMOVED AT THE TIME OF THE INSPECTION. THE REMOVAL OF ALL SEDIMENT AND TRASH WILL HELP MINIMIZE VOLUME LOSS.







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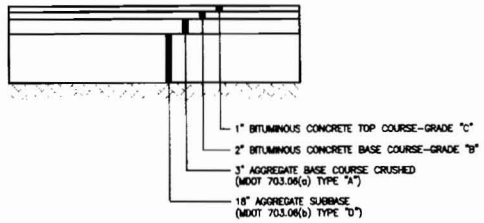
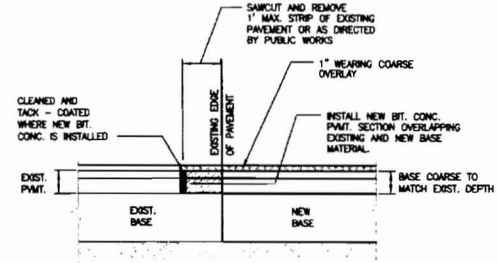


NOTE:
1. COMPACT GRAVEL SUB-BASE, BASE COURSE TO 95% OF MAXIMUM DENSITY USING HEAVY ROLLER COMPACTION.
2. CONTRACTOR SHALL SET GRADE STAKES MARKING SUB-BASE AND FINISH GRADE ELEVATIONS FOR CONSTRUCTION REFERENCE.

TYPICAL PAVED PARKING LOT SECTION
N.T.S.



TYPICAL PAVEMENT JOINT @ TIE INTO EXISTING PAVEMENT
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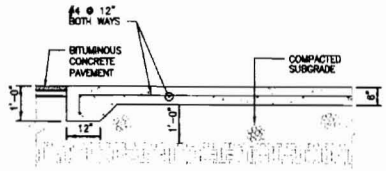

DUMPSTER PAD
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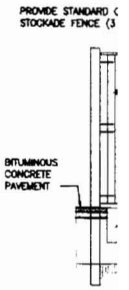

NOTE: FULL ENCLOSUR
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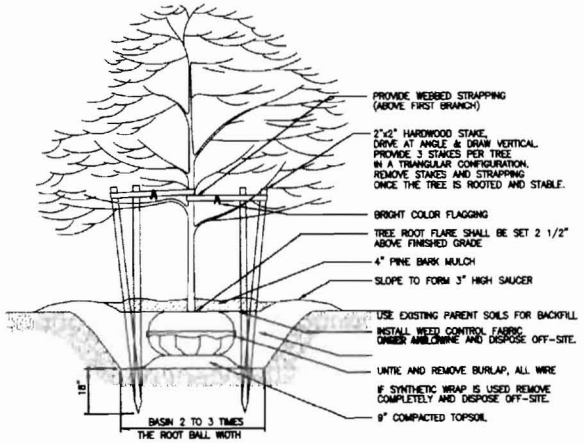
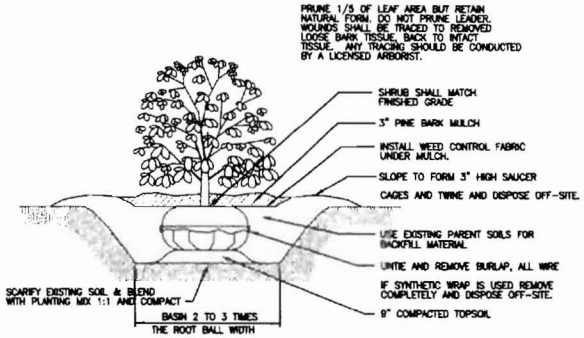
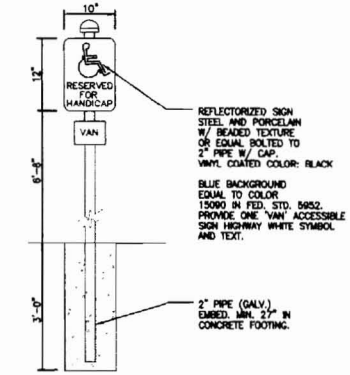


TYPICAL TREE PLANTING DETAIL
N.T.S.

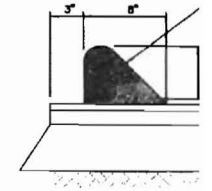
PLANTINGS NOTES:
1. ALL PLANTINGS WILL BE WATERED TO ACHIEVE 20 GALLONS OF WATER DELIVERED OVER A 30 MINUTE TIME PERIOD PER TREE, WEEKLY THROUGH THE GROWING SEASON (APRIL THROUGH NOVEMBER) FOR THE FIRST 4 YEARS, INCLUDING THE YEAR OF INSTALLATION.
2. ANY AND ALL PLANT MATERIAL DELIVERED TO THE SITE THAT IS DAMAGED OR WOUNDED SHALL BE REFUSED AND UN-DAMAGED MATERIAL SECURED.



TYPICAL SHRUB PLANTING DETAIL
N.T.S.

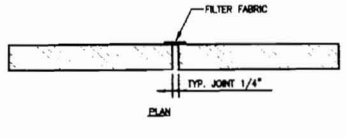


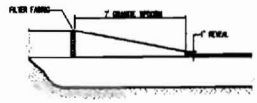
HANDICAP SIGN DETAIL
N.T.S.



1" BITUMINOUS CONCRETE TOP COURSE
2" BITUMINOUS CONCRETE BASE COURS
3" AGGREGATE BASE COURSE CRUSHED (MDOT 703.06(a) TYPE "A")
15" AGGREGATE SUBBASE (MDOT 703.06(d) TYPE "D")

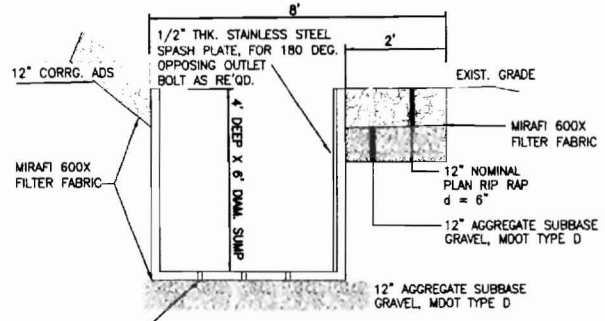
TYPICAL BITUMINO
N.T.S.



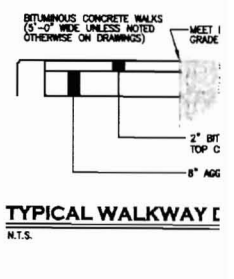


NOTE: GRANITE TIP DOWN CURB END SECTION REQUIRED AT ALL SIDEWALK TERMINUS WITH PAVED STREET AND PARKING AREAS THIS IS TO INCLUDE IMPROVEMENTS ON AND OFF THE SITE.

TYPICAL GRANITE TIPDOWN CURB
N.T.S.



SECTION VIEW



TYPICAL WALKWAY D
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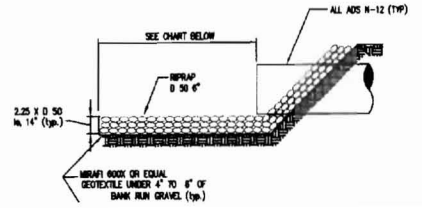
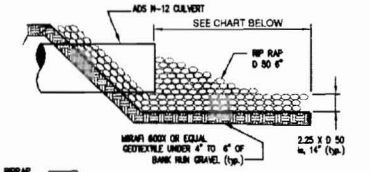
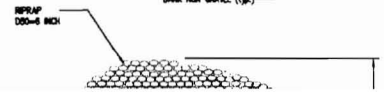
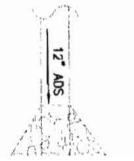
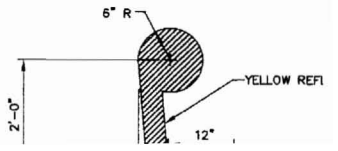
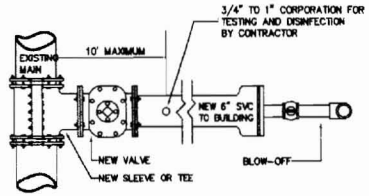












PLAN VIEW

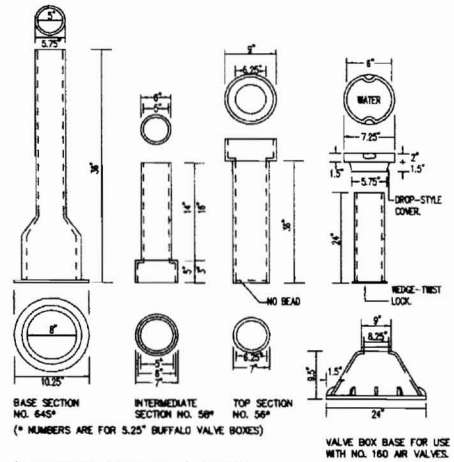
PROCEDURES:

1. NEW VALVE TO REMAIN SHUT AND ONLY OPERATED BY DISTRICT FOR FLUSHING, TESTING, DISINFECTING, ETC.
2. THE TESTING CORPORATION LOCATION MUST BE ACCESSIBLE BY:

   A. LEAVING THE EXCAVATION OPEN DURING TESTING – DISINFECTION PERIOD, OR BY:
   B. INSTALLING A "JUMPER LINE" TO THE GROUND SURFACE WITH THE CORPORATION BEING AN ANGLE VALVE IN A VALVE BOX, OR BY USING A SERVICE BOX AND ROD. AFTER COMPLETION OF THE HYDROSTATIC TEST AND THE DISINFECTING PROCEDURE:
      (1) THE ANGLE VALVE IS SHUT,
      (2) THE "JUMPER LINE" IS CUT OFF BELOW THE GROUND, AND
      (3) THE BOX IS PULLED.

NEW WATER SERVICE CONNECTION TO EXISTING MAIN

NOT TO SCALE



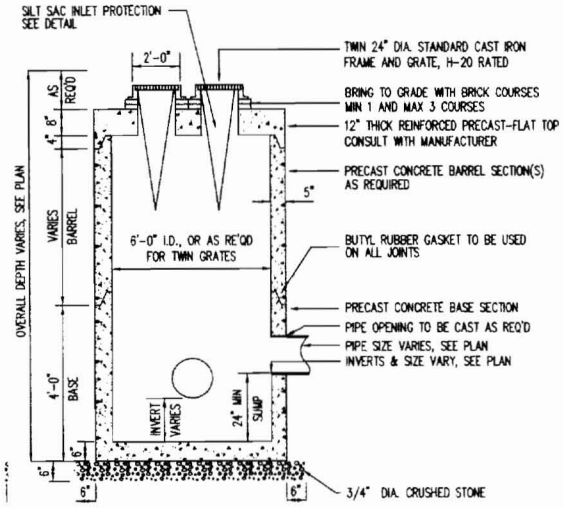
BASE SECTION NO. 645* | INTERMEDIATE SECTION NO. 56* | TOP SECTION NO. 56*

(* NUMBERS ARE FOR 5.25" BUFFALO VALVE BOXES)

VALVE BOX BASE FOR USE WITH NO. 160 AIR VALVES.

TYPICAL VALVE BOXES

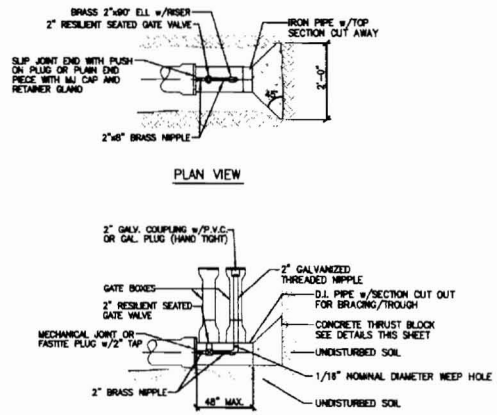
NOT TO SCALE



NOTES:
1. CONCRETE 4000 PSI AFTER 28 DAYS.
2. REINFORCING H-20 LOADING, CONSULT WITH MANUFACTURER
3. EACH CASTING TO HAVE LIFTING HOLES TO BE FILLED WITH NON-SHRINK MORTAR.

6' DIAM. PRECAST CATCH BASIN-FLATTOP

N.T.S.



PLAN VIEW

ELEVATION VIEW

STANDARD 2" BLOW OFF DETAIL

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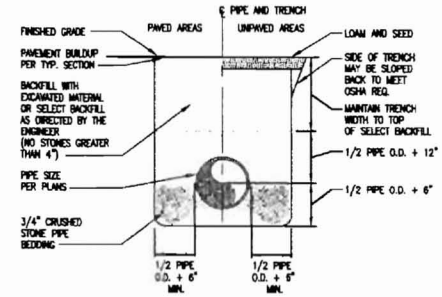

TYPICAL PIPE TRENCH SECTION

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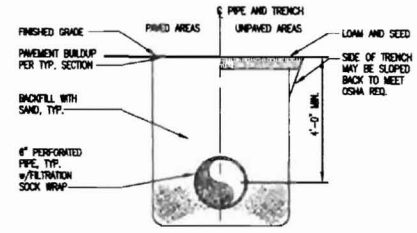

ROAD X-SECTION DETAIL COVERING

TYPICAL UNDERDRAIN SECTION

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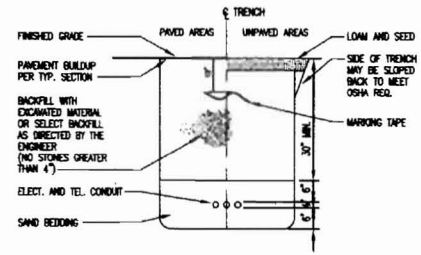

TYPICAL UNDERGROUND WIRE TRENCH SECTION

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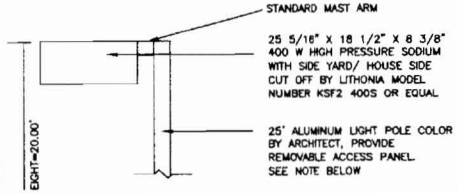

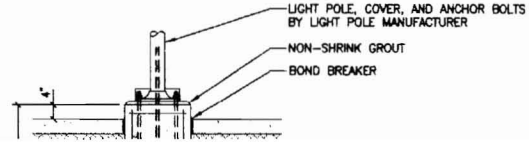

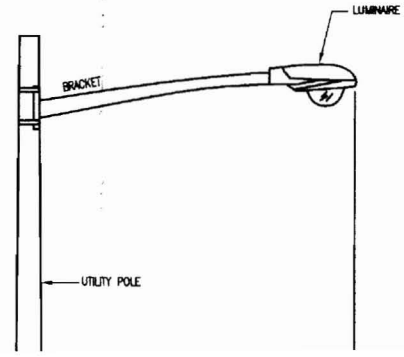

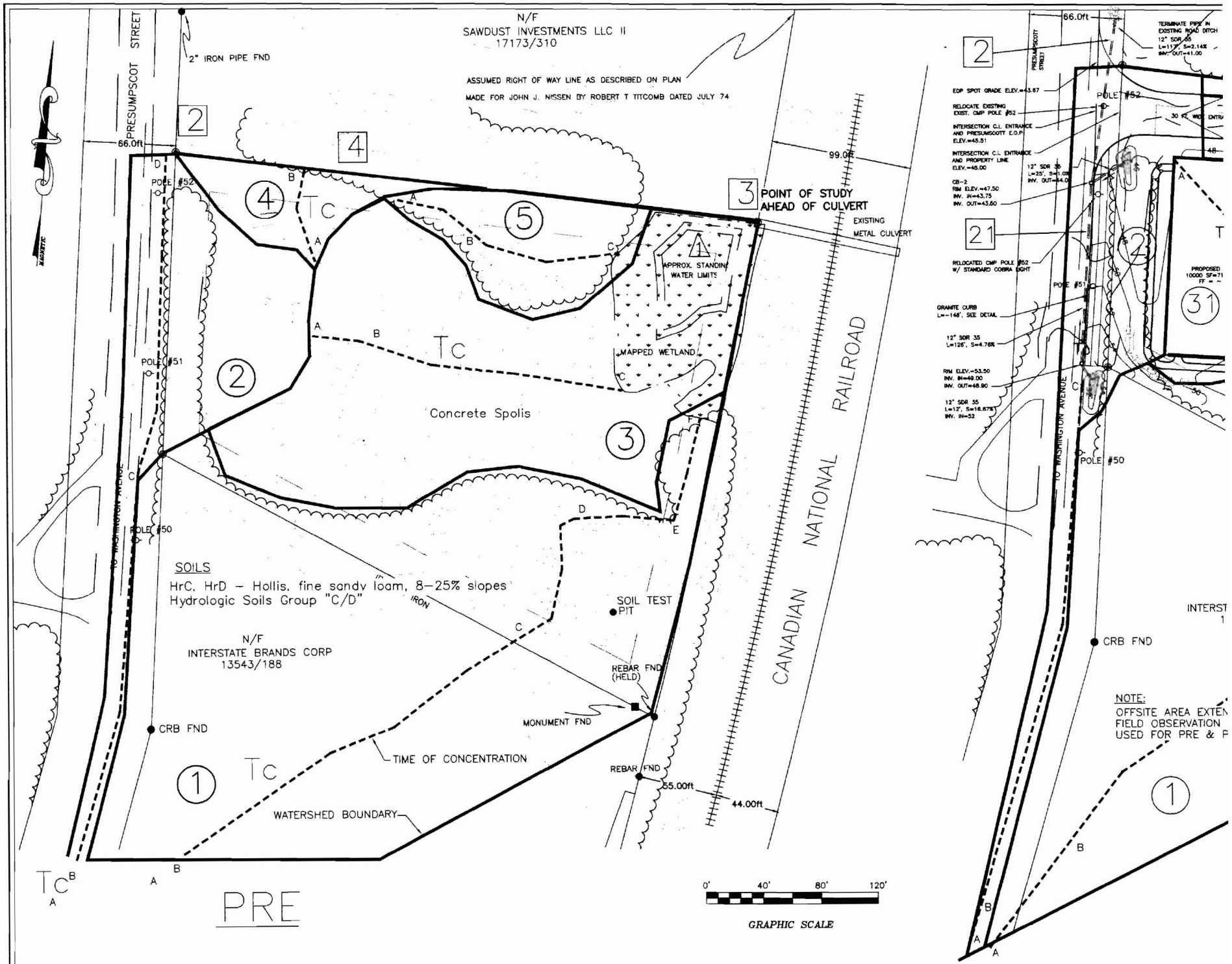

PRE: SA, Tc, REACHES, PONDS

Reach Flow Segments

POST: SA, Tc, REACHES, PONDS