

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

2009-0039

Application I. D. Number

4/21/2009

Application Date

**Amendment to Plan-Jetport Parking Lo**

Project Name/Description

**Portland International Jetport**

Applicant

**1001 Westbrook Street, Portland, ME 04102**

Applicant's Mailing Address

Consultant/Agent

**Applicant Ph: (207) 756-8029      Applicant Fax: (207) 774-7740**

Applicant or Agent Daytime Telephone, Fax

**2378 - 2378 Congress St, Portland, Maine**

Address of Proposed Site

**233 A002001**

Assessor's Reference: Chart-Block-Lot

Proposed Development (check all that apply): ☐ New Building ☐ Building Addition ☐ Change Of Use ☐ Residential ☐ Office ☐ Retail  
☐ Manufacturing ☐ Warehouse/Distribution ☒ Parking Lot ☐ Apt 0 ☐ Condo 0 ☐ Other (specify) \_\_\_\_\_

0

Proposed Building square Feet or # of Units

Acreage of Site

Proposed Total Disturbed Area of the Site

**Airport Business**

Zoning

**Check Review Required:**

- |  |   |  |  |
|--|---|--|--|
| <input type="checkbox"/> Site Plan (major/minor)                     | <input type="checkbox"/> Zoning Conditional - PB  | <input type="checkbox"/> Subdivision # of lots _____ | <input type="checkbox"/> Design Review         |
| <input type="checkbox"/> Amendment to Plan - Board Review            | <input type="checkbox"/> Zoning Conditional - ZBA | <input type="checkbox"/> Shoreland                   | <input type="checkbox"/> Historic Preservation |
| <input checked="" type="checkbox"/> Amendment to Plan - Staff Review |   | <input type="checkbox"/> Zoning Variance             | <input type="checkbox"/> Flood Hazard          |
| <input type="checkbox"/> After the Fact - Major                      |   | <input type="checkbox"/> Stormwater                  | <input type="checkbox"/> Traffic Movement      |
| <input type="checkbox"/> After the Fact - Minor                      |   | <input type="checkbox"/> PAD Review                  | <input type="checkbox"/> 14-403 Streets Review |
|  |   |  | <input type="checkbox"/> Site Location         |
|  |   |  | <input type="checkbox"/> Housing Replacement   |
|  |   |  | <input type="checkbox"/> Other _____           |

Fees Paid: Site Plan \_\_\_\_\_ Subdivision \_\_\_\_\_ Engineer Review \_\_\_\_\_ Date \_\_\_\_\_

**Planning Approval Status:**

Reviewer \_\_\_\_\_

- ☐ **Approved**      ☐ **Approved w/Conditions**      ☐ **Denied**  
See Attached

Approval Date \_\_\_\_\_ Approval Expiration \_\_\_\_\_ Extension to \_\_\_\_\_ ☐ Additional Sheets Attached

☐ OK to Issue Building Permit \_\_\_\_\_  
signature \_\_\_\_\_ date \_\_\_\_\_

**Performance Guarantee**

☐ **Required\***

☐ **Not Required**

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

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



**Stantec**

**Stantec Consulting Services Inc.**  
22 Free Street Suite 205  
Portland ME 04101-3900  
Tel: (207) 775-3211  
Fax: (207) 775-6434

April 17, 2009  
File: 195210313

Ms. Barbara Barhydt  
Development Review Services Manager  
Planning Division  
389 Congress Street 4<sup>th</sup> Floor  
Portland, Maine 04101

Dear Ms. Barhydt:

**Reference: Site Plan Amendment Application  
Portland International Jetport – Remote Parking Lot  
Portland, Maine**

Please find enclosed seven (7) copies of the application for a Site Plan Amendment for construction of drainage improvements at the Portland International Jetport's remote parking lot on outer Congress Street. The scope of work of the drainage improvements includes:

- demolition of existing stormwater quality unit and stormdrain system;
- construction of a dry-detention basin;
- construction of eleven (11) engineered stormwater bio-filter chambers (StormTreat Systems);
- minor site landscaping and vegetation restoration;

The improvements are required in order to bring the facility into compliance with current Maine Department of Environmental Protection's Stormwater Management standards. No expansion or reconstruction of the existing paved parking lot is proposed, and no impacts to existing protected resources are anticipated.

Please feel free to contact us during your review with any questions or if you need additional information. We look forward to receiving your comments.

Sincerely,

**STANTEC CONSULTING SERVICES INC.**

David P. Nadeau, P.E.  
Transportation Engineer  
Tel: (207) 775-3211  
Fax: (207) 775-6434  
dave.nadeau@stantec.com

Attachment: as stated

c. Cuyler Feagles - PWM





**PORTLAND INTERNATIONAL  
JETPORT (PWM) – PORTLAND, MAINE**

**SITE LOCATION OF DEVELOPMENT -  
MINOR AMENDMENT APPLICATION**

**SITE LOCATION OF DEVELOPMENT  
LAW**

38 M.R.S.A. §481-490

**MINOR AMENDMENT PERMIT  
APPLICATION**

for

**PWM REMOTE PARKING LOT ON  
OUTER CONGRESS STREET**

*Prepared for:*

City of Portland  
Department of Waterfront and Transportation  
Portland International Jetport  
1001 Westbrook Street  
Portland, Maine 04102

*Prepared by:*

Stantec Consulting Services Inc.  
22 Free Street  
Portland, Maine 04101

March 2009

Check Date: 2009-03-09

Vendor Number: 26514

11 111

Check Number: 190847

Invoice Number	Invoice Date	Invoice Amount	Discount Taken	Amount Paid
MANCK.MAR09	05-MAR-09	1,000.00	0.00	1,000.00

Net Check Amount:  
(US Dollars)

1,000.00



Stantec Consulting Inc.

Bank Of America  
DeKalb County  
Atlanta, GA  
061112788-

64-1278

611 GA

190847

Stantec

DATE 0 3 0 9 2 0 0 9  
M M D D Y Y Y

PAY \*\*\*\*\*One Thousand Dollars And 00 Cents

\$\*\*\*\*\*1,000.00  
US Funds

TO THE  
ORDER  
OF  
Treasurer, State of Maine  
16 state House Station  
Agusta, ME 04333

AP Fauverdin

36444

THIS DOCUMENT CONTAINS A GRADIENT COLOUR BACKGROUND • INVISIBLE FLUORESCENT PATTERN UNDER CONVENIENCE FIELD XXX • SECURITY MICROPRINTING • TRUE WATERMARK

11019084711 106111278811 329 902 749211

## PORTLAND INTERNATIONAL JETPORT (PWM)

### Application for Minor Amendment to the Site Location of Development Permit for Proposed Improvements at Remote Parking Lot

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# PORTLAND INTERNATIONAL JETPORT REMOTE PARKING LOT

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Department of Environmental Protection  
Bureau of Land & Water Quality  
17 State House Station  
Augusta, Maine 04333  
Telephone: 207-287-3901

FOR DEP USE

FORM A PAGE 1

04/08

ATS # \_\_\_\_\_  
L- \_\_\_\_\_  
Total Fees: \_\_\_\_\_  
Date: Received \_\_\_\_\_

\*\*\*\*\*

**SITE LOCATION OF DEVELOPMENT PERMIT APPLICATION 38 M.R.S.A. §§481-490**

PLEASE TYPE OR PRINT IN *INK ONLY*

<b>This application is for:</b> (CHECK THE ONE THAT APPLIES)		<input type="checkbox"/> 20 acre development <input type="checkbox"/> Planning Permit <input type="checkbox"/> Metallic Mining	<input type="checkbox"/> Marine Oil Terminal <input type="checkbox"/> Structure <input type="checkbox"/> Subdivision	<input type="checkbox"/> Major Amendment <input checked="" type="checkbox"/> Minor Amendment
1. Name of Applicant:	City of Portland (Portland International Jetport)		6. Name of Agent: (if applicable)	David Nadeau Stantec Consulting Services Inc.
2. Applicant's Mailing Address:	389 Congress Street Portland, Maine 04101		7. Agent's Mailing Address:	22 Free Street, Suite 205 Portland, Maine 04101-3900
3. Applicant's Daytime Phone #:	Cuyler Feagles, (PWM) 207-756-8313		8. Agent's Daytime Phone #:	207-775-3211
4. Applicant's Fax #:	207-774-7740		9. Agent's Fax #:	207-775-6434
5. Applicant's e-mail address: (license will be sent via e-mail)	cmf@portlandmaine.gov		10. Agent's e-mail address (license will be sent via e-mail)	dave.nadeau@stantec.com

**PROJECT INFORMATION**

11. Name of Development:	Portland International Jetport – Remote Parking Lot				
12. Map and Lot #'s:	Map #: 233	Lot #: A002	13. Deed Reference #'s:	Book #: 2457	Page #: 262
14. Location of Project City/Town:	Portland	15. County:	Cumberland	16. UTM Northing	15858149.3
				17. UTM Easting	1286448.5
18. Brief Description of Project including total parcel size:	Drainage Improvements at the Jetport Overflow Parking Lot on Outer Congress Street to Address Current Chapter 500 Stormwater Standards. Approximate Area of Proposed Disturbance : 0.6 acres; No Expansion or Redevelopment of Existing Pavement is Proposed.				
19. Type of Direct Watershed: (Check all that apply)	<input type="checkbox"/> Lake not most at risk <input type="checkbox"/> Lake most at risk <input type="checkbox"/> Lake most at risk, severely blooming <input type="checkbox"/> River, stream or brook <input checked="" type="checkbox"/> Urban impaired stream <input checked="" type="checkbox"/> Freshwater wetland <input type="checkbox"/> Coastal wetland <input type="checkbox"/> Wellhead or public water				
19. Name of Waterbody Project Site drains to:	Long Creek				
21. Amount of Developed Area:	Total acres: 3.66	Existing Developed area: 3.45 acres		New Developed area: 0.21 acres	
22. Amount of Impervious Area:	Total acres: 3.45	Existing Impervious areas: 3.45 acres		New Impervious area: 0.0 acres	
23. Development started prior to obtaining a license?:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No				
24. Development or any portion of the site subject to enforcement action?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		If yes, name of enforcement staff involved?		
25. Common scheme of development?:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		26. Title, Right or Interest:	<input checked="" type="checkbox"/> own <input type="checkbox"/> lease <input type="checkbox"/> purchase option <input type="checkbox"/> written agreement	
27. Natural Resources Protection Act permit required?:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		If yes:	<input type="checkbox"/> PBR <input type="checkbox"/> Tier 1 <input type="checkbox"/> Full Permit <input type="checkbox"/> Tier 2	
28. Existing DEP Permit number (if applicable):	L-13760-18-W-M				
29. Names of DEP staff person(s) present at the pre-application meeting:	Bill Bullard; Ben Viola				
30. Does agent have an interest in project? If yes, what is the interest?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No				

**CERTIFICATIONS AND SIGNATURES LOCATED ON PAGE 2**

**IMPORTANT: IF THE SIGNATURE BELOW IS NOT THE APPLICANT'S SIGNATURE, ATTACH LETTER OF AGENT AUTHORIZATION SIGNED BY THE APPLICANT.**

By signing below the applicant (or authorized agent), certifies that he or she has read and understood the following :

### CERTIFICATIONS / SIGNATURES

"I certify under penalty of law that I have personally examined the information submitted in this document and all attachments thereto and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe the information is true, accurate, and complete. I am aware there are significant penalties for submitting false information, including the possibility of fine and imprisonment. I authorize the Department to enter the property that is the subject of this application, at reasonable hours, including buildings, structures or conveyances on the property, to determine the accuracy of any information provided herein.

Signed: C. Feagles Title ASSISTANT FACILITIES MANAGER Date: 3/18/09

Notice of Intent to Comply  
with Maine Construction  
General Permit

With this Site Law application form and my signature, I am filing notice of my intent to carry out work which meets the requirements of the Maine Construction General Permit (MCGP). I have read and will comply with all of the MCGP standards.

If this form is not being signed by the landowner or lessee of the property, attach documentation showing authorization to sign.

Signed C. Feagles Date: 3/18/09

**NOTE: You must file a MCGP Notice of Termination (Form K) within 20 days of completing permanent stabilization of the project site.**

### CERTIFICATION

The person responsible for preparing this application and/or attaching pertinent site and design information hereto, by signing below, certifies that the application for development approval is complete and accurate to the best of his/her knowledge.

Signature: DDR

Name (print): David P. Nadeau, P.E.

Date: 3/19/09

Re/Cert/Lic No.: \_\_\_\_\_

Engineer 10683

Geologist \_\_\_\_\_

Soil Scientist \_\_\_\_\_

Land Surveyor \_\_\_\_\_

Site Evaluator \_\_\_\_\_

Active Member of the Maine Bar \_\_\_\_\_

Professional Landscape Architect \_\_\_\_\_

Other \_\_\_\_\_

"I hereby authorize the DEP to send me an electronically signed decision on the license I am applying for with this application by emailing the decision to the address located on the front page of this application (see #5 for the applicant and #10 for the agent). *Do not sign if you elect to "opt out" or receive the decision via regular mail.*

Signed (Applicant) C. Feagles Date: 3/18/09

and/or Signed (Agent) DDR Date: 3/19/09

## SITE PRE-APPLICATION MEETING SUMMARY

DATE: 2-11-09  
PROJECT NAME: Portland Jetport - Remote parking lot off Rt 22  
PROJECT LOCATION: Portland  
APPLICANT: CITY OF PORTLAND  
CONSULTANT/FIRM: STANTEC - DAVE NADEAU D. Hoffman - Dwight Anderson  
DEP PROJECT MANAGER: Bill BALLARD  
OTHER PARTICIPANTS: Artie Sewall - Ptd Jetport  
Ben Viola

Check any sections discussed in detail at the pre-application meeting and describe any relevant issues or requirements conveyed to the applicant. All information requested in the application should be submitted unless otherwise noted below:

- ☐ Section 1. Project Description #L-13760-18-W-M ISSUED FOR TEMPORARY USE OF PARKING LOT IN 2001. 3.5-acre LOT  
Applicant proposes to make permanent use of LOT -
- ☐ Section 2. Title, Right, or Interest Book: 2457  
(Deed) Property is owned by City Page: 267
- ☐ Section 3. Financial Capacity CONSTR ESTIMATE N \$230,000  
provide FUNDING DETAILS THRU CITY
- ☐ Section 4. Technical Ability ✓ Resume information
- ☐ Section 5. Noise (require submission only if applicable) NA
- ☐ Section 6. Visual Quality & Scenic Character ✓ - NARRATIVE

☐ Section 7. Wildlife & Fisheries - letter (from file?)

☐ Section 8. Historic Sites - letter (from files?)

☐ Section 9. Unusual Natural Areas - see above

Section 10. Buffers - N/A

☐ Section 11. Soils - 1 TEST PIT IN POND AREA + STORMWATER  
FILL MATERIAL ON SITE OF pond / stormwater areas

☐ Section 12. Stormwater management

Basic standards: ☒

General standards: ☒ 7 STORMWATER UNITS

Flooding standard: ☒ yes 2-10-25 YR Pre & Post Ditch Plan w/TC's

Urban Impaired Stream standard: ☒ Long Creek Proposing to Treat  
100% imperv. area (extra 5% over req'd) - will pay fee for balance

Other standards, if applicable N/A

☐ Section 13. Maintenance of common facilities or property (require submission if applicable) yes - maintenance plan by Jetport staff

☐ Section 14: Erosion & sedimentation control - yes



☐ Section 15: Groundwater *NA*

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☐ Section 16: Water supply *NA*

---

☐ Section 17: Wastewater disposal *NA*

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☐ Section 18: Solid Waste - *SMALL AMT OF WOOD WASTE*  
*- OLD SW DEVICES*

---

☐ Section 19: Flooding - *NOT IN FLOOD ZONE*

---

☐ Section 20: **Blasting** (require submission only if applicable)  
*NOT ANTICIPATED*

---

☐ Section 21: **Air emissions** (require submission only if applicable)  
*NA*

---

☐ Sections 22, 23, and 24: **Odors, water vapor, and sunlight** (require submission if applicable)  
*NA*

---

☐ Section 25: **Notices** (required to be published within 30 days prior to application submission)  
*yes - ADVERTISERS, PUBLIC NOTICE IN PAPER*

**Additional Notes:**

**ADDITIONAL INFORMATION:**

*NO wetland impacts*

Will an NRPA permit be required for the proposed development? ☐ Yes ☒ No

If yes, what type \_\_\_\_\_

Was the applicant/agent informed of the current application fee? ☒ Yes ☐ No

*minor amendment \$1000*

Was the applicant/agent informed of the maximum and probable processing time? *NA*  
☐ Yes ☐ No

Was the applicant/agent supplied with the current MCGP standard booklet? *NA*  
☐ Yes ☐ No

**TO THE APPLICANT:**

**PLEASE INSURE THAT ALL PLANS AND REPORTS ARE STAMPED AND SIGNED BY THE APPROPRIATE PROFESSIONAL.**

**PLEASE ENSURE THAT, WITHIN THIRTY DAYS PRIOR TO FILING, A NOTICE OF INTENT TO FILE IS MAILED BY CERTIFIED MAIL TO ABUTTERS AND THE MUNICIPAL OFFICE, AND PUBLISHED ONCE IN A LOCAL NEWSPAPER.**

**A PUBLIC INFORMATION MEETING, HELD BY THE APPLICANT, IS REQUIRED BEFORE THE SUBMISSION OF ALL NEW SITE LOCATION APPLICATIONS EXCEPT FOR RESIDENTIAL SUBDIVISIONS WITH 20 OR FEWER DEVELOPABLE LOTS.**

**THIS SUMMARY IS BASED ON THE INFORMATION PRESENTED TO THE DEPARTMENT IN THE MEETING. NEW OR ADDITIONAL INFORMATION MIGHT REQUIRE THE COMMENTS TO BE CHANGED OR SUPPLEMENTED.**

**WHEN THE APPLICATION IS READY FOR SUBMISSION, PLEASE CONTACT THE PROJECT MANAGER TO ARRANGE FOR A PRE-SUBMISSION MEETING. PRE-SUBMISSION MEETINGS ARE MANDATORY FOR ALL APPLICATIONS FOR WHICH A PRE-APPLICATION MEETING HAS BEEN HELD, UNLESS WAIVED IN WRITING BY THE DEPARTMENT AND AS AGREED TO BY THE APPLICANT.**

**SUBMISSIONS CHECKLIST**

If a provision is not applicable, put "NA"

**Section 1. Development description****A. Narrative**

1. Objectives and details
2. Existing facilities (with dates of construction)

**B. Topographic map**

1. Location of development boundaries
2. Quadrangle name

**C. Construction plan**

1. Outline of construction sequence (major aspects)
2. Dates

**D. Drawings**

1. Development facilities
  - a. Location, function and ground area
  - b. Length/cross-sections for roads
2. Site work (nature and extent)
3. Existing facilities (location, function ground area and floor area)
4. Topography
  - a. Pre- and post-development (contours 2 ft or less)
  - b. Previous construction, facilities and lot lines

**Section 2. Title, right or interest (copy of document)****Section 3. Financial capacity****A. Estimated costs****B. Financing**

1. Letter of commitment to fund
2. Self-financing
  - a. Annual report
  - b. Bank statement
3. Other
  - a. Cash equity commitment
  - b. Financial plan
  - c. Letter
4. Affordable housing information

**Section 4. Technical ability (description)**

- A. Prior experience (statement)
- B. Personnel (documents)

**Section 5. Noise****A. Developments producing a minor noise impact (statement)**

1. Residential developments
2. Certain non-residential subdivisions
3. Schools and hospitals
4. Other developments
  - a. Type, source and location of noise
  - b. Uses, zoning and plans
  - c. Protected locations
  - d. Minor nature of impact

Na  
↓

- 

✓



NA

- 1

✓  
110

- 100

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110

25)

✓

- 

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✓

✓

✓



✓

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✓

$\frac{1}{2}$

✓

✓



✓	1. Contours
✓	2. Plan elements
✓	3. Land cover types and boundaries
✓	4. Soil group boundaries
✓	5. Stormwater quantity subwatershed boundaries
✓	6. Stormwater quality subwatershed boundaries
✓	7. Watershed analysis points
✓	8. Hydrologic flow lines (w/flow types and flow lengths labeled)
✓	9. Runoff storage areas
✓	10. Roads and drives
✓	11. Buildings, parking lots, and other facilities
✓	12. Drainage system layout for storm drains, catch basins, and culverts
✓	13. Natural and man-made open drainage channels
✓	14. Wetlands
✓	15. Flooded areas
✓	16. Benchmark
✓	17. Stormwater detention, retention, and infiltration facilities
✓	18. Stormwater treatment facilities
✓	19. Drainage easements
✓	20. Identify reaches, ponds, and subwatersheds matching stormwater model
NA	21. Buffers
✓	D. Runoff analysis (pre-development and post development)
✓	1. Curve number computations
✓	2. Time of concentration calculations
✓	3. Travel time calculations
✓	4. Peak discharge calculations
✓	5. Reservoir routing calculations
✓	E. Flooding Standard
NA	1. Variance submissions (if applicable)
	a. Submissions for discharge to the ocean, great pond, or major river
	i. Map
	ii. Drainage plan
	iii. Drainage system design
	iv. Outfall design
	v. Easements
	b. Insignificant increase
	i. Downstream impacts
	c. Submissions for discharge to a public stormwater system
	i. Letter of permission
	ii. Proof of capacity
✓	ii. Outfall analysis and design (pictures)
✓	2. Sizing of storm drains and culverts
✓	3. Stormwater ponds and basins
✓	a. Impoundment sizing calculations
✓	b. Inlet calculations
✓	c. Outlet calculations
✓	d. Emergency spillway calculations
✓	e. Subsurface investigation report
✓	f. Embankment specifications
✓	g. Embankment seepage controls
✓	h. Outlet seepage controls
✓	i. Detail sheet
✓	j. Basin cross sections
✓	k. Basin plan sheet
NA	4. Infiltration systems
NA	a. Well locations map
NA	b. Sand and gravel aquifer map

- c. Subsurface investigation report with test pit or boring logs
- d. Permeability analysis
- e. Infiltration structure design
- f. Pollutant generation and transport analysis
- g. Monitoring and operations plan
  - i. Locations of storage points of potential contaminants
  - ii. Locations of observation wells and infiltration monitoring plan
  - iii. Groundwater quality monitoring plan
- 5. Drainage easement declarations.
- F. Stormwater quality treatment plan peak discharge calculations
  - 1. Basic stabilization plan
    - a. Ditches, swales, and other open channel stabilization
    - b. Culvert and storm-drain outfall stabilization
    - c. Earthen slope and embankment stabilization
    - d. Disturbed area stabilization
    - e. Gravel roads and drives stabilization
  - 2. General Standard
    - a. Calculations for sizing BMP
    - b. Impervious area calculation
    - c. Developed area calculation
    - d. Summary spreadsheet of calculations
  - 3. Phosphorus control plan
    - a. Calculations for the site's allowable phosphorus export
    - b. Calculations for determining the developed site's phosphorus export
    - c. Calculations for determining any phosphorus compensation fees
  - 4. Offset Credits
    - a. Urban impaired stream
      - Offset credit calculation
    - b. Phosphorus credit determination
      - i. Location map
      - ii. Scaled plan
      - iii. Title and right
      - iv. Demolition plan
      - v. Vegetation plan
      - vi. Offset credit calculation
      - vii. Calculation for the new allowable export
  - 5. Runoff treatment measures
    - a. structural measures
      - i. Design drawings and specifications
      - ii. Design calculations
      - iii. Maintenance plan
      - iv. TSS removal or phosphorus treatment factor determinations
      - v. Stabilization plan
    - b. Vegetated buffers
      - i. Soil survey
      - ii. Buffer plan
      - iii. Turnout and level spreader designs
      - iv. Deed restrictions
  - 6. Control plan for thermal impacts to coldwater fisheries
  - 7. Control plan for other pollutants
  - 8. Engineering inspection of stormwater management facilities
- G. Maintenance of common facilities or property
  - 1. Components of the maintenance plan
    - A. Maintenance of facilities by owner or operator
      - 1. Site owner or operator (name legally responsible party)

- ## Section 13. Urban Impaired Stream Submissions

- ## Section 14. Basic Standards

- 11

- ✓ 4. Protected natural resources
- ✓ 5. Erosion control measures
- ✓ 6. Site stabilization
- ✓ B. Implementation schedule
- ✓ C. Erosion and sediment control plan
  - ✓ 1. Pre-development and post-development contours
  - ✓ 2. Plan scale and elements
  - ✓ 3. Land cover types and boundaries
  - ✓ 4. Existing erosion problems
  - ✓ 5. Critical areas
  - ✓ 6. Protected natural resources
  - ✓ 7. Locations (general)
  - ✓ 8. Locations of controls
  - ✓ 9. Disturbed areas
  - ✓ 10. Stabilized construction entrance
- ✓ D. Details and specifications (for both temporary and permanent measures)
- ✓ E. Design calculations
- ✓ F. Stabilization plan
  - ✓ 1. Temporary seeding
  - ✓ 2. Permanent seeding
  - ✓ 3. Sodding
  - ✓ 4. Temporary mulching
  - ✓ 5. Permanent mulching
- ✓ G. Winter construction plan
  - ✓ 1. Dormant seeding
  - ✓ 2. Winter mulching
- ✓ H. Third-party inspections
  - ✓ 1. Inspector's name, address, and telephone number
  - ✓ 2. Inspector's qualifications
  - ✓ 3. Inspection schedule
  - ✓ 4. Contractor contact
  - ✓ 5. Reporting protocol

## Section 15. Groundwater

- NA A. Narrative
  - 1. Location and maps
  - 2. Quantity
  - 3. Sources
  - 4. Measures to prevent degradation
- B. Groundwater protection plan
- C. Monitoring plan
  - 1. Monitoring points
  - 2. Monitoring frequency
  - 3. Background conditions
  - 4. Monitoring parameters
  - 5. Personnel qualifications
  - 6. Proof of training
  - 7. Equipment and methods
  - 8. Quality assurance/quality control
  - 9. Reporting requirements
  - 10. Remedial action plan
- D. Monitoring well installation report
  - 1. Well location map
  - 2. Elevation data
  - 3. Well installation data
  - 4. Well construction details
  - 5. Borehole logs



- ## Section 16. Water supply

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- ## Section 17. Wastewater disposal

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- 13



**Section 25. Notices**

- ✓ A. Evidence that notice sent
- ✓ B. List of abutters for purposes of notice

**Supplemental requirements for Wind Energy Developments only:**

**Section 26. Shadow flicker**

- NA A. A copy of the Windpro Analysis and associated narrative

**Section 27. Public Safety**

- NA A. Design safety certifications or other documents attesting to the safety of the wind turbine equipment.
- NA B. Evidence pertaining to overspeed controls
- NA C. Site plan documenting safety setbacks zones for each wind turbine
- NA B. Other documents as necessary to demonstrate safety considerations

**Section 28. Tangible Benefits**

- NA A. Narrative demonstration of tangible benefits

**Section 29. Decommissioning**

- NA A. Description of implementation trigger for decommissioning
- NA B. Description of extent of decommissioning
- NA C. Itemization of total cost to complete decommissioning
- NA D. Demonstration of financial assurance for completeness of decommissioning plan

**Section 30. Generating Facility-visual Quality and Scenic Character**

- NA A. (narrative, description, visual impact analysis)



STATE OF MAINE  
DEPARTMENT OF  
ENVIRONMENTAL PROTECTION  
17 STATE HOUSE STATION  
AUGUSTA, MAINE  
04333

ANGUS S. KING, JR.  
GOVERNOR

DEPARTMENT ORDER

IN THE MATTER OF

CITY OF PORTLAND	) SITE LOCATION OF
DEVELOPMENT	
Portland, Cumberland County	)
JETPORT TEMPORARY PARKING LOT	) MODIFICATION
L-13760-18-W-M (approval)	) FINDINGS OF FACT AND ORDER

Pursuant to the provisions of 38 M.R.S.A. Sections 481 et seq., the Department of Environmental Protection has considered the application of the CITY OF PORTLAND with the supportive data, agency review comments, and other related materials on file and FINDS THE FOLLOWING FACTS:

1. In Department Order #L-13760-18-A-N, dated October 9, 1987, the Department approved existing post-1970 improvements at the Portland International Jetport as described in Finding 1 of that Order, and a 29 lot commercial subdivision on a 763 acre parcel of land between Congress Street and Johnson Road in the City of Portland. The Department has approved a number of expansions and modifications to the Jetport in subsequent Orders. Department Order #L-13760-18/31-J-A, dated November 26, 1996, approved the relocation of the existing access road from Johnson Road and the construction of a new access road from Congress Street to the existing Jetport loop road. In Department Order #L-13760-18-R-A, dated February 16, 2001, the Department approved a five year improvement program at the jetport with a planning permit.
2. The applicant proposes to construct a temporary parking lot to be used during construction of the parking garage and other airport improvements. The parking lot will have approximately 3½ acres of impervious area and it is located on outer Congress Street adjacent to the Portland snow dump. There are numerous wetlands on the project site but they will not be impacted by the parking lot.
3. The applicant submitted a stormwater management plan and a erosion and sedimentation control plan for the proposed project which were reviewed by the Division of Watershed Management of the Bureau of Land and Water Quality (DWM). Stormwater quantity will increase off the project site, but the increase will be on to other land owned by the applicant, prior to the stormwater's discharge into Long Creek. The applicant will meet stormwater quality standards by utilizing a Vortech System, Model 16000. DWM has stated that the stormwater management plan and the erosion and sedimentation control plan submitted by the applicant meet Department standards.
4. No other issues have been identified.



5. Based on its review of the application, the Department finds the requested modification to be in accordance with all relevant Departmental standards. All other findings of fact, conclusions and conditions remain as approved in Department Order #L-13760-28-A-N, and subsequent orders.

BASED on the above findings of fact, and subject to the conditions listed below, the Department makes the following conclusions pursuant to 38 M.R.S.A. Sections 481 et seq.:

- A. The applicant has provided adequate evidence of financial capacity and technical ability to develop the project in a manner consistent with state environmental standards.
- B. The applicant has made adequate provision for fitting the development harmoniously into the existing natural environment and the development will not adversely affect existing uses, scenic character, air quality, water quality or other natural resources in the municipality or in neighboring municipalities.
- C. The proposed development will be built on soil types which are suitable to the nature of the undertaking and will not cause unreasonable erosion of soil or sediment nor inhibit the natural transfer of soil.
- D. The proposed development meets the standards for storm water management in Section 420-D and the standard for erosion and sedimentation control in Section 420-C.
- E. The proposed development will not pose an unreasonable risk that a discharge to a significant groundwater aquifer will occur.
- F. The applicant has made adequate provision of utilities, including water supplies, sewerage facilities, solid waste disposal and roadways required for the development and the development will not have an unreasonable adverse effect on the existing or proposed utilities and roadways in the municipality or area served by those services.
- G. The activity will not unreasonably cause or increase the flooding of the alteration area or adjacent properties nor create an unreasonable flood hazard to any structure.

THEREFORE, the Department APPROVES the application of the CITY OF PORTLAND to construct a temporary parking lot, SUBJECT TO THE FOLLOWING CONDITIONS a

1. The Standard Conditions of Approval, a copy attached.
2. In addition to any specific erosion control measures described in this or previous orders, the applicant shall take all necessary actions to ensure that its activities or those of its agents do not result in noticeable erosion of soils or fugitive dust

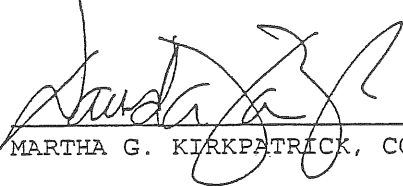
emissions on the site during the construction and operation of the project covered by this approval.

3. All other Findings of Fact, Conclusions and Conditions remain as approved in Department Order #L-13760-18-A-N, and subsequent orders, and are incorporated herein.

DONE AND DATED AT AUGUSTA, MAINE, THIS 26 DAY OF June, 2001.

DEPARTMENT OF ENVIRONMENTAL PROTECTION

By:

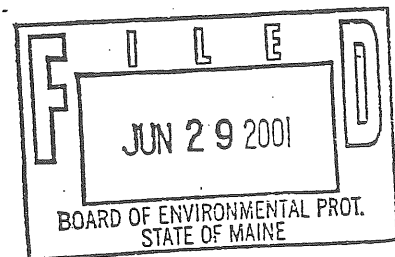
  
MARTHA G. KIRKPATRICK, COMMISSIONER

PLEASE NOTE THE ATTACHED SHEET FOR GUIDANCE ON APPEAL PROCEDURES...

Date of initial receipt of application 5-7-01

Date of application acceptance 5-16-01

Date filed with Board of Environmental Protection  
LK/L13760WM



SITE LOCATION OF DEVELOPMENT (SITE)  
STANDARD CONDITIONS

STRICT CONFORMANCE WITH THE STANDARD AND SPECIAL CONDITIONS OF THIS APPROVAL  
IS NECESSARY FOR THE PROJECT TO MEET THE STATUTORY CRITERIA FOR APPROVAL.

1. This approval is dependent upon and limited to the proposals and plans contained in the application and supporting documents submitted and affirmed to by the applicant. Any variation from the plans, proposals and supporting documents is subject to the review and approval of the Board prior to implementation. Further subdivision of proposed lots by the applicant or future owners is specifically prohibited, without prior approval by the Board of Environmental Protection, and the applicant shall include deed restrictions to this effect.
2. The applicant shall secure and comply with all applicable Federal, State and local licenses, permits, authorizations, conditions, agreements, and orders, prior to or during construction and operation as appropriate.
3. The applicant shall submit all reports and information requested by the Board or Department demonstrating that the applicant has complied or will comply with all conditions of this approval. All preconstruction terms and conditions must be met before construction begins.
4. Advertising relating to matters included in this application shall refer to this approval only if it notes that the approval has been granted WITH CONDITIONS, and indicates where copies of those conditions may be obtained.
5. Unless otherwise provided in this approval, the applicant shall not sell, lease, assign or otherwise transfer the development or any portion thereof without prior written approval of the Board where the purpose or consequence of the transfer is to transfer any of the obligations of the developer as incorporated in this approval. Such approval shall be granted only if the applicant or transferee demonstrates to the Board that the transferee has the technical capacity and financial ability to comply with conditions of this approval and the proposals and plans contained in the application and supporting documents submitted by the applicant.
6. If the construction or operation of the activity is not begun within two years, this approval shall lapse and the applicant shall reapply to the Board for a new approval. The applicant may not begin construction or operation of the development until a new approval is granted. Reapplications for approval shall state the reasons why the development was not begun within two years from the granting of the initial approval and the reasons why the applicant will be able to begin the activity within two years from the granting of a new approval, if granted. Reapplications for approval may include information submitted in the initial application by reference.
7. If the approved development is not completed within five years from the date of the granting of approval, the Board may reexamine its approval and impose additional terms or conditions or prescribe other necessary corrective action to respond to significant changes in circumstances which may have occurred during the five-year period.
8. A copy of this approval must be included in or attached to all contract bid specifications for the development.
9. Work done by a contractor pursuant to this approval shall not begin before the contractor has been shown by the developer a copy of this approval.

(2/81)/Revised November 1, 1979

## **1.0 DEVELOPMENT DESCRIPTION (Site Location Section 1)**

---

The city of Portland, Maine (the applicant) is filing a Minor Amendment application pursuant to the *Site Location of Development Act, Title 38, M.R.S.A. Section 481-490* for proposed improvements at the Portland International Jetport.

### **1.1 PROJECT LOCATION**

The project site is located at the Portland International Jetport's remote parking lot on outer Congress Street, in the city of Portland, Cumberland County. The site is approximately 1,600 feet west of Interstate 95, 300 feet north of the South Portland city line, and 2,000 feet east of the Westbrook city line. The site is entered by the access road for the city of Portland's snow dump facility. Refer to Figure 1.1 included in this section for the project location identified on the USGS quadrangle map for Portland - West, Maine.

The area of proposed disturbance at the site is adjacent to the southern edge of the existing parking lot in an area that is currently covered by grass. An existing stormdrain system and Vortech water quality unit are currently located in the area. It is bounded to the east and south-east by a large freshwater wetland system that drains to Long Creek, and to the west and south-west by the existing access road. Refer to Figure 1.2 included in this section for the project location identified on an aerial photograph.

### **1.2 PROJECT DESCRIPTION**

The existing facility consists of a paved automobile parking lot approximately 3.5 acres in size. The development was permitted and constructed in 2001 under permit no. L-13760-18-W-M as a temporary parking facility for use during construction of a parking garage and associated improvements at the Portland International Jetport. It was originally intended that the parking lot would be used to offset the temporary loss in parking capacity during construction of the garage improvements, and then be removed at the completion of the garage project. The site was anticipated to be returned to a natural vegetated condition.

In the ensuing period, there has been additional growth at the Jetport which has required the continued use of the parking lot during peak parking demand periods. The applicant is therefore now proposing to change the status of the lot from temporary to permanent status for continued use as overflow parking. The original development design and permitting completed in 2001 addressed the Site Law standards in effect at the time. Discussions with MDEP staff have indicated that due to the proposed change in status of the facility, the current standards for Site Law, specifically the changes to Chapter 500 Stormwater Management must now be addressed.

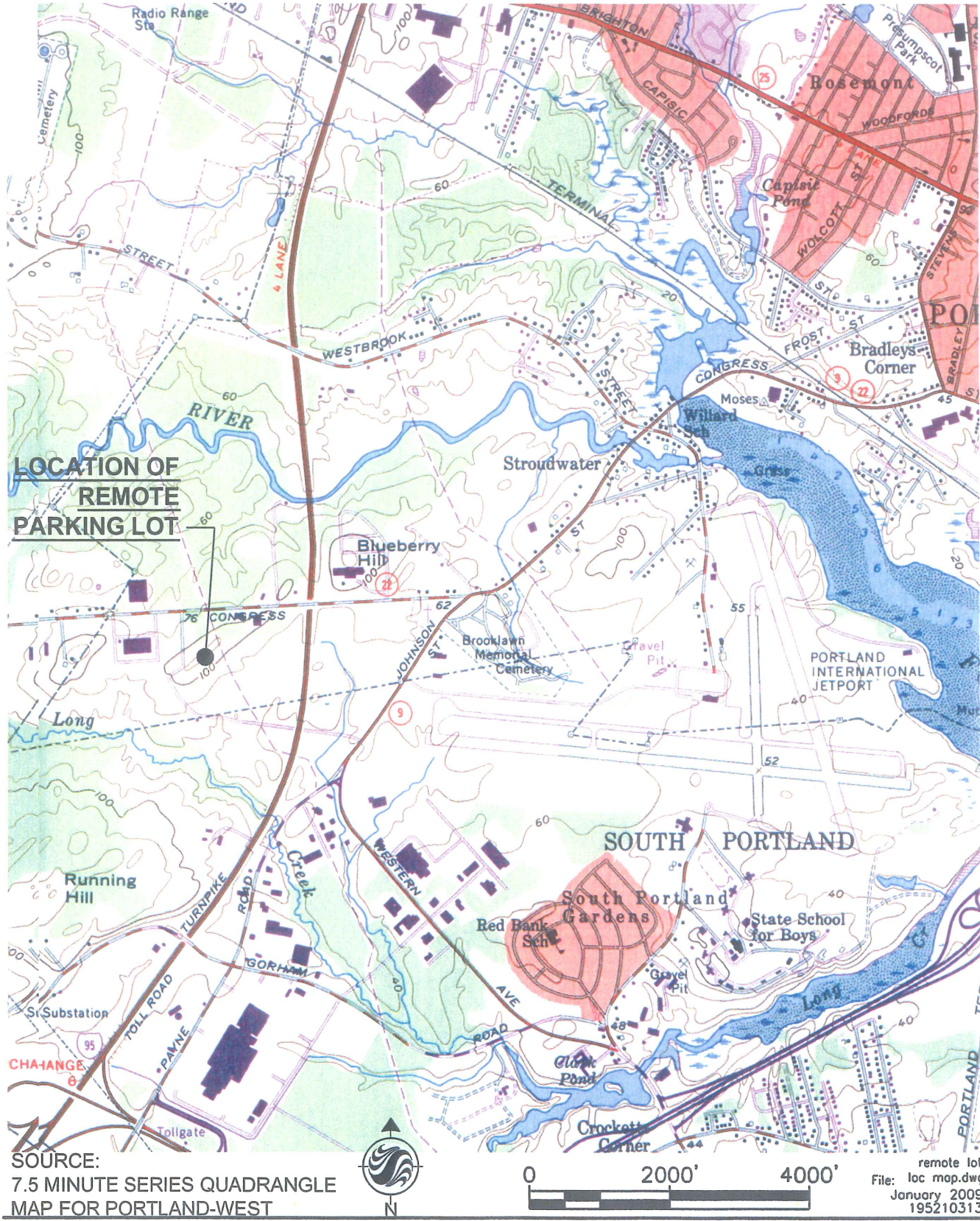
In order to meet the current stormwater standards, the existing stormwater management system will be upgraded. The existing system consists of a series of catch basins and stormdrains that



collect runoff and discharge it through a Vortech water quality unit. Since Vortech units no longer meet MDEP's requirements for water quality (other than for pre-treatment), upgrade to meet current standards will consist of removal of the existing Vortech water quality device, and installation of 11 StormTreat bio-filter chambers. To ensure that peak rates of runoff for the post development condition do not exceed the pre development rates (prior to 2001), a dry detention basin will be constructed. Other than these drainage improvements, no expansions or re-development of the parking facility are proposed. No impacts to wetlands or other protected resources are proposed.

### **1.3 PROJECT SCHEDULE / CONSTRUCTION PLANS**

Preliminary construction plans indicating the proposed improvements are included in the appendix at the back of this application. Construction and final stabilization of the proposed improvements are currently proposed for the summer / fall of 2009.



**Stantec Consulting Services Inc.**  
 22 Free Street, Suite 205  
 Portland ME U.S.A.  
 04101-3900  
 Tel. 207.775.3211  
 Fax. 207.775.6434  
 www.stantec.com

Client/Project  
**PORTLAND INT. JETPORT  
 IMPROVEMENTS TO  
 REMOTE LOT**

Figure No.  
**1.1**

Title  
**LOCATION MAP**





remote lot  
loc  
File: photo.dwg  
January 2009  
195210313



**Stantec**

**Stantec Consulting Services Inc.**

22 Free Street, Suite 205

Portland ME U.S.A.

04101-3900

Tel. 207.775.3211

Fax. 207.775.6434

[www.stantec.com](http://www.stantec.com)

Client/Project

PORTLAND INT. JETPORT  
IMPROVEMENTS TO  
REMOTE LOT

Figure No.

1.2

Title

**LOCATION PHOTO**

## **2.0 TITLE, RIGHT OR INTEREST (Site Location Section 2)**

---

The applicant possesses all title, right and interest in the project property. A copy of the deed for the property parcel, reference Book 2457, Page 262 is included in this section.

PARCELS DATA SHEET

GRANTOR: Edward S. Finks et. als. TO GRANTEE: City of Portland

TYPE OF INSTRUMENT:  
Warranty Deed

DATE:

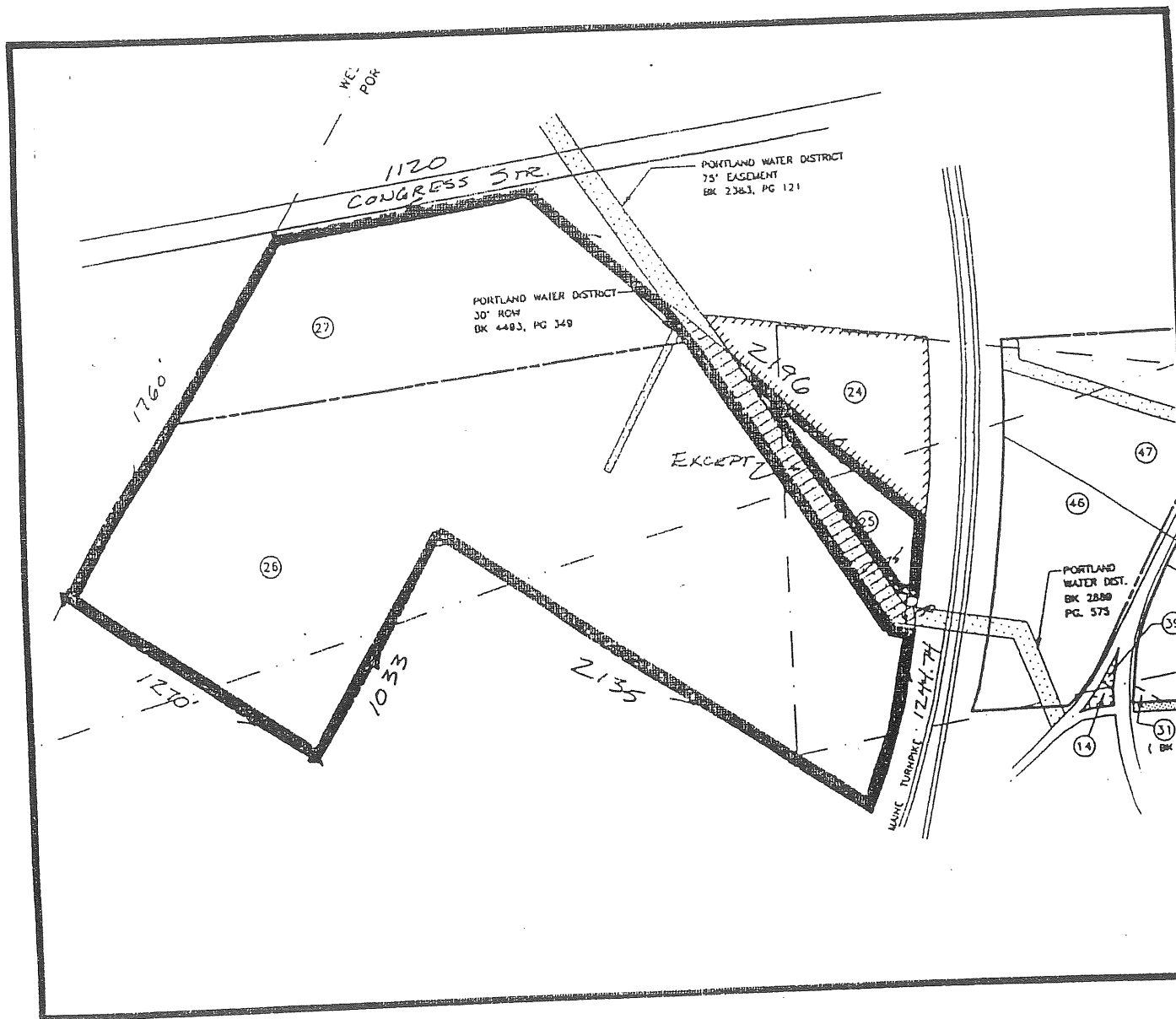
Instrument 02/13/59  
Acknowledged 02/13/59  
Recorded 02/13/59

DEED REFERENCE:  
Book 2457 Page 262

AREA: Acres + or -

PROVISIONS:  
Except deed to Portland Water District, B.2383, P.121.

REMARKS:





# Know all Men by these Presents, That

We, Edward S. Finks and Dorothy L. Finks, of Portland, in the County of Cumberland and State of Maine  
in consideration of one dollar and other valuable consideration  
paid by the City of Portland, a body politic and corporate, located in said County and State.

the receipt whereof we do hereby acknowledge, do hereby give, grant, bargain, sell and convey unto the said City of Portland, its successors and assigns, the following described parcel of land with the buildings thereon located on the southeasterly side of Congress Street, formerly known as the County Road, leading to Buxton, and the northwesterly side of the Payne Road, being partly in said Portland and partly in South Portland, and bounded and described as follows: Beginning on the southerly side of Congress Street, formerly County Road, leading from Gorham to Portland, at the northeasterly corner of land formerly belonging to one Bailey, later of McInnes; thence running southwest by said Bailey land seventeen hundred sixty (1760) feet to a stake and corner at land of Frank P. Cummings' heirs; thence southeast by said Cummings' heirs land twelve hundred seventy (1270) feet to a stake and corner at land formerly of W. F. Dresser, now of the Crosby heirs; thence northeast by said Dresser land ten hundred thirty-three (1033) feet to a stake and corner; thence southeast by said Dresser land twenty-one hundred thirty-five (2135) feet, more or less, to land of Maine Turnpike Authority; thence northerly by a curving line by said Maine Turnpike Authority land twelve hundred forty-four and seventy-four hundredths (1244.74) feet to land of Frank P. Cummings' heirs; thence northwesterly by said Frank P. Cummings' heirs land twenty-one hundred ninety-six (2196) feet, more or less, to said Congress Street; thence westerly by said Congress Street eleven hundred twenty (1120) feet, more or less, to the point of beginning, excepting therefrom the following described parcel of land conveyed by the Grantors to the Portland Water District by warranty deed, dated November 12, 1957, and recorded in Cumberland County Registry of Deeds in Book 2383, Page 121: Beginning at a point on the dividing line between land of the Grantors and land of Maine Turnpike Authority, said point being two hundred eighty-three and three tenths (283.3) feet southwesterly along said dividing line from the intersection of said dividing line and land now or formerly of Frank P. Cummings, (1) thence North 56°18' West one hundred twenty-four and seventeen hundredths (124.17) feet to a point; (2) thence North 12°53 1/4' West eleven hundred eighty-three and fifty-nine hundredths (1183.59) feet to said Cummings land; (3) thence northwesterly by said Cummings land three hundred fourteen and five hundredths (314.05) feet to a point; (4) thence South 12°53 1/4' East on a line parallel with and seventy-five (75) feet distant from the second course above mentioned, a distance of sixteen hundred twenty-nine and fifty-three hundredths (1629.53) feet to a point; (5) thence South 56°18' East on a line parallel with and one hundred and fifty (150) feet distant from the first course above mentioned to said Maine Turnpike Authority land; (6) thence northeasterly by said Maine Turnpike Authority land one hundred and fifty (150) feet, more or less, to the point of beginning.

Also hereby conveying to the Grantee all rights, easements, and privileges reserved to the Grantors in said deed from the said Finks to the said Portland Water District.

Being the same premises conveyed to Grantors herein by Walter F. Korzeniewski et al dated June 26, 1951, recorded in Cumberland County Registry of Deeds in Book 2051, Page 147 except as otherwise herein excepted.

To Have and to Hold the foregoing and bargained premises, with all the privileges and appurtenances thereof, to the said City of Portland, its successors

heirs and assigns to its and their use and behoof forever. And we do covenant with the said Grantee its successors heirs and assigns, that we are lawfully seized in fee of the premises; that they are free of all incumbrances, that we have good right to sell and convey the same to the said Grantee to hold as aforesaid; and that we and our heirs and assigns shall and will warrant and defend the same to the said Grantee, its successors heirs and assigns forever, against the lawful claims and demands of all persons.

In Witness Whereof, We, Edward S. Finks and Dorothy L. Finks, husband and wife

joining in this deed as Grantors and relinquishing and conveying all rights by descent and all other rights in the above described premises, have hereunto set our hands and seal this 13th day of February in the year of our Lord one thousand nine hundred and fifty-nine.

Witness Sealed and Delivered in presence of

*Edw. S. Finks*  
*Dorothy L. Finks*

*Edward S. Finks*  
*Dorothy L. Finks*

State of Maine, County of Cumberland ss. February 13, 1959.  
Personally appeared the above named Edward S. Finks and Dorothy L. Finks

and acknowledged the foregoing instrument to be their free act and deed.

Before me, *John D. [Signature]* Justice of the Peace.

STATE OF MAINE, CUMBERLAND COUNTY, SS.

Received FEB 13 1959  
In BOOK 2457 PAGE 262

Attest

at 3 o'clock 55 m. and recorded

Register.



### 3.0 FINANCIAL CAPACITY (Site Location Section 3)

---

#### 3.1 PROJECT FUNDING

The City of Portland will be funding the proposed drainage improvement project under the existing Portland City Council approval for the Phase II Parking Garage project that is currently being constructed. The City Council appropriated funds for the project on June 18, 2007 under Order 263-06/07.

#### 3.2 ESTIMATED PROJECT COSTS

The estimated project cost for the remote lot drainage improvements is approximately \$300,000, including permitting, design, and construction costs. Refer to attached *Engineer's Preliminary Opinion of Probable Construction Costs* for a breakdown of the major construction work items. It should be noted that the numbers on the *Engineer's Preliminary Opinion of Probable Construction Costs* form are based on the engineer's estimate of the project cost, and that the actual project cost will be based on the result of a competitive bid process for construction. Should the bid results require a significant change in the proposed project, a revised project description (Section 1) will be forwarded to the MDEP and, if required, an application for a project modification will be filed.

Preliminary Opinion of Probable Construction Costs

Portland International Jetport - Remote Lot Drainage Improvements  
As of 3/20/09

StormTreat Filter Chambers w/ Detention Pond

Item	Quantity	Unit	Unit Price	Amount
StormTreat Chamber	11	EA	15000	165000
6" HDPE Distribution Line	100	LF	30	3000
4" / 2" HDPE Stormdrain	160	LF	25	4000
18" HDPE Stormdrain	30	LF	50	1500
LL Spreaders	2	EA	1500	3000
DMH / Outlet Riser	1	EA	5000	5000
Erosion Control	1	LS	10000	10000
Earthwork	2500	CY	15	37500
Topsoil, Seed & Mulch	22	MSF	175	3850
Demolition	1	LS	5000	5000
<b>SUBTOTAL</b>				<b>\$237,850</b>
Contingency (15%)				\$35,677.50
<b>TOTAL ALTERNATIVE 2</b>				<b>\$273,527.50</b>



## **4.0 TECHNICAL ABILITY (Site Location Section 4)**

---

The Portland International Jetport and the remote parking lot are owned and operated by the city of Portland and its agents. The Jetport employs a parking management company (Standard Parking) to run day-to day operations at the remote lot.

The Portland International Jetport has contracted with Stantec Consulting Services Inc. to provide technical expertise for the design, permitting and construction administration of the proposed improvements at the remote parking lot that are detailed within this application. Resumes of key Stantec personnel involved with the project have been included to demonstrate experience and expertise with completing similar projects.

Mr. Nadeau's responsibilities include project management and design services on a variety of airport and transportation infrastructure improvement projects. His experience includes civil and airport engineering design; stormwater analyses and drainage system design; environmental and local permitting services; construction administration and inspection services; and topographic and airport obstruction surveys. He also has experience with federal and state grant procedures on a variety of projects.

## EDUCATION

Bachelor of Science, Civil Engineering, University of  
Maine, Orono, Maine, 1999

## REGISTRATIONS

Professional Engineer #10683, State of Maine

## PROJECT EXPERIENCE

### Airports & Aviation

**Aircraft Apron Expansion & Alterations to Mitigation  
Sites, Knox County Regional Airport, Owls Head,  
Maine**

*Project engineer responsible for the design of the  $\pm$  7.7-acre apron expansion; preparation of pavement design report; amendments to MDEP Site Location Permit and local permits; and design of stormwater management plan. The project also included regrading of wetland mitigation sites to alleviate safety hazards. Responsibilities included CAD drafting, preparation of final plans, and details for all work.*

**Construction of Aircraft Parking Apron and  
Reconstruction of Taxiway D, Robert LaFleur Airport,  
Waterville, Maine**

*Project engineer responsible for the design for the construction of a  $\pm$  3.2-acre aircraft parking apron expansion. The project also included reconstruction of 1,750 feet of taxiway, design of an automobile parking area, extension of utility service to future hangar facilities, and grading and drainage design for four eight-unit T-hangar facilities adjacent to Taxiway D. Additional responsibilities included preparation of the state environmental permit that included drainage analyses and design of stormwater quality treatment swales.*

**Construction of Aircraft Rinse Facility, Brunswick Naval  
Air Station, Brunswick, Maine**

*Project engineer responsible for the drainage design of de-icing facility consisting of trench drain system with simultaneous storm drain trunk line.*

**Construction of T-hangars, Lawrence Municipal Airport,  
North Andover, Massachusetts**

*Project engineer responsible for the present and future development drainage analyses for the construction of T-hangars.*

**Drainage Repairs, Claremont Municipal Airport,  
Claremont, New Hampshire**

*Project engineer responsible for the drainage analysis, which determined the cause of significant erosion on airport site. Responsibilities included design of the new storm drain system.*

**Expansion of Aircraft Parking Apron, Bethel Regional  
Airport, Bethel, Maine**

*Project engineer/manager responsible for the design for the 13,200-square yard aircraft parking apron expansion. The project included use of reworked on-site soils as subbase material to reduce project construction costs, a new gravel automobile parking area and access road, relocation of the airport fuel facility, extension of utility services to a new terminal area, and site lighting for the aircraft and automobile parking areas. Additional responsibilities included preparation of the state environmental permit; on-site resident inspection during reconstruction; and coordination with local, state, and federal agencies throughout the life of the project.*

## David P. Nadeau PE

Project Manager

---

### **Expansion of Parking Apron and Reconstruction of Taxiway, Central Maine Regional Airport, Norridgewock, Maine**

*Project engineer responsible for the preparation of state environmental permit application for the expansion of the aircraft parking apron and reconstruction of the taxiway.*

### **Expansion of Passenger Baggage Claim, Portland International Jetport, Portland, Maine**

*Project engineer responsible for the site work design and associated planning department permitting for the baggage claim facility expansion project. Design work included relocation and upgrade of existing utility and storm drain systems in highly congested area, as well as security fence and gate relocation along ATC restricted zone.*

### **Obstruction Removal, Grubbing and Grading, Biddeford Municipal Airport, Biddeford, Maine**

*Project designer for a  $\pm$  7-acre vegetation removal project. The project included clearing tree and brush obstructions from FAR Part 77 surfaces and grubbing, grading, and seeding the disturbed areas. Additional duties included preparing the environmental permit applications for the project.*

### **Overlay South A and K Taxiways, Logan International Airport, East Boston, Massachusetts**

*Resident Inspector for the structural overlay of the south A and K taxiways located in the south terminal area of the airport. Work included the construction of Stub Taxiway K-3 and the installation of associated taxiway guidance signs. Adjacent turf islands were graded and sodded to enhance drainage. In addition, the project adjusted in-pavement taxiway lights, as well as drainage and utility structures. The project was phased to minimize impacts on operations by performing most construction activities during off-peak hours (nights and weekends).*

### **Partial FAR Part 77 Phase 3 Obstruction Removal and Lighting, Dillant-Hopkins Airport, Keene, New Hampshire**

*Project engineer responsible for the present and future development drainage analyses and assisted in preparation of environmental permits for the obstruction removal project to eliminate penetrations to the FAR Part 77 airspace within the precision instrument approach to Runway 2. The project also included the installation of 5,000 linear feet of chain-link security fence and gates.*

### **Partial Reconstruction and Extension of Runway 14-32, Rangeley Municipal Airport, Rangeley, Maine**

*Project engineer responsible for the drainage analysis, design of taxiway lighting system, and preparation of project specifications.*

### **Phase I-Parking Garage, Portland International Jetport, Portland, Maine**

*Project engineer responsible for the grading and drainage design for the new six-story parking garage, access loop road and parking area improvements. The design included a deep gravity storm drain system with stormwater quality unit. Responsibilities included the preparation of local and environmental permit applications as well as the stormwater discharge permit.*

### **Reconstruction and Expansion of General Aviation Apron, Belfast Municipal Airport, Belfast, Maine**

*Project designer for the reconstruction of the existing 1.6-acre apron and 2.5-acre apron expansion to accommodate a future development consisting of 29 hangars. The project also included upgrades to the drainage system and preparation of state environmental permits.*

David P. Nadeau PE  
Project Manager

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**Reconstruction and Extension of Runway 14-32, Bethel Regional Airport, Bethel, Maine**

*Project engineer responsible for the full-depth reconstruction and 200-foot extension of Runway 14-32. Project included clearing of runway approaches, including wetlands, installation of full perimeter security fence, design of subsurface wastewater treatment facility, and replacement of windsock and segmented circle. Also assisted in the preparation of the Site Location Permit amendment application, which included stormwater analysis as well as an erosion and sedimentation control plan. Additional work included full-time inspecting during construction, and surveying approaches to verify removal of all penetrations. Responsibilities included CAD drafting, preparation of final plans, and details for all work.*

**Reconstruction of Runway 3-21, Knox County Regional Airport, Owls Head, Maine**

*Project engineer responsible for the design of the partial-depth reconstruction of Runway 3-21, which is a 4,000-foot B-II runway. Project duties included topographic survey of site, conceptual and final design, preparation of Pavement Design Report, and various administrative tasks.*

**Reconstruction of Taxiway D, Lawrence Municipal Airport, North Andover, Massachusetts**

*Project engineer responsible for the present and future development drainage analyses for the reconstruction of Taxiway D.*

**Reconstruction of Taxiway F, Worcester Regional Airport, Worcester, Massachusetts**

*Project engineer responsible for the present and future development drainage analyses for the reconstruction of Taxiway F.*

**Reconstruction of Terminal Apron, L.G. Hanscom Field, Bedford, Massachusetts**

*Project engineer responsible for the grading design for the reconstruction of the terminal apron and associated CAD drafting work.*

**Replace Medical Facility, Pease Air National Guard Base, Newington, New Hampshire**

*Project engineer responsible for the grading and storm drain design for the new medical facility site. Also completed and filed the Site Specific Application.*

**Runway 14-32 Repair, Greenville Municipal Airport, Greenville, Maine**

*Project engineer responsible for preparation of the contracts, bidding, and grant paperwork. The project involved minor repairs to runway.*

**T-hangar Development, Bethel Regional Airport, Bethel, Maine**

*Project and resident engineer responsible for the site grading and drainage design for two four-unit T-hangar facilities adjacent to the aircraft parking apron and construction inspection services.*

**Upgrade Aircraft Parking Apron, Pease Air National Guard Base, Newington, New Hampshire**

*Project engineer responsible for the design of the storm drain system, which included use of trench-drains and oil-water separators.*

**Wetland Mitigation Site A, Knox County Regional Airport**

*Project engineer responsible for development of the plans and specifications for the mitigation measures to wetland mitigation site.*

**Mixed-Use**

**Limerick Business Park, Limerick, Maine**

*Project manager/designer for a 1,500 foot access road serving 11 business park lots. Work included conceptual design and environmental permitting for the 11 individual lots. Prepared bid documents in compliance with Community Development Block Grant funding of project.*

**Oxford Hills Business Park Development, Oxford, Maine**

*Project engineer responsible for the topographic survey for the preliminary design of a future commercial business park.*

David P. Nadeau PE

Project Manager

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**Sports, Recreation & Leisure**

Trail and Base Lodge Area Improvements, Big Rock Ski  
Area, Mars Hill, Maine

*Project engineer responsible for the preparation of state  
environmental permit application for the trail and base lodge  
improvements.*

**Urban Land**

Waterville Business Park Subdivision Plan Review,  
Waterville, Maine

*Project engineer responsible for the drainage analysis and  
stormwater management plan of the Waterville Airport Business  
Park Subdivision.  
Also prepared drainage plans and performed associated CAD  
drafting.*

Mr. Cohen has experience with environmental regulations and permitting, as well as conducting field assessments and evaluating natural resources. He acts as a coordinator with various environmental agencies to identify issues of concern and other relevant factors as they relate to Environmental Assessments, Airport Master Plan Updates, and the project planning process.

## EDUCATION

M.S., Resource Management and Administration,  
Antioch New England Graduate School, Keene, New  
Hampshire, 2000

B.A., English, University of Alaska, Anchorage, Alaska,  
1994

Certification of US Army Corps of Engineers Wetland  
Delineation Methodology, University of New  
Hampshire, Durham, New Hampshire, 2005

ACC/ACI - NA/FAA Airport NEPA Training Course,  
FAA's New Order 5050.4B for Airport Actions,  
Alexandria, Virginia, 2006

## PROJECT EXPERIENCE

### Airports & Aviation

#### Airport Master Plan Update, Wiscasset Municipal Airport, Wiscasset, Maine

*Environmental Analyst responsible for preparing environmental review of impacts associated with short-term planning projects for inclusion in the Airport Master Plan Update. Prepared VMP for vegetative obstruction removal project and subsequent vegetation management program implemented by the airport.*

#### Augusta State Airport, Augusta, Maine

*Environmental Analyst responsible for preparing VMP to address vegetative obstructions to protected airspace at the airport. VMP included identification of required easements to remove obstructions located off airport property. VMP also included maintenance strategies intended to prevent vegetation at airport from becoming penetrations at some time in the future. Currently preparing Facility SWPPP in accordance with MPDES permitting requirements.*

#### Biddeford Municipal Airport, Biddeford, Maine

*Senior Environmental Analyst responsible for preparation of a series of environmental review and compliance documents to assist with the management of environmental issues at the airport. These documents included an Environmental Assessment for runway safety area upgrades, Vegetation Management Plan for a proposed vegetative obstruction removal project and the subsequent vegetation management program to be implemented by the airport, and compilation of a SWPPP in accordance with the Maine Pollutant Discharge Elimination System. Also prepared environmental review of impacts associated with short-term planning projects for inclusion in the Airport Master Plan Update.*

#### Central Maine Regional Airport, Norridgewock, Maine

*Prepared an Environmental Assessment for proposed runway safety area improvements, an environmental review of impacts associated with short-term planning projects for inclusion in the Airport Master Plan Update. a Site Location of Development Permit application in accordance with Maine Department of Environmental Protection regulations for upgrades to aircraft apron and taxiway, and Spill Prevention Control and Countermeasure and Stormwater Pollution Prevention plans for the airport.*

#### Dillant-Hopkins Airport

*Environmental Analyst responsible for preparation of a Site Specific Permit application for proposed apron expansion. Prepared Site Specific Permit application and Construction SWPPP for vegetation obstruction removal project. Assisted with the completion of Airport Master Plan Update.*

#### Environmental Assessments for Newport and Block Island Airports, Rhode Island

*Environmental Analyst responsible for assisting in the preparation of the Environmental Assessments for the two airports. Conducted field work involving wetland delineation and Global Positioning System (GPS) wetland mapping.*

**Gregg A. Cohen**  
Senior Environmental Analyst

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**Environmental Permitting and Vegetation Management Plan, L.G. Hanscom Field, Bedford, Massachusetts**

*Environmental Analyst responsible for assisting in the preparation of environmental permits and VMP associated with obstruction removal project. Conducted field work involving GPS wetland mapping and vegetative sample plotting.*

**Houlton International Airport**

*Environmental Analyst responsible for preparing VMP for a proposed vegetative obstruction removal project and the subsequent vegetation management program to be implemented by the airport. Assisted with the preparation of Facility SWPPP for the airport.*

**Integrated Contingency Plan, New Hampshire Army National Guard (Environmental Analyst)**

*Prepared ICPs for five New Hampshire Army National Guard installations. ICPs provide each installation with an emergency spill and contingency response plan intended to reduce the potential of a hazardous material spill and establish appropriate response measures in the event of a release of hazardous materials. The ICP conforms to both New Hampshire State and Federal contingency planning requirements.*

**Knox County Regional Airport Environmental Assessment, Owls Head, Maine**

*Senior Environmental Analyst responsible for preparing an Environmental Assessment for proposed taxiway construction and runway safety area (RSA) improvements. Prepared NRPA and ACOE wetlands permit applications for impacts associated with taxiway consideration and RSA improvements. Prepared Stormwater Pollution Prevention Plan (SWPPP) for the airport in accordance with National Pollutant Discharge Elimination System requirements. The SWPPP presents pollution prevention techniques and best management practices intended to prevent or reduce the discharge of pollutants in stormwater runoff from the facility.*

*Prepared Spill Prevention Control and Countermeasure (SPCC) plan for the airport in accordance with Title 40, Code of Federal Regulations, Part 112. The SPCC was prepared in order to prevent any discharge of oil into or upon navigable waters of the United States or adjoining shorelines.*

**Mt. Washington Regional Airport, Whitefield, New Hampshire**

*Environmental Analyst responsible for preparing Site Specific Permit application in accordance with New Hampshire Department of Environmental Services regulations for proposed runway extension project. Prepared Facility SWPPP for the airport and assisted with the completion of Airport Master Plan Update.*

**Northern Aroostook Regional Airport, Frenchville, Maine (Environmental Analyst)**

*Prepared Facility SWPPP in accordance with MPDES permitting requirements. Prepared SPCC plan for the airport in accordance with Title 40, Code of Federal Regulations, Part 112. The SPCC was prepared in order to prevent any discharge of oil from the facility. Currently assisting with the preparation of a VMP intended to mitigate vegetative obstructions located on and off airport property.*

**Off-Airport Vegetative Obstruction Removal Design, North Central Airport, Smithfield, Rhode Island**

*Senior Environmental Analyst responsible for survey within four parcels off airport property to determine tree top elevations. Evaluated data to determine extent of vegetative obstructions to protected airspace and designed tree clearing project proposing six acres of upland and three acres of wetland vegetation to be removed from the four aviation easement areas. Prepared design plans and construction specifications and submitted to FAA for review and approval.*

**Pease Air National Guard Base, Newington, New Hampshire (Environmental Analyst)**

*Prepared Stormwater Pollution Prevention Plans for Construction Activities in accordance with NPDES permitting requirements for Phases 1 and 2 of a three-phase apron expansion project.*

## Gregg A. Cohen

Senior Environmental Analyst

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### **Runway Extension and Reconstruction, Bethel Regional Airport, Bethel, Maine**

*Environmental Analyst responsible for assisting in preparation of an Environmental Assessment for runway extension and reconstruction project. Prepared Site Location of Development Permit application for runway reconstruction and extension. Prepared Storm Water Pollution Prevention Plan for Construction Activities prior to construction of the project. Prepared Spill Prevention Control and Countermeasures Plan for the airport.*

### **Runway Safety Area Upgrade, Auburn-Lewiston Municipal Airport, Auburn, Maine**

*Environmental Analyst responsible for assisting with the preparation of an Environmental Assessment for runway safety area upgrades. Prepared VMP for vegetative obstruction removal project and subsequent vegetation management program implemented by the airport. Assembled Natural Resources Protection Act (NRPA) Permit application and SWPPP for Construction Activities for RSA upgrade and obstruction removal projects.*

### **Runway Safety Area Upgrade, Belfast Municipal Airport, Belfast, Maine**

*Environmental Analyst responsible for preparing Environmental Assessment for runway safety area upgrades and proposed vegetative obstruction removal project. Assembled NRPA Permit application for wetland impacts associated with RSA upgrade and obstruction removal projects and prepared SWPPP for Construction Activities for RSA upgrade and obstruction removal projects. Currently preparing VMP and SWPPP for the airport.*

### **Vegetation Management Plan/Herbicide Treatment, Lawrence Municipal Airport, North Andover, Massachusetts**

*Senior Environmental Analyst responsible for overseeing selective herbicide treatment of approximately 65 acres of vegetation on airport property. Directed herbicide application crew daily with regard to specific application methodologies within designated vegetation management areas (VMAs) as specified in the airport's VMP prepared by Stantec. Project was completed in a three week period and was the initial treatment in the airport's herbicide management program. Success of eradicating target species will be evaluated in early fall 2008. Results of evaluation will be used to assist with the preparation of the next phase of herbicide management.*

### **Wetland Delineations, US Army Corps of Engineers**

*Environmental Analyst responsible for wetland field delineations conducted in Rhode Island, New Hampshire and Maine. Delineations involved field verification of wetland boundaries, preparing wetland function and value assessments, processing appropriate U.S. Army Corps of Engineers data records and performing GPS mapping of wetland flags.*



A certified Engineer-In-Training, Ms. Tavares has five years experience and is responsible for the coordination and technical support of site engineering projects from initial project formulation through completion of construction. Ms. Tavares has a wide range of project experience but focuses mainly on institutional, commercial, and residential developments.

Ms. Tavares' diverse background in civil engineering includes site engineering, drainage design, hydrology and hydraulics, water resources, sanitary sewer design, and construction phase services. She has been directly involved in bringing projects through local and state permitting agencies, including the Site Plan Approval process with the Boston Water and Sewer Commission.. Ms. Tavares provides her project team with a valuable asset, contributing a full range of civil engineering skills and expertise as well as excellent technological skills. She is proficient in AutoCad 2008, LDD, and HydroCad (stormwater modeling software).

## EDUCATION

BS, Civil Engineering, State University of New York,  
Buffalo, New York, 2003

## PROFESSIONAL ASSOCIATIONS

Member, Boston Society of Civil Engineers Section

## PROJECT EXPERIENCE

### Healthcare

The Mallory Building Renovation, Boston, Massachusetts  
(Project Civil Engineer)

*Civil engineering services for a building which will be renovated into Healthcare for the Homeless. Services include all new utility services for drainage, sewer, gas and electric. Site plan approval was obtained from Boston Water and Sewer Commission.*

### Multi-Unit / Family Residential

Newbridge on the Charles, Dedham, Massachusetts  
(Project Civil Engineer)

*Project includes approximately 165-acres of development. Involved from the early stages of permitting at a local and state level through engineering design and now construction. Currently responsible for the construction administration of site utilities. Responsible for all stormwater calculations, engineering drawings and details, and continued coordination with project team, contractor and municipal parties.*

### Sports, Recreation & Leisure

Cronin Memorial Skating Rink, Revere, Massachusetts  
(Project Civil Engineer)

*Project civil engineer responsible for stormwater management and site utilities design for this full service skating rink overseen by the Department of Conservation and Recreation. Low impact stormwater design included: vegetated water quality swale and sediment forebay, and a limited number of drainage structures.*

Harvard University Stadium, Boston, Massachusetts  
(Project Civil Engineer)

*Project civil engineer responsible for the design of the stormwater management system for the addition of an artificial turf field and seasonal sport bubble. The stormwater management system included the use of subsurface chambers for the storage of runoff.*

Westwood High School Turf Renovation, Westwood, Massachusetts (Project Civil Engineer)

*Project civil engineer responsible for field layout, stormwater management design and specifications for the renovation of an artificial turf field with lighting.*

## **5.0 VISUAL QUALITY AND SCENIC CHARACTER (Site Location Section 6)**

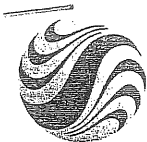
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The proposed improvements will be located adjacent to the existing edge of pavement in a grassed area that slopes down from the parking lot to a brush covered wetland area. The change in elevation is approximately 15 feet. The proposed improvements will require some regrading of the existing slope to construct the dry detention basin. The dry detention basin embankment side slopes will be vegetated in the same manner that exists today. The proposed improvements will not significantly impact the view from off-site properties to the south and east as only the embankment will remain visible. The improvements will only be visible from the north side by users of the parking lot facility when they are adjacent to the detention basin. Therefore, no significant changes to the visual quality or scenic character, as seen from off-site abutting properties are anticipated.

## **6.0 WILDLIFE AND FISHERIES (Site Location Section 7)**

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The proposed drainage improvements are located in an area that was previously disturbed during the original construction of the parking lot in 2001. As such, impacts to protected resources are not anticipated as a result of the current project. The Maine Department of Inland Fisheries and Wildlife (IF&W) was contacted to determine the presence of threatened or endangered species and rare or essential habitat on or within the vicinity of the proposed project location. A copy of the correspondence from Stantec Consulting Services Inc. is included within this section. A copy of the response from IF&W will be forwarded to the Department upon receipt.



**Stantec**

Stantec Consulting Services Inc.  
22 Free Street Suite 205  
Portland ME 04101-3900  
Tel: (207) 775-3211  
Fax: (207) 775-6434

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February 25, 2009

Ms. Judy Walker, Assistant Regional Wildlife Biologist  
Maine Department of Inland Fisheries and Wildlife  
Wildlife Division, Region A  
358 Shaker Road  
Grey, Maine 04039

Dear Ms. Walker:

**Reference: Site Location of Development Permit Application  
Remote Parking Lot - Portland International Jetport  
Portland, Maine**

The Portland International Jetport is in the process of preparing a Site Location of Development permit application for grading and drainage improvements for their remote parking facility located on outer Congress Street (Route 22) in Portland, Maine. The scope of the proposed project includes constructing a stormwater detention pond and water quality units adjacent to the existing edge of pavement at the project site. The area of proposed disturbance was previously filled and graded during the initial construction of the parking lot in 2001. In order to complete the permitting process, we are interested in obtaining information regarding any rare, threatened or endangered species, or exemplary natural communities located on or within the vicinity of this project.

A location map and aerial photo of the site and surrounding area, along with a preliminary site plan of the proposed improvements has been included to assist you in your determination. If you have any questions or require further information, please do not hesitate to contact me. Your time and effort in this matter are greatly appreciated.

Sincerely,

**STANTEC CONSULTING SERVICES INC.**

David P. Nadeau, P.E.  
Project Manager  
Tel: (207) 775-3211  
Fax: (207) 775-6434  
dave.nadeau@stantec.com

Attachment: as stated

c. Mr. Cuyler Feagles - PWM  
Mr. Dwight Anderson - DH

## 7.0 HISTORIC SITES (Site Location Section 8)

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The proposed drainage improvements are located in an area that was previously disturbed during the original construction of the parking lot in 2001. As such, impacts to protected resources are not anticipated as a result of the current project. The Maine Historic Preservation Commission (MHPC) was contacted to determine the presence of any locations of historical, cultural, or archaeological significance within the vicinity of the proposed project. A copy of the response correspondence from MHPC indicating that *"there will be no historic properties affected by the proposed undertaking"* is included within this section.



**Stantec**

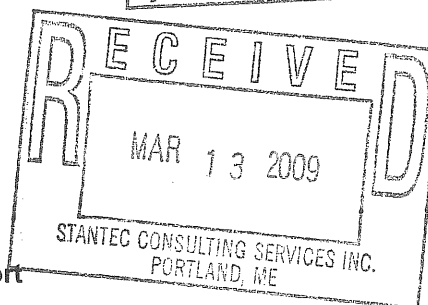
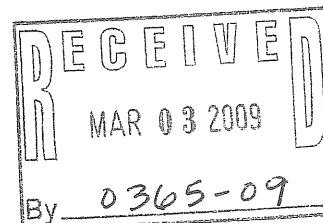
**Stantec Consulting Services Inc.**  
22 Free Street Suite 205  
Portland ME 04101-3900  
Tel: (207) 775-3211  
Fax: (207) 775-6434

February 25, 2009

Mr. Earle G. Shettleworth, Jr., State Historic Preservation Officer  
Maine Historic Preservation Commission  
55 Capitol Street  
65 State House Station  
Augusta, Maine 04333-0065

Dear Mr. Shettleworth:

**Reference: Site Location of Development Permit Application  
Remote Parking Lot - Portland International Jetport  
Portland, Maine**



The Portland International Jetport is in the process of preparing a Site Location of Development permit application for grading and drainage improvements for their remote parking facility located on outer Congress Street (Route 22) in Portland, Maine. The scope of the proposed project includes constructing a stormwater detention pond and water quality units adjacent to the existing edge of pavement at the project site. The area of proposed disturbance was previously filled and graded during the initial construction of the parking lot in 2001. In order to complete the permitting process, we are interested in obtaining information regarding any location of historic, cultural, or archaeological significance on or within the vicinity of this project.

A location map and aerial photo of the site and surrounding area, along with a preliminary site plan of the proposed improvements has been included to assist you in your determination. If you have any questions or require further information, please do not hesitate to contact me. Your time and effort in this matter are greatly appreciated.

Sincerely,

**STANTEC CONSULTING SERVICES INC.**

David P. Nadeau, P.E.  
Project Manager  
Tel: (207) 775-3211  
Fax: (207) 775-6434  
dave.nadeau@stantec.com

Attachment: as stated

c. Mr. Cuyler Feagles - PWM  
Mr. Dwight Anderson - DH

Based on the information submitted, I have concluded that there will be no historic properties affected by the proposed undertaking, as defined by Section 106 of the National Historic Preservation Act. Consequently, pursuant to 36 CFR 800.4(d)(1), no further Section 106 consultation is required unless additional resources are discovered during project implementation pursuant to 36 CFR 800.13.

Kirk F. Mohney,  
Deputy State Historic Preservation Officer  
Maine Historic Preservation Commission

3/11/09  
Date

## 8.0 UNUSUAL NATURAL AREAS (Site Location Section 9)

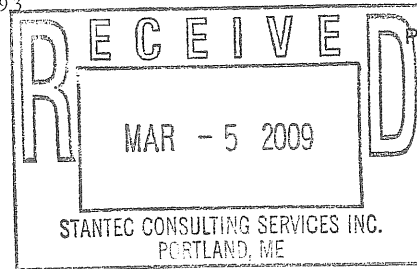
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The proposed drainage improvements are located in an area that was previously disturbed during the original construction of the parking lot in 2001. As such, impacts to protected resources are not anticipated as a result of the current project. The Maine Department of Conservation (DoC) was contacted to determine the presence of rare or unique botanical features on or within the vicinity of the proposed project location. A copy of the response correspondence from DoC indicating that according to their information, *"there are no rare botanical features documented specifically within the project area"* is included within this section.



STATE OF MAINE  
DEPARTMENT OF CONSERVATION  
93 STATE HOUSE STATION  
AUGUSTA, MAINE  
04333-0093

JOHN ELIAS BALDACCI  
GOVERNOR



PATRICK K. MCGOWAN  
COMMISSIONER

March 3, 2009

David Nadeau  
Stantec Consulting Services, Inc  
22 Free Street Suite 205  
Portland, ME 04101-3900

Re: Rare and exemplary botanical features, Portland Jetport remote parking lot improvement, Portland, Maine.

Dear Mr. Nadeau:

I have searched the Natural Areas Program's Biological and Conservation Data System files in response to your request of February 25, 2009 for information on the presence of rare or unique botanical features documented from the vicinity of the project site in the City of Portland, Maine. Rare and unique botanical features include the habitat of rare, threatened, or endangered plant species and unique or exemplary natural communities. Our review involves examining maps, manual and computerized records, other sources of information such as scientific articles or published references, and the personal knowledge of staff or cooperating experts.

Our official response covers only botanical features. For authoritative information and official response for zoological features you must make a similar request to the Maine Department of Inland Fisheries and Wildlife, 284 State Street, Augusta, Maine 04333.

According to the information currently in our Biological and Conservation Data System files, there are no rare botanical features documented specifically within the project area. This lack of data may indicate minimal survey efforts rather than confirm the absence of rare botanical features. You may want to have the site inventoried by a qualified field biologist to ensure that no undocumented rare features are inadvertently harmed.

If a field survey of the project area is conducted, please refer to the enclosed supplemental information regarding rare and exemplary botanical features documented to occur in the vicinity of the project site. The list may include information on features that have been known to occur historically in the area as well as recently field-verified information. While historic records have not been documented in several years, they may persist in the area if suitable habitat exists. The enclosed list identifies features with potential to occur in the area, and it should be considered if you choose to conduct field surveys.



# Rare and Exemplary Botanical Features in the Project Vicinity

3/3/2009

Documented within a Four-Mile Radius of the Proposed Improvements at Portland Jetport Remote Parking, Portland, Maine.

<u>Scientific Name</u>	<u>Common Name</u>	<u>Last Seen</u>	<u>Global Rarity Rank</u>	<u>State Rarity Rank</u>	<u>State Protection Status</u>	<u>Habitat Description</u>
<i>Allium tricoccum</i>	Wild Leek	2006-05-10	G5	S3	SC	Rich hardwood forests, usually alluvial.
<i>Carex polymorpha</i>	Variable Sedge	1911	G3	S1	E	In Maine, habitat is between downslope seeps (with horsetails and wetland sedges) and upslope mixed oak/huckleberry forest. Preferred soil type is Deerfield Loamy Sand.
<i>Carex polymorpha</i>	Variable Sedge	1911-06-29	G3	S1	E	In Maine, habitat is between downslope seeps (with horsetails and wetland sedges) and upslope mixed oak/huckleberry forest. Preferred soil type is Deerfield Loamy Sand.
<i>Selaginella apoda</i>	Creeping Spike-moss	1924-08-20	G5	S2	E	Meadows, lawns, and streambanks.
<i>Selaginella apoda</i>	Creeping Spike-moss	1924-08-21	G5	S2	E	Meadows, lawns, and streambanks.
<i>Zannichellia palustris</i>	Horned Pondweed	1972-06-13	G5	S2	SC	Fresh, brackish or alkaline waters, and stream edges.
<i>Phegopteris hexagonoptera</i>	Broad Beech Fern	1872-08	G5	S2	SC	Rich, often rocky, hardwood forests.

# Rare and Exemplary Botanical Features in the Project Vicinity

3/3/2009

Documented within a Four-Mile Radius of the Proposed Improvements at Portland Jetport Remote Parking, Portland, Maine.

<u>Scientific Name</u>	<u>Last Seen</u>	<u>Global Rarity Rank</u>	<u>State Rarity Rank</u>	<u>State Protection Status</u>	<u>Habitat Description</u>
Suaeda calceoliformis American Sea-blite	1932-09-12	G5	S2	T	Rocky or gravelly saltmarshes and sea-strands.
Ranunculus ambigens Water-plantain Spearwort	1862-08	G4	SH	PE	Sloughs, ditches, and muddy swamps.

### STATE RARITY RANKS

- S1** Critically imperiled in Maine because of extreme rarity (five or fewer occurrences or very few remaining individuals or acres) or because some aspect of its biology makes it especially vulnerable to extirpation from the State of Maine.
- S2** Imperiled in Maine because of rarity (6-20 occurrences or few remaining individuals or acres) or because of other factors making it vulnerable to further decline.
- S3** Rare in Maine (20-100 occurrences).
- S4** Apparently secure in Maine.
- S5** Demonstrably secure in Maine.
- SH** Known historically from the state, not verified in the past 20 years.
- SX** Apparently extirpated from the state, loss of last known occurrence has been documented.
- SU** Under consideration for assigning rarity status; more information needed on threats or distribution.
- S#?** Current occurrence data suggests assigned rank, but lack of survey effort along with amount of potential habitat create uncertainty (e.g. S3?).

**Note:** State Rarity Ranks are determined by the Maine Natural Areas Program.

### GLOBAL RARITY RANKS

- G1** Critically imperiled globally because of extreme rarity (five or fewer occurrences or very few remaining individuals or acres) or because some aspect of its biology makes it especially vulnerable to extinction.
- G2** Globally imperiled because of rarity (6-20 occurrences or few remaining individuals or acres) or because of other factors making it vulnerable to further decline.
- G3** Globally rare (20-100 occurrences).
- G4** Apparently secure globally.
- G5** Demonstrably secure globally.
- GNR** Not yet ranked.

**Note:** Global Ranks are determined by NatureServe.

### STATE LEGAL STATUS

**Note:** State legal status is according to 5 M.R.S.A. § 13076-13079, which mandates the Department of Conservation to produce and biennially update the official list of Maine's **Endangered** and **Threatened** plants. The list is derived by a technical advisory committee of botanists who use data in the Natural Areas Program's database to recommend status changes to the Department of Conservation.

- E** **ENDANGERED**; Rare and in danger of being lost from the state in the foreseeable future; or federally listed as Endangered.
- T** **THREATENED**; Rare and, with further decline, could become endangered; or federally listed as Threatened.

### NON-LEGAL STATUS

- SC** **SPECIAL CONCERN**; Rare in Maine, based on available information, but not sufficiently rare to be considered Threatened or Endangered.
- PE** **Potentially Extirpated**; Species has not been documented in Maine in past 20 years or loss of last known occurrence has been documented.

Visit our website for more information on rare, threatened, and endangered species!  
[http://www.mainenaturalareas.org/docs/rare\\_plants/factsheets.php](http://www.mainenaturalareas.org/docs/rare_plants/factsheets.php)

## **9.0 SOILS (Site Location Section 11)**

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According to the USDA Natural Resources Conservation Service (NRCS) web soil survey for Cumberland County, Maine, the proposed area of disturbance is located on the approximate border between two soil types, classified as Hollis fine sandy loam and Scantic silt loam. Refer to the attached Soil Survey for Cumberland County, Maine.

Hollis soils generally consist of shallow, somewhat excessively drained, moderately coarse textured soils. The soils formed in glacial till and are typically found on uplands in the northern and central parts of the county, and in coastal areas. Depth to bedrock typically ranges from 12 to 18 inches. Permeability is moderately rapid, and available water capacity is low.

Scantic soils consist of deep, nearly level, poorly drained, medium-textured soils that are underlain by fine-textured material. Scantic soils formed in marine and lacustrine sediment. A water table is typically at a depth of one foot for most of the year, and depth to bedrock is five feet or more.

A test pit (TP-1) was conducted in the area of the proposed detention basin to verify the geotechnical conditions at the site (Test Pit Log included in this section). The test pit showed a layer of fill approximately 37 inches in depth over native material. This fill was placed during the original construction of the parking lot in 2001 to provide the required grades. The soils beneath the layer of fill are identified as a silty clay / clay material down to the bottom of the exploration which is in-line with what is typically seen in the lower subsoil and the substratum for Scantic soils.

Mottling was encountered at a depth of approximately 27 inches, which is approximately 2 feet above the bottom of the proposed detention pond. Construction of the detention pond in this area however is not anticipated to have a significant impact on groundwater characteristics. The proposed detention pond will consist of excavating a portion of the existing 3:1 fill slope on the north side, and constructing an embankment on the south side. The bottom of pond will be sloped to drain to the detention pond outlet at a minimum grade of 1.5%. Any groundwater that would potentially seep from the north side slope into the detention pond will be returned to the downstream wetland system at the outlet of the proposed pond.

## MAP LEGEND

<b>Area of Interest (AOI)</b>		
	Area of Interest (AOI)	
<b>Soils</b>		
	Soil Map Units	
<b>Special Point Features</b>		
	Blowout	
	Borrow Pit	
	Clay Spot	
	Closed Depression	
	Gravel Pit	
	Gravelly Spot	
	Landfill	
	Lava Flow	
	Marsh or swamp	
	Mine or Quarry	
	Miscellaneous Water	
	Perennial Water	
	Rock Outcrop	
	Saline Spot	
	Sandy Spot	
	Severely Eroded Spot	
	Sinkhole	
	Slide or Slip	
	Sodic Spot	
	Spoil Area	
	Stony Spot	
<b>Special Line Features</b>		
	Gully	
	Short Steep Slope	
	Other	
<b>Political Features</b>		
	Cities	
<b>Water Features</b>		
	Oceans	
	Streams and Canals	
<b>Transportation</b>		
	Rails	
	Interstate Highways	
	US Routes	
	Major Roads	
	Local Roads	

## MAP INFORMATION

Map Scale: 1:2,410 if printed on B size (11" x 17") sheet.

The soil surveys that comprise your AOI were mapped at 1:24,000. Please rely on the bar scale on each map sheet for accurate map measurements.

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

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

Soil Survey Area: Cumberland County and Part of Oxford County, Maine

Survey Area Data: Version 7, Jan 8, 2009

Date(s) aerial images were photographed: 6/7/1997

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

## Map Unit Legend

Cumberland County and Part of Oxford County, Maine (ME005)			
Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
Bo	Biddeford silt loam	5.0	7.3%
BuB	Buxton silt loam, 3 to 8 percent slopes	1.8	2.7%
BuC2	Buxton silt loam, 8 to 15 percent slopes, eroded	3.4	5.0%
EmB	Elmwood fine sandy loam, 0 to 8 percent slopes	2.2	3.3%
HrB	Hollis fine sandy loam, 3 to 8 percent slopes	4.4	6.5%
HrC	Hollis fine sandy loam, 8 to 15 percent slopes	12.6	18.8%
PbC	Paxton fine sandy loam, 8 to 15 percent slopes	2.1	3.2%
Sn	Scantic silt loam	35.9	53.3%
Totals for Area of Interest		67.4	100.0%

# SUBSURFACE WASTEWATER DISPOSAL SYSTEM APPLICATION

TP-1 C PROPOSED STORM BASIN RETROFIT.

Maine Dept. Health & Human Services  
Division of Environmental Health  
(207) 287-5672 Fax: (207) 287-3165

Town, City, Plantation  
SOUTH PORTLAND, ME  
PORTLAND, INT. JETPORT - OFFSITE PARK LOT

Street, Road, Subdivision  
ROUTE 22.

Owner's Name

P.W.M.

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

Observation Hole TP-1 ☒ Test Pit ☐ Boring  
6" +/- " Depth of Organic Horizon Above Mineral Soil

Texture	Consistency	Color	Mottling
0 coarse silty (stone)	Fri.	OL BR	N/O
10 coarse- med sand.		light ol.	
20			FEW DISTINCT
30 33"	FIRM TO V. FIRM	DK OL BR.	
40 silty clay clay			
50 BEE	96" NO REFUSAL		

Soil Classification 7 C	Slope 33 %	Limiting Factor 27 "	<input checked="" type="checkbox"/> Ground Water <input type="checkbox"/> Restrictive Layer <input type="checkbox"/> Bedrock <input type="checkbox"/> Pit Depth
Profile Condition			

Observation Hole \_\_\_\_\_ ☐ Test Pit ☐ Boring  
" Depth of Organic Horizon Above Mineral Soil

Texture	Consistency	Color	Mottling
0			
10			
20			
30			
40			
50			

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

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

Observation Hole \_\_\_\_\_ ☐ Test Pit ☐ Boring  
" Depth of Organic Horizon Above Mineral Soil

Texture	Consistency	Color	Mottling
0			
10			
20			
30			
40			
50			

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

Observation Hole \_\_\_\_\_ ☐ Test Pit ☐ Boring  
" Depth of Organic Horizon Above Mineral Soil

Texture	Consistency	Color	Mottling
0			
10			
20			
30			
40			
50			

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

*[Signature]*

5340

3/5/09

Site Evaluator Signature

SE #

Date

## SOIL CONDITIONS SUMMARY TABLE

## SUMMARY LOG OF SUBSURFACE EXPLORATIONS AT PROJECT SITES

Project Name:  
Arundel Seasonal Cottage Resort

Applicant Name:  
REM Development, LLC

Project Location (municipality): Route 1, Arundel, Maine
---

[illegible]

## INVESTIGATOR INFORMATION AND SIGNATURE

Signature: Mr. Hunt

Date: 3/5/09

Name Printed/typed: FREDERIC LICHT

Cert/Lic/Reg. #	SE 3170
-----------------	---------

Title: ☒ Licensed Site Evaluator  
☐ Certified Geologist

☐ Certified Soil Scientist  
☒ Other: P.F. # 7069

*affix professional seal*



## 10.0 STORMWATER MANAGEMENT (Site Location Section 12)

---

### 10.1 INTRODUCTION

The project site is located at the Portland International Jetport's remote parking lot on outer Congress Street, in the city of Portland, Cumberland County. The site is approximately 1,600 feet west of Interstate 95, 300 feet north of the South Portland city line, and 2,000 feet east of the Westbrook city line. The site is entered by the access road for the city of Portland's snow dump facility. Refer to Figure 1.1 included in Section 1 of this application for the project location identified on the USGS quadrangle map for Portland - West, Maine.

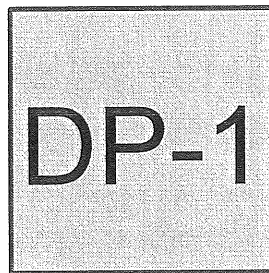
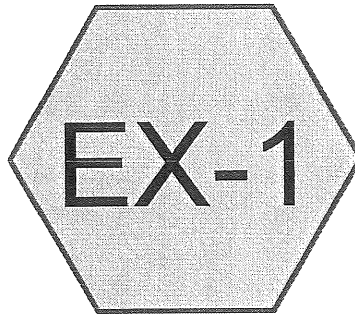
The existing facility consists of a paved automobile parking lot approximately 3.5 acres in size. The development was permitted and constructed in 2001 under permit no. L-13760-18-W-M as a temporary parking facility for use during construction of a parking garage and associated improvements at the Portland International Jetport. It was originally intended that the parking lot would be used to offset the temporary loss in parking capacity during construction of the garage improvements, and then be removed at the completion of the garage project. The site was anticipated to be returned to a natural vegetated condition.

In the ensuing period, there has been additional growth at the Jetport which has required the continued use of the parking lot during peak parking demand periods. The applicant is therefore now proposing to change the status of the lot from temporary to permanent status for continued use as overflow parking. The original development design and permitting completed in 2001 addressed the Site Law standards in effect at the time. Discussions with MDEP staff have indicated that due to the proposed change in status of the facility, the current standards for Site Law, specifically the changes to Chapter 500 Stormwater Management must now be addressed.

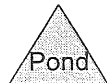
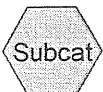
### 10.2 ORIGINAL TEMPORARY PARKING LOT

According to MDEP's stormwater standards in effect during the original permitting of the facility, stormwater quality standards were required to be met if a project included 20,000 square feet or more of impervious area or 5 acres or more of disturbed area in the direct watershed of a waterbody most at risk from new development. The parking lot included approximately 3.5 acres of impervious area and was therefore required to meet the sliding scale total suspended solids (TSS) standard.

To achieve the TSS removal, a vegetated swale and stormwater quality treatment unit was installed. Currently, stormwater from the temporary lot sheet flows across the parking lot to the swale along the east and south sides of the lot. The swale conveys the stormwater to a series of catch basins located along the swale flow path. The catch basins are connected with an 18" diameter drainage pipe which conveys runoff into a stormwater quality treatment unit. The unit installed was manufactured by Vortechs, model 16000. Stormwater is discharged from the Vortechs unit to a stone apron and sheet flows across approximately 50 feet of vegetated terrain



## Existing Wetland Culvert



### Drainage Diagram for ex-cond

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ex-cond

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Type III 24-hr 2 Year Rainfall=3.18"

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Page 2

### Summary for Subcatchment EX-1:

Runoff = 12.50 cfs @ 12.30 hrs, Volume= 1.375 af, Depth> 1.19"

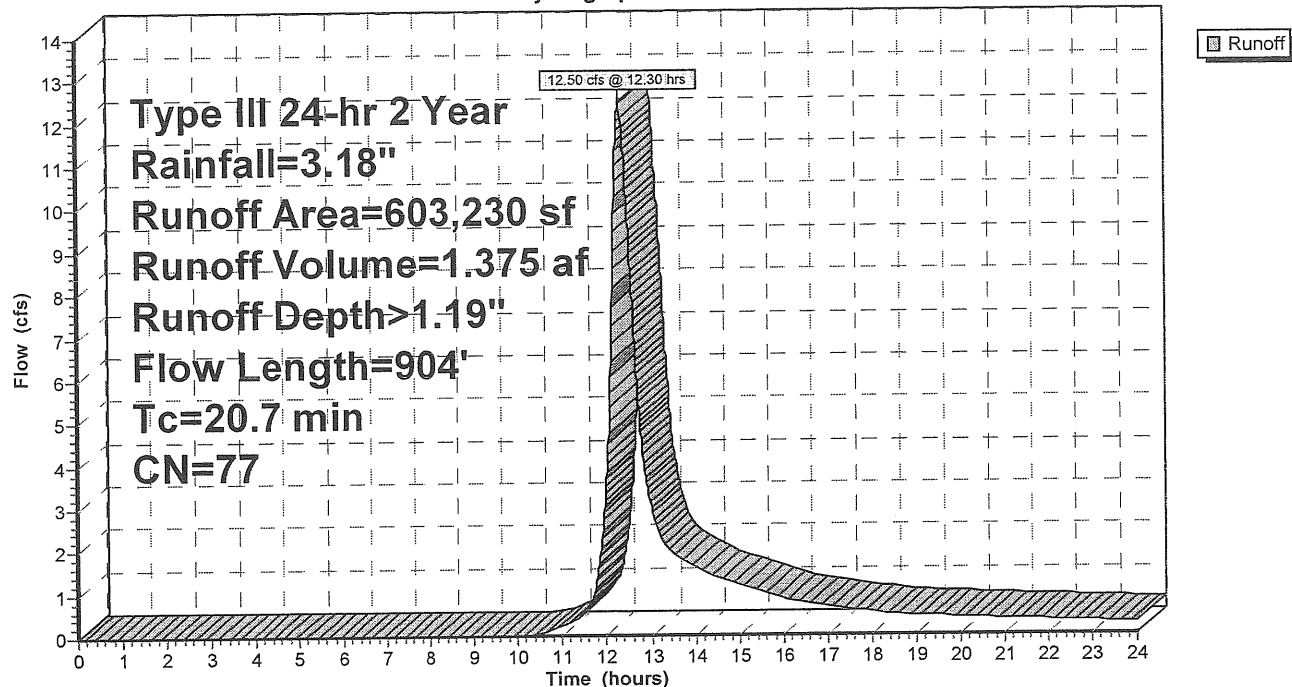
Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs  
Type III 24-hr 2 Year Rainfall=3.18"

Area (sf)	CN	Description
* 4,921	98	Impervious (existing road), HSG D
* 5,801	91	Gravel roads (existing), HSG D
357,905	77	Brush, Fair, HSG D
* 234,603	77	Wetlands with brush cover, Fair, HSG D
603,230	77	Weighted Average
598,309		Pervious Area
4,921		Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.7	150	0.0365	0.23		Sheet Flow, A-B
					Grass: Short n= 0.150 P2= 3.18"
10.0	754	0.0325	1.26		Shallow Concentrated Flow, B-C
					Short Grass Pasture Kv= 7.0 fps
20.7	904	Total			

### Subcatchment EX-1:

Hydrograph



ex-cond

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Type III 24-hr 2 Year Rainfall=3.18"

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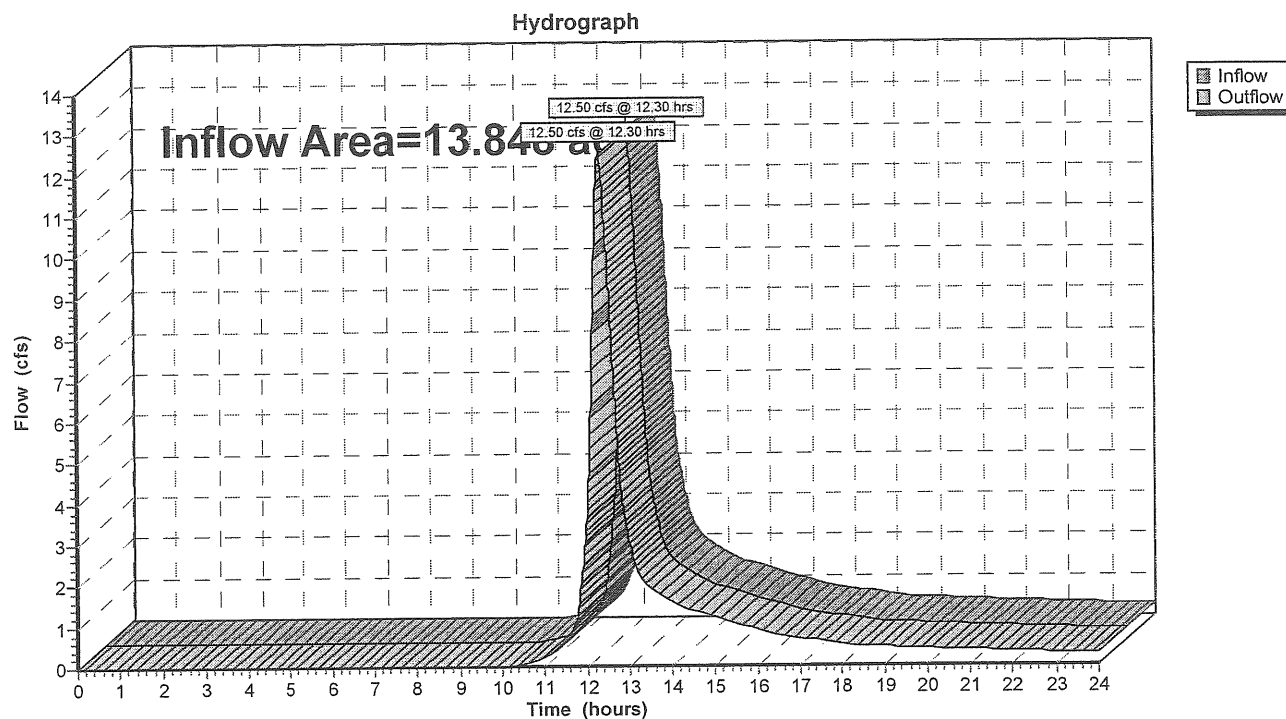
Page 3

### Summary for Reach DP-1: Existing Wetland Culvert

Inflow Area = 13.848 ac, 0.82% Impervious, Inflow Depth > 1.19" for 2 Year event  
Inflow = 12.50 cfs @ 12.30 hrs, Volume= 1.375 af  
Outflow = 12.50 cfs @ 12.30 hrs, Volume= 1.375 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

### Reach DP-1: Existing Wetland Culvert



ex-cond

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Type III 24-hr 10 Year Rainfall=4.37"

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Page 4

### Summary for Subcatchment EX-1:

Runoff = 22.58 cfs @ 12.30 hrs, Volume= 2.419 af, Depth> 2.10"

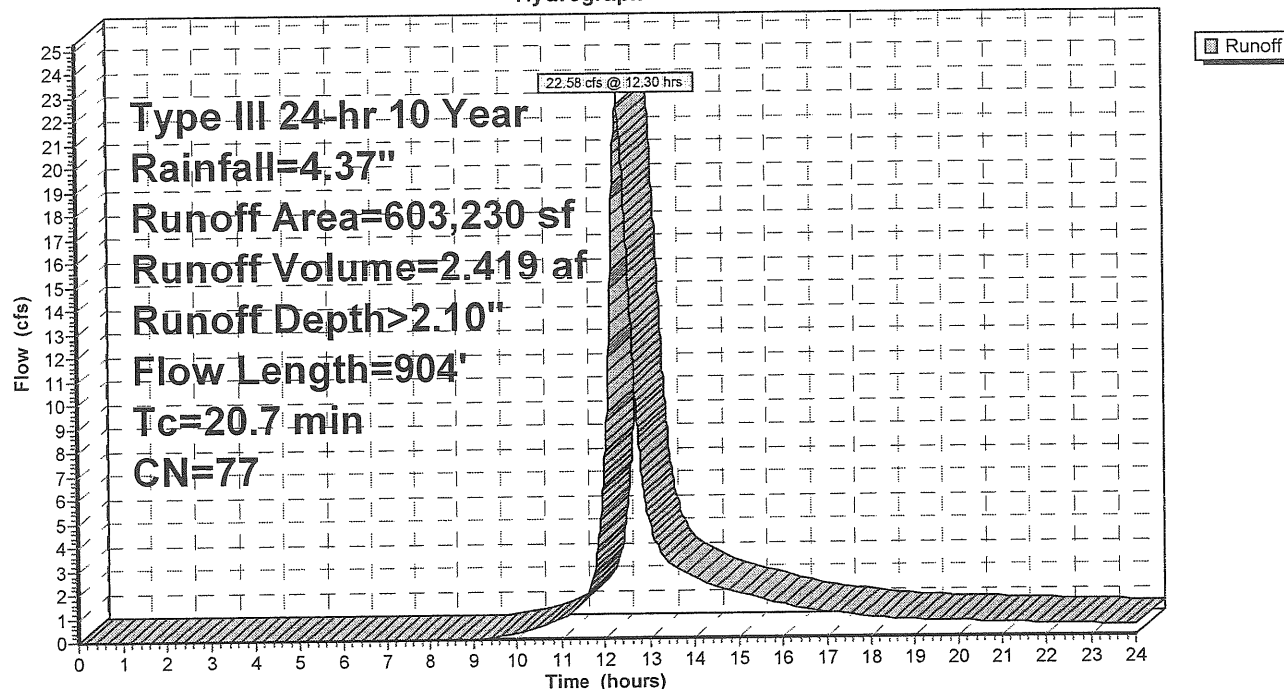
Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs  
Type III 24-hr 10 Year Rainfall=4.37"

	Area (sf)	CN	Description
*	4,921	98	Impervious (existing road), HSG D
*	5,801	91	Gravel roads (existing), HSG D
	357,905	77	Brush, Fair, HSG D
*	234,603	77	Wetlands with brush cover, Fair, HSG D
	603,230	77	Weighted Average
	598,309		Pervious Area
	4,921		Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.7	150	0.0365	0.23		<b>Sheet Flow, A-B</b> Grass: Short n= 0.150 P2= 3.18"
10.0	754	0.0325	1.26		<b>Shallow Concentrated Flow, B-C</b> Short Grass Pasture Kv= 7.0 fps
20.7	904	Total			

### Subcatchment EX-1:

Hydrograph



ex-cond

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Type III 24-hr 10 Year Rainfall=4.37"

Printed 3/25/2009

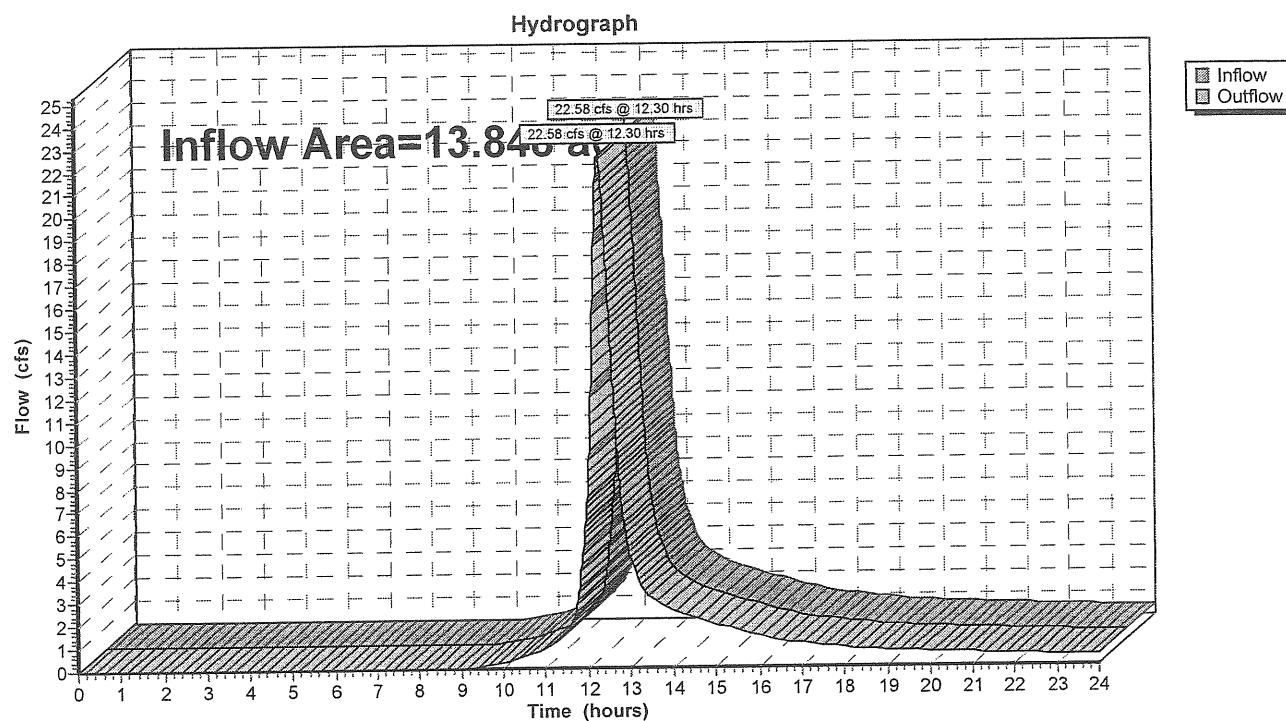
Page 5

### Summary for Reach DP-1: Existing Wetland Culvert

Inflow Area = 13.848 ac, 0.82% Impervious, Inflow Depth > 2.10" for 10 Year event  
Inflow = 22.58 cfs @ 12.30 hrs, Volume= 2.419 af  
Outflow = 22.58 cfs @ 12.30 hrs, Volume= 2.419 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

### Reach DP-1: Existing Wetland Culvert



ex-cond

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Type III 24-hr 25 Year Rainfall=5.08"

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Page 6

### Summary for Subcatchment EX-1:

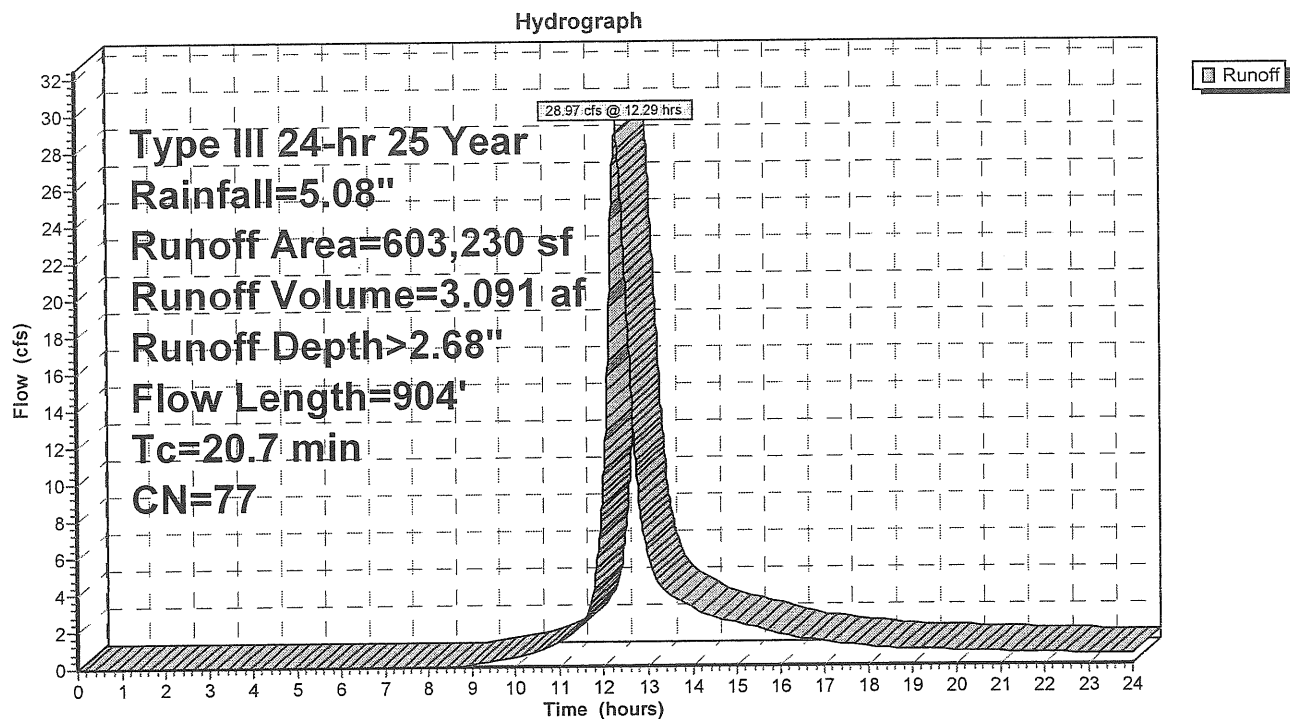
Runoff = 28.97 cfs @ 12.29 hrs, Volume= 3.091 af, Depth> 2.68"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs  
Type III 24-hr 25 Year Rainfall=5.08"

	Area (sf)	CN	Description
*	4,921	98	Impervious (existing road), HSG D
*	5,801	91	Gravel roads (existing), HSG D
	357,905	77	Brush, Fair, HSG D
*	234,603	77	Wetlands with brush cover, Fair, HSG D
	603,230	77	Weighted Average
	598,309		Pervious Area
	4,921		Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.7	150	0.0365	0.23		Sheet Flow, A-B
					Grass: Short n= 0.150 P2= 3.18"
10.0	754	0.0325	1.26		Shallow Concentrated Flow, B-C
					Short Grass Pasture Kv= 7.0 fps
20.7	904	Total			

### Subcatchment EX-1:





ex-cond

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Type III 24-hr 25 Year Rainfall=5.08"

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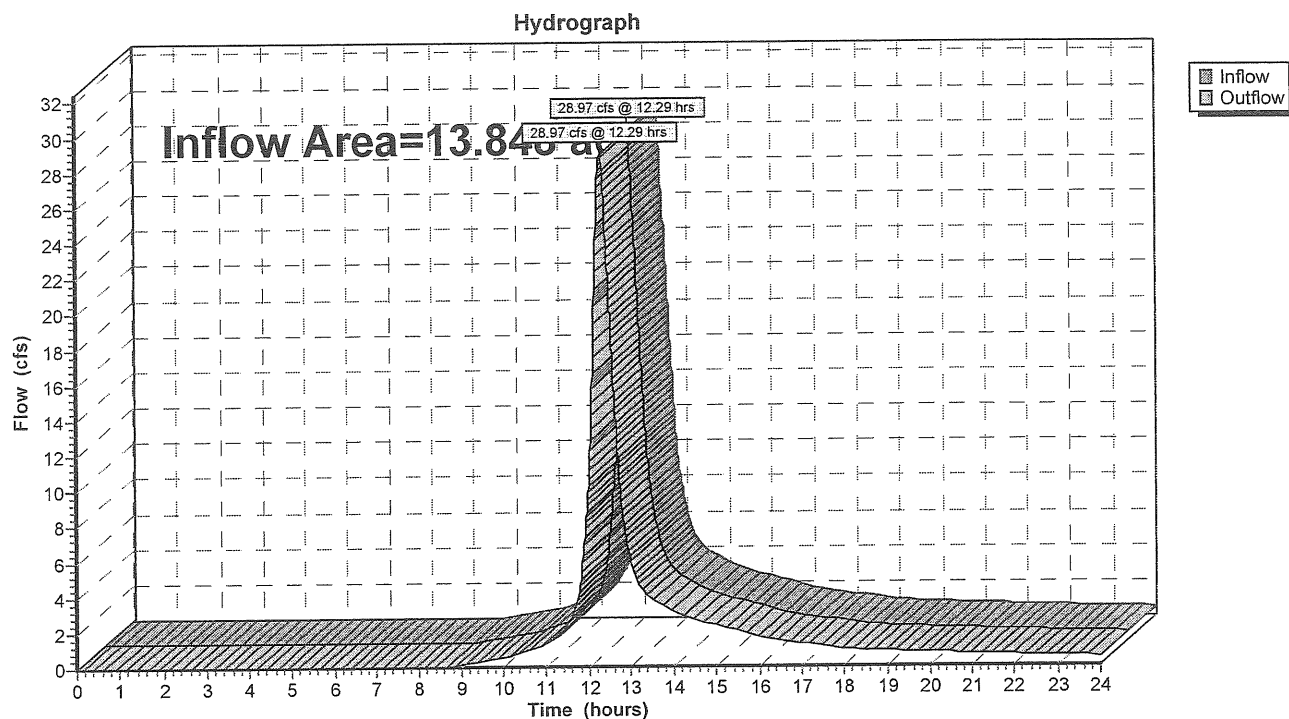
Page 7

### Summary for Reach DP-1: Existing Wetland Culvert

Inflow Area = 13.848 ac, 0.82% Impervious, Inflow Depth > 2.68" for 25 Year event  
Inflow = 28.97 cfs @ 12.29 hrs, Volume= 3.091 af  
Outflow = 28.97 cfs @ 12.29 hrs, Volume= 3.091 af, Atten= 0%, Lag= 0.0 min

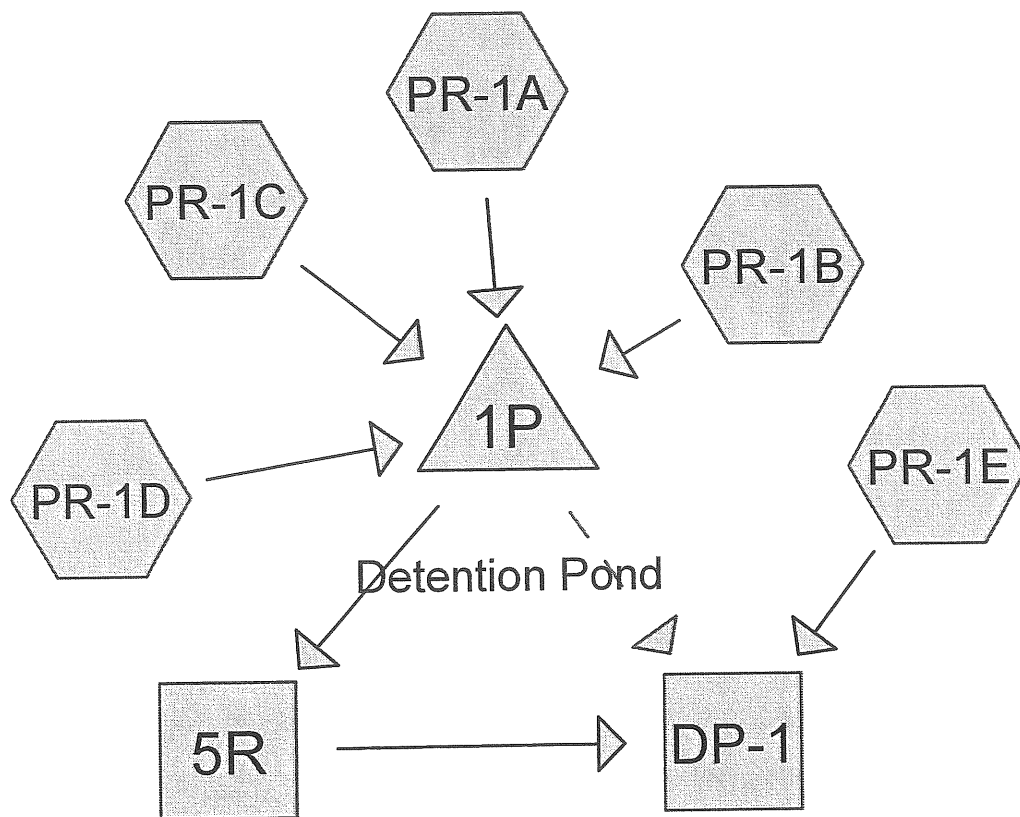
Routing by Stor-Ind+Trans method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

### Reach DP-1: Existing Wetland Culvert

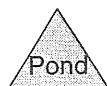
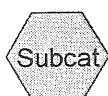




POST-DEVELOPMENT CONDITIONS  
STORMWATER CALCULATIONS



Storm Treat Systems Existing Wetland Culvert



Drainage Diagram for prop-cond

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prop-cond

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Type III 24-hr 2 Year Rainfall=3.18"

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Page 2

### Summary for Subcatchment PR-1A:

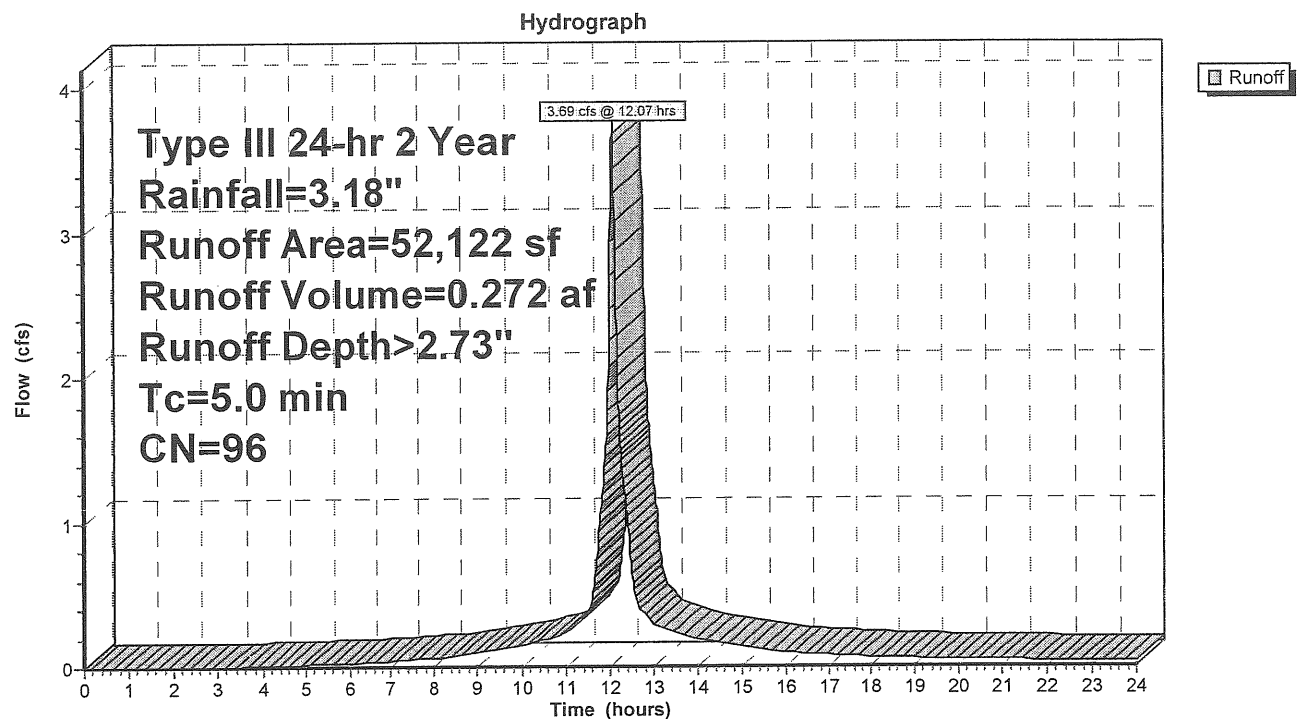
Runoff = 3.69 cfs @ 12.07 hrs, Volume= 0.272 af, Depth> 2.73"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs  
Type III 24-hr 2 Year Rainfall=3.18"

	Area (sf)	CN	Description
*	47,718	98	Impervious Parking Lot, HSG D
	4,404	80	>75% Grass cover, Good, HSG D
	52,122	96	Weighted Average
	4,404		Pervious Area
	47,718		Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry, Min. Value

### Subcatchment PR-1A:



**prop-cond**

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Type III 24-hr 2 Year Rainfall=3.18"

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Page 3

**Summary for Subcatchment PR-1B:**

Runoff = 7.83 cfs @ 12.09 hrs, Volume= 0.604 af, Depth&gt; 2.62"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

Type III 24-hr 2 Year Rainfall=3.18"

	Area (sf)	CN	Description
*	102,680	98	Impervious Parking Lot, HSG D
*	13,217	78	Vegetated Swale, HSG D
	4,492	80	>75% Grass cover, Good, HSG D
	120,389	95	Weighted Average
	17,709		Pervious Area
	102,680		Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.2	150	0.0100	1.13		<b>Sheet Flow, A-B</b> Smooth surfaces n= 0.011 P2= 3.18"
1.7	337	0.0250	3.21		<b>Shallow Concentrated Flow, B-C</b> Paved Kv= 20.3 fps
0.1	18	0.3000	3.83		<b>Shallow Concentrated Flow, C-D</b> Short Grass Pasture Kv= 7.0 fps
1.6	143	0.0100	1.50		<b>Shallow Concentrated Flow, D-E</b> Grassed Waterway Kv= 15.0 fps
1.2	325	0.0040	4.44	7.85	<b>Circular Channel (pipe), E-F</b> Diam= 18.0" Area= 1.8 sf Perim= 4.7' r= 0.38' n= 0.011 PVC, smooth interior
6.8	973	Total			

prop-cond

Prepared by Stantec Consulting Services Inc.

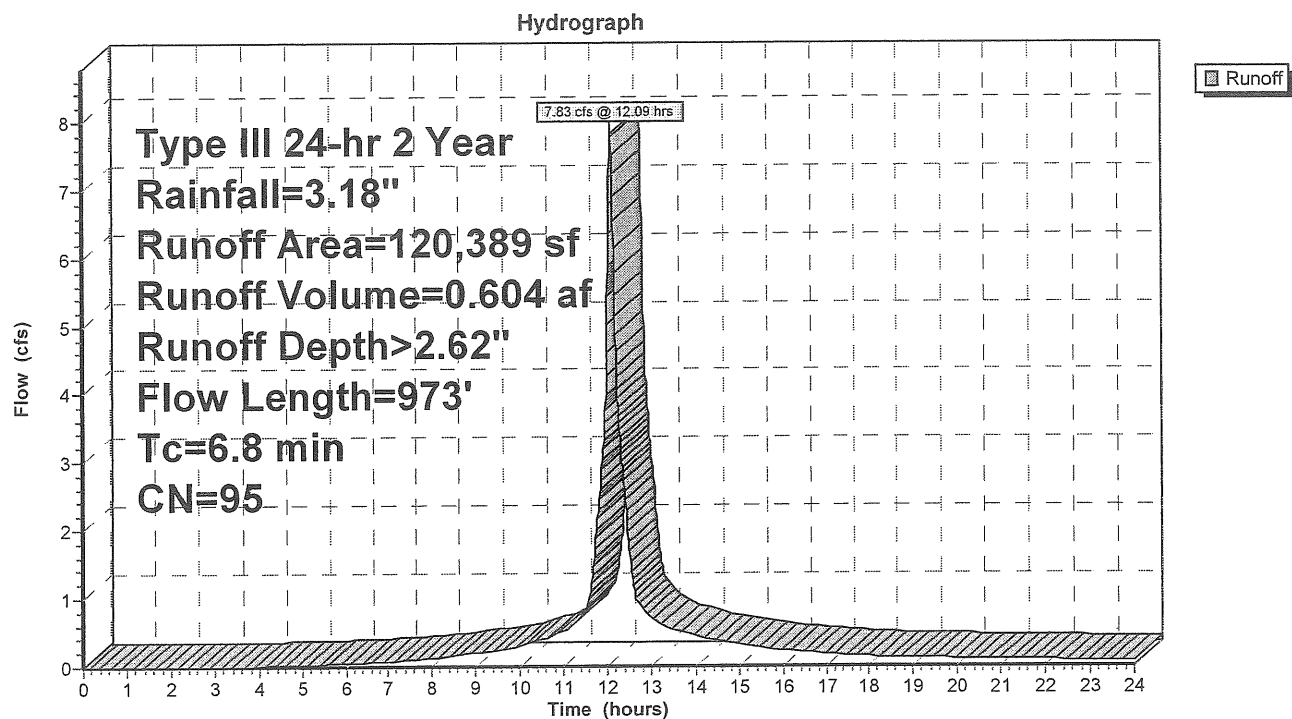
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Type III 24-hr 2 Year Rainfall=3.18"

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Page 4

### Subcatchment PR-1B:



**prop-cond**

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Type III 24-hr 2 Year Rainfall=3.18"

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Page 5

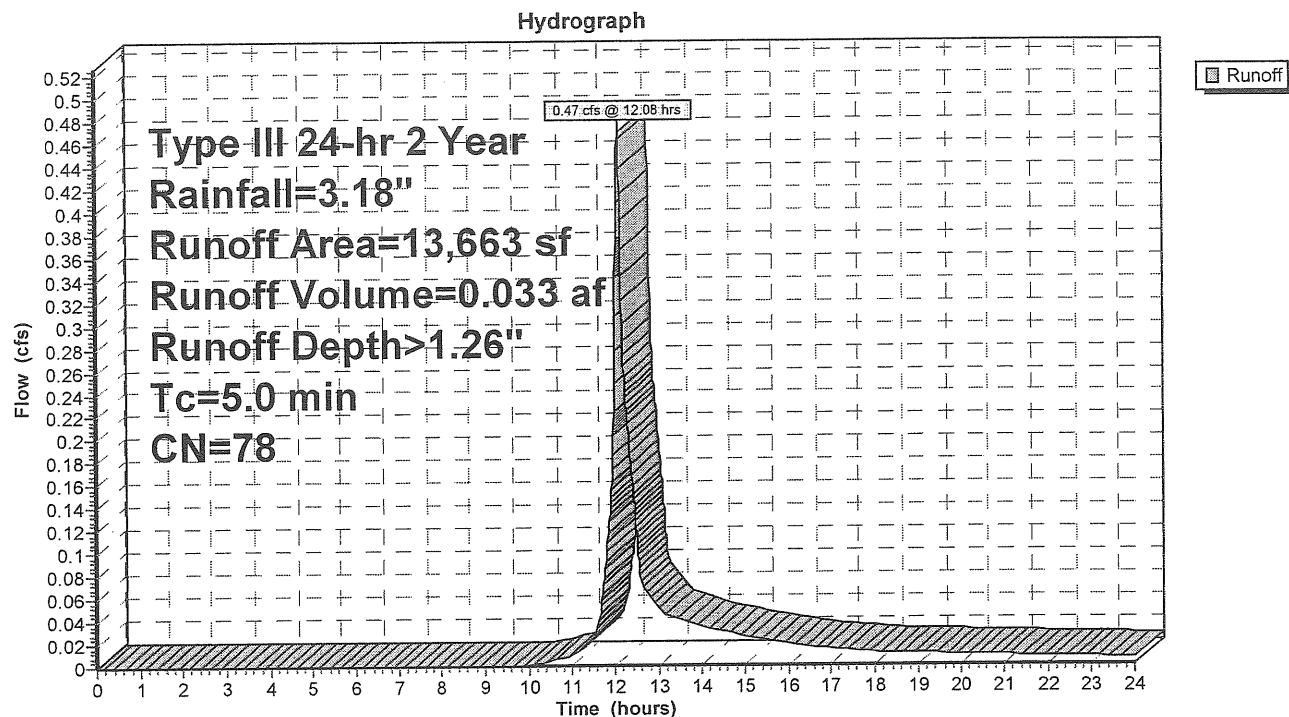
**Summary for Subcatchment PR-1C:**

Runoff = 0.47 cfs @ 12.08 hrs, Volume= 0.033 af, Depth&gt; 1.26"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs  
Type III 24-hr 2 Year Rainfall=3.18"

	Area (sf)	CN	Description
*	13,663	78	Detention Basin, HSG D
	13,663		Pervious Area

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

**Subcatchment PR-1C:**

**prop-cond**

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Type III 24-hr 2 Year Rainfall=3.18"

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Page 6

**Summary for Subcatchment PR-1D:**

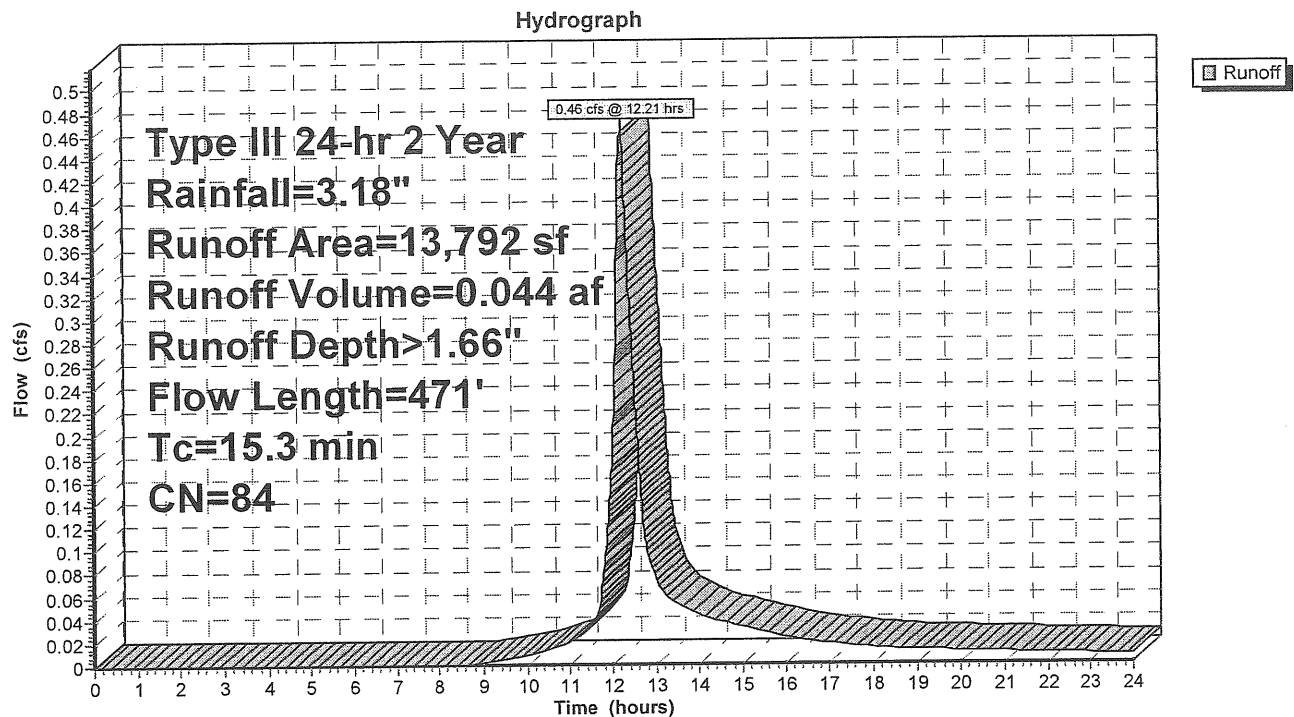
Runoff = 0.46 cfs @ 12.21 hrs, Volume= 0.044 af, Depth&gt; 1.66"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs  
Type III 24-hr 2 Year Rainfall=3.18"

	Area (sf)	CN	Description
*	4,921	98	Impervious (existing access road)
*	8,871	77	Brush, Fair, HSG D
	13,792	84	Weighted Average
	8,871		Pervious Area
	4,921		Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
13.6	150	0.0200	0.18		Sheet Flow, A-B Grass: Short n= 0.150 P2= 3.18"
1.7	321	0.0450	3.18		Shallow Concentrated Flow, B-C Grassed Waterway Kv= 15.0 fps
15.3	471				Total

**Subcatchment PR-1D:**

**prop-cond**

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Type III 24-hr 2 Year Rainfall=3.18"

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Page 7

**Summary for Subcatchment PR-1E:**

Runoff = 7.14 cfs @ 12.44 hrs, Volume= 0.917 af, Depth&gt; 1.19"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs  
Type III 24-hr 2 Year Rainfall=3.18"

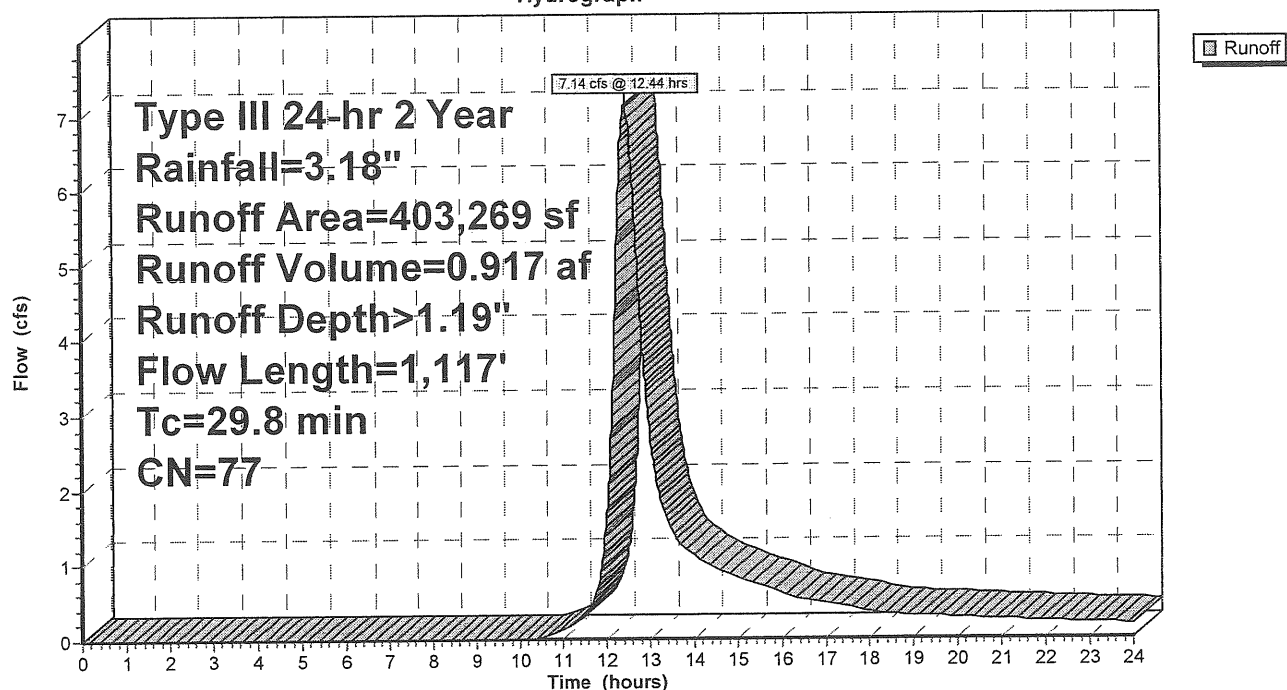
	Area (sf)	CN	Description
*	5,801	91	Gravel roads (existing), HSG D
	162,865	77	Brush, Fair, HSG D
*	234,603	77	Wetlands with brush cover, Fair, HSG D
	403,269	77	Weighted Average
	403,269		Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
13.9	150	0.0190	0.18		<b>Sheet Flow, A-B</b> Grass: Short n= 0.150 P2= 3.18"
5.5	293	0.0160	0.89		<b>Shallow Concentrated Flow, B-C</b> Short Grass Pasture Kv= 7.0 fps
10.4	674	0.0240	1.08		<b>Shallow Concentrated Flow, C-D</b> Short Grass Pasture Kv= 7.0 fps
29.8	1,117				<b>Total</b>

**Subcatchment PR-1E:**

Hydrograph





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Type III 24-hr 2 Year Rainfall=3.18"

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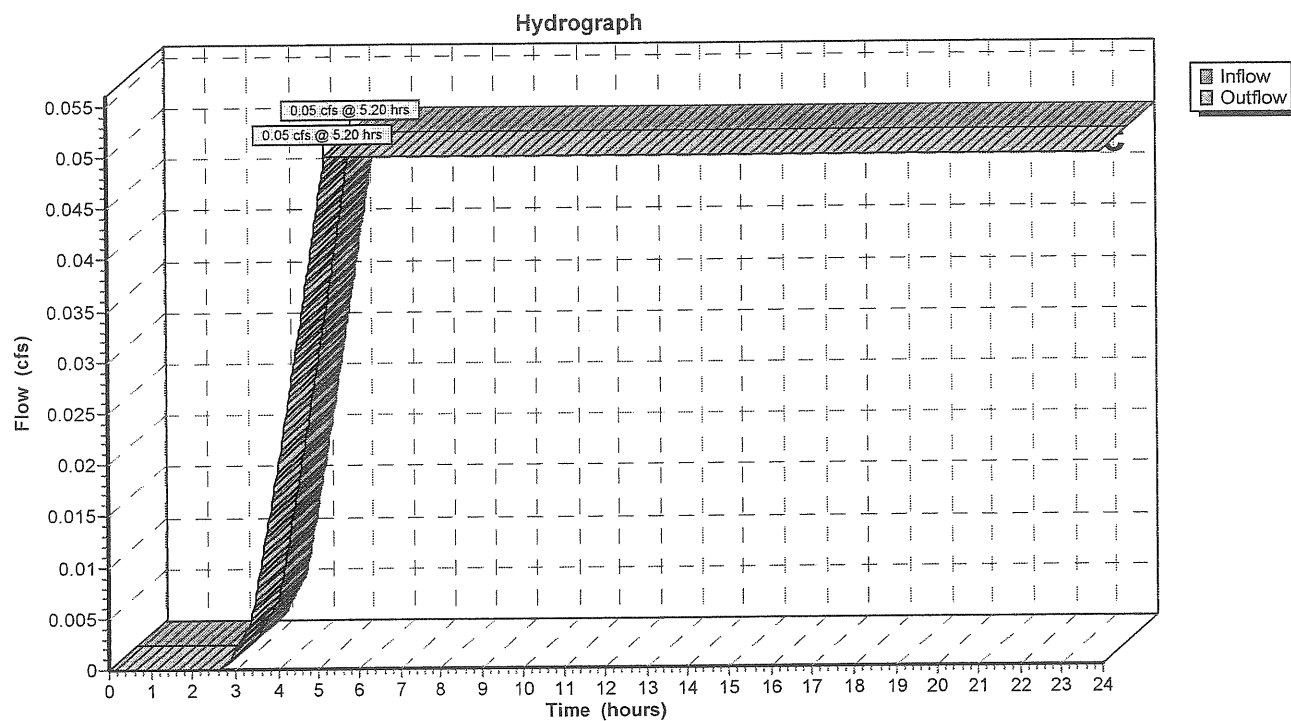
Page 8

### Summary for Reach 5R: Storm Treat Systems

Inflow Area = 4.591 ac, 77.67% Impervious, Inflow Depth > 0.21" for 2 Year event  
Inflow = 0.05 cfs @ 5.20 hrs, Volume= 0.082 af  
Outflow = 0.05 cfs @ 5.20 hrs, Volume= 0.082 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

### Reach 5R: Storm Treat Systems

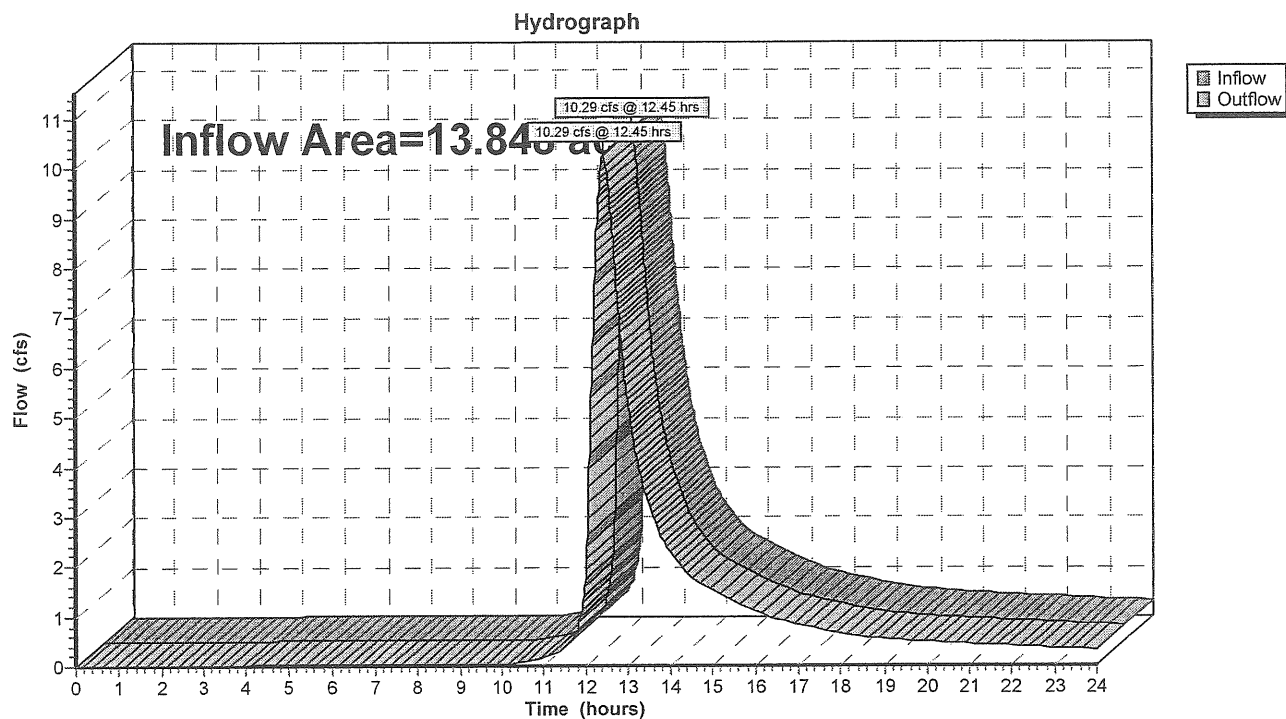


### Summary for Reach DP-1: Existing Wetland Culvert

Inflow Area = 13.848 ac, 25.75% Impervious, Inflow Depth > 1.38" for 2 Year event  
Inflow = 10.29 cfs @ 12.45 hrs, Volume= 1.594 af  
Outflow = 10.29 cfs @ 12.45 hrs, Volume= 1.594 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

### Reach DP-1: Existing Wetland Culvert



**Summary for Pond 1P: Detention Pond**

Inflow Area = 4.591 ac, 77.67% Impervious, Inflow Depth > 2.49" for 2 Year event  
 Inflow = 12.18 cfs @ 12.09 hrs, Volume= 0.953 af  
 Outflow = 3.16 cfs @ 12.47 hrs, Volume= 0.677 af, Atten= 74%, Lag= 23.3 min  
 Primary = 0.05 cfs @ 5.20 hrs, Volume= 0.082 af  
 Secondary = 3.11 cfs @ 12.47 hrs, Volume= 0.595 af

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs  
 Peak Elev= 89.39' @ 12.47 hrs Surf.Area= 7,962 sf Storage= 19,993 cf

Plug-Flow detention time= 175.8 min calculated for 0.677 af (71% of inflow)  
 Center-of-Mass det. time= 85.0 min ( 868.7 - 783.7 )

Volume	Invert	Avail.Storage	Storage Description
#1	85.40'	40,415 cf	<b>Custom Stage Data (Prismatic)</b> Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
85.40	125	0	0
86.00	1,683	542	542
87.00	5,253	3,468	4,010
88.00	6,565	5,909	9,919
88.20	6,773	1,334	11,253
89.00	7,567	5,736	16,989
90.00	8,589	8,078	25,067
91.00	9,787	9,188	34,255
91.61	10,408	6,159	40,415

Device	Routing	Invert	Outlet Devices
#1	Secondary	90.00'	<b>5.0' long x 8.0' breadth Broad-Crested Rectangular Weir</b> 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 4.00 4.50 5.00 5.50 Coef. (English) 2.43 2.54 2.70 2.69 2.68 2.68 2.66 2.64 2.64 2.64 2.65 2.65 2.66 2.66 2.68 2.70 2.74
#2	Primary	85.40'	<b>0.05 cfs To StormTreat Systems at all elevations</b>
#3	Secondary	85.00'	<b>18.0" x 29.0' long Culvert</b> CPP, square edge headwall, Ke= 0.500 Outlet Invert= 83.90' S= 0.0379 ' /' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior
#4	Device 3	88.20'	<b>8.0" Vert. Orifice/Grate X 2.00</b> C= 0.600

**Primary OutFlow** Max=0.05 cfs @ 5.20 hrs HW=85.46' (Free Discharge)  
 ↳ **2=To StormTreat Systems** (Exfiltration Controls 0.05 cfs)

**Secondary OutFlow** Max=3.11 cfs @ 12.47 hrs HW=89.39' (Free Discharge)  
 ↳ **1=Broad-Crested Rectangular Weir** ( Controls 0.00 cfs)  
 ↳ **3=Culvert** (Passes 3.11 cfs of 16.23 cfs potential flow)  
 ↳ **4=Orifice/Grate** (Orifice Controls 3.11 cfs @ 4.45 fps)

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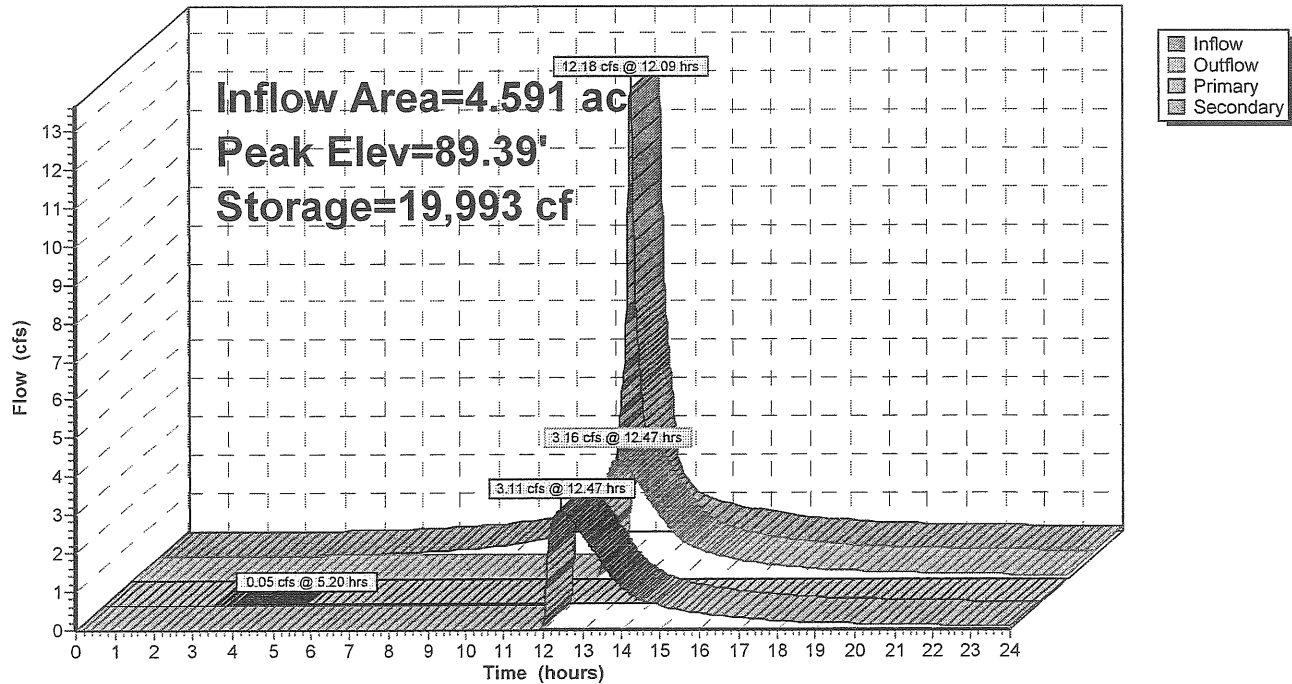
Type III 24-hr 2 Year Rainfall=3.18"

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## Pond 1P: Detention Pond

Hydrograph



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Type III 24-hr 10 Year Rainfall=4.37"

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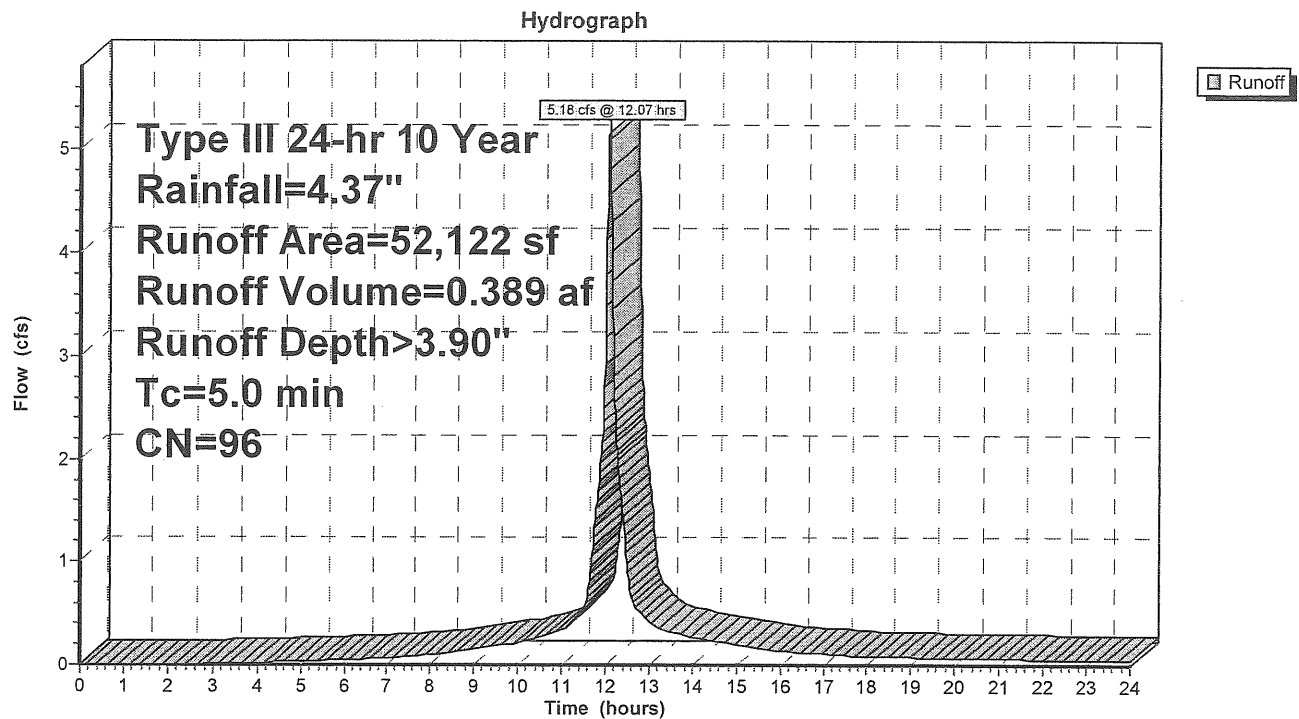
**Summary for Subcatchment PR-1A:**

Runoff = 5.18 cfs @ 12.07 hrs, Volume= 0.389 af, Depth&gt; 3.90"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs  
Type III 24-hr 10 Year Rainfall=4.37"

	Area (sf)	CN	Description
*	47,718	98	Impervious Parking Lot, HSG D
	4,404	80	>75% Grass cover, Good, HSG D
	52,122	96	Weighted Average
	4,404		Pervious Area
	47,718		Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry, Min. Value

**Subcatchment PR-1A:**

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Type III 24-hr 10 Year Rainfall=4.37"

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**Summary for Subcatchment PR-1B:**

Runoff = 11.08 cfs @ 12.09 hrs, Volume= 0.873 af, Depth&gt; 3.79"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs  
Type III 24-hr 10 Year Rainfall=4.37"

	Area (sf)	CN	Description
*	102,680	98	Impervious Parking Lot, HSG D
*	13,217	78	Vegetated Swale, HSG D
	4,492	80	>75% Grass cover, Good, HSG D
	120,389	95	Weighted Average
	17,709		Pervious Area
	102,680		Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.2	150	0.0100	1.13		<b>Sheet Flow, A-B</b> Smooth surfaces n= 0.011 P2= 3.18"
1.7	337	0.0250	3.21		<b>Shallow Concentrated Flow, B-C</b> Paved Kv= 20.3 fps
0.1	18	0.3000	3.83		<b>Shallow Concentrated Flow, C-D</b> Short Grass Pasture Kv= 7.0 fps
1.6	143	0.0100	1.50		<b>Shallow Concentrated Flow, D-E</b> Grassed Waterway Kv= 15.0 fps
1.2	325	0.0040	4.44	7.85	<b>Circular Channel (pipe), E-F</b> Diam= 18.0" Area= 1.8 sf Perim= 4.7' r= 0.38' n= 0.011 PVC, smooth interior
6.8	973	Total			

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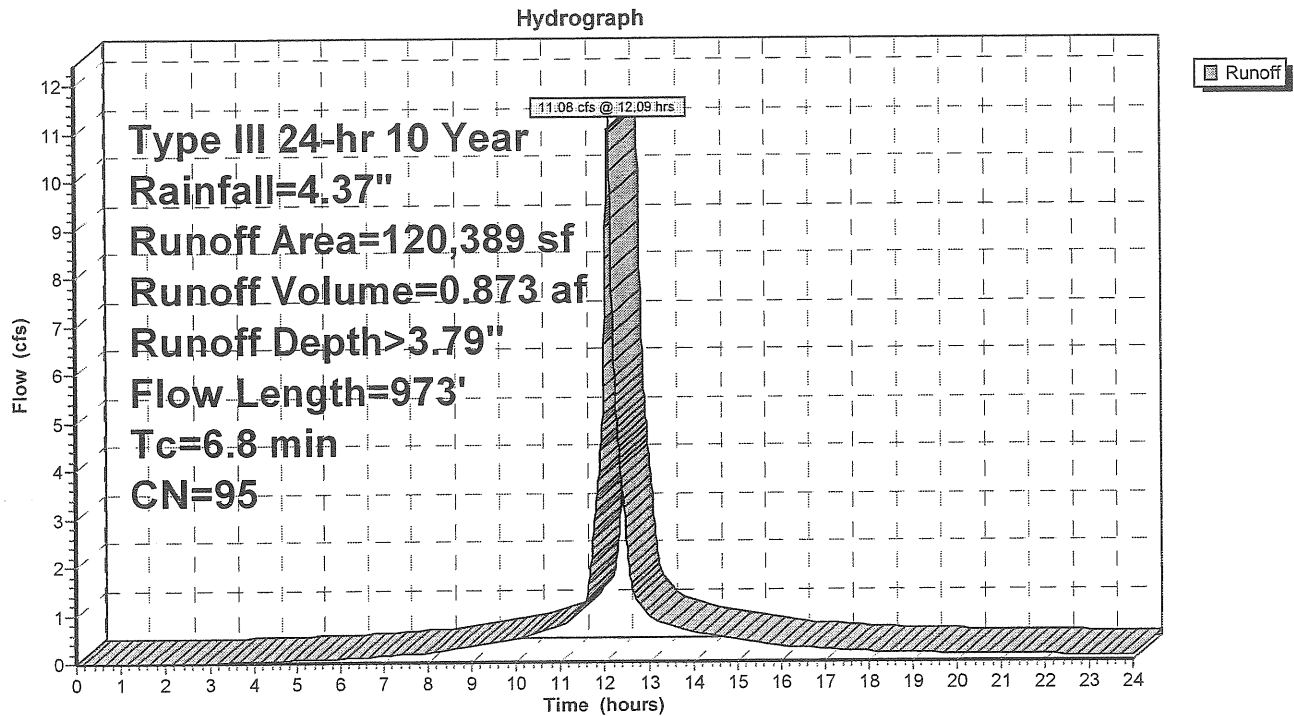
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Type III 24-hr 10 Year Rainfall=4.37"

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### Subcatchment PR-1B:



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Type III 24-hr 10 Year Rainfall=4.37"

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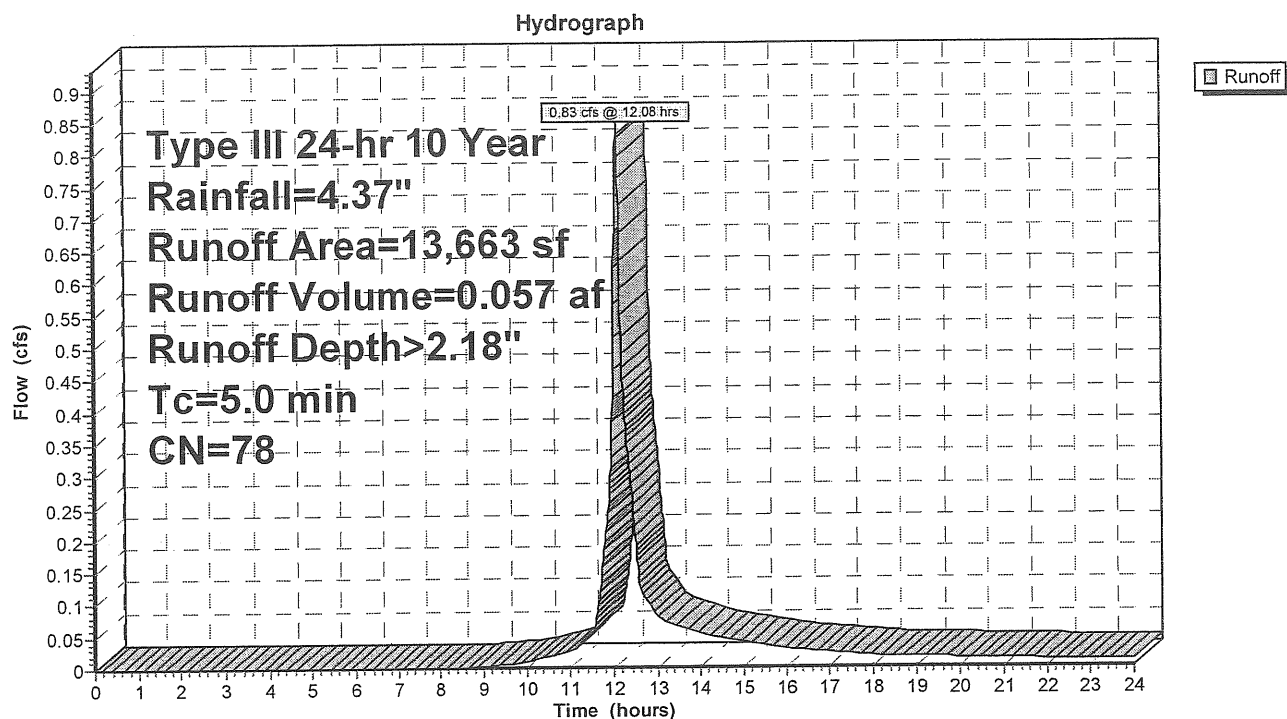
**Summary for Subcatchment PR-1C:**

Runoff = 0.83 cfs @ 12.08 hrs, Volume= 0.057 af, Depth&gt; 2.18"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs  
Type III 24-hr 10 Year Rainfall=4.37"

	Area (sf)	CN	Description
*	13,663	78	Detention Basin, HSG D
	13,663		Pervious Area

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

**Subcatchment PR-1C:**



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Type III 24-hr 10 Year Rainfall=4.37"

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**Summary for Subcatchment PR-1D:**

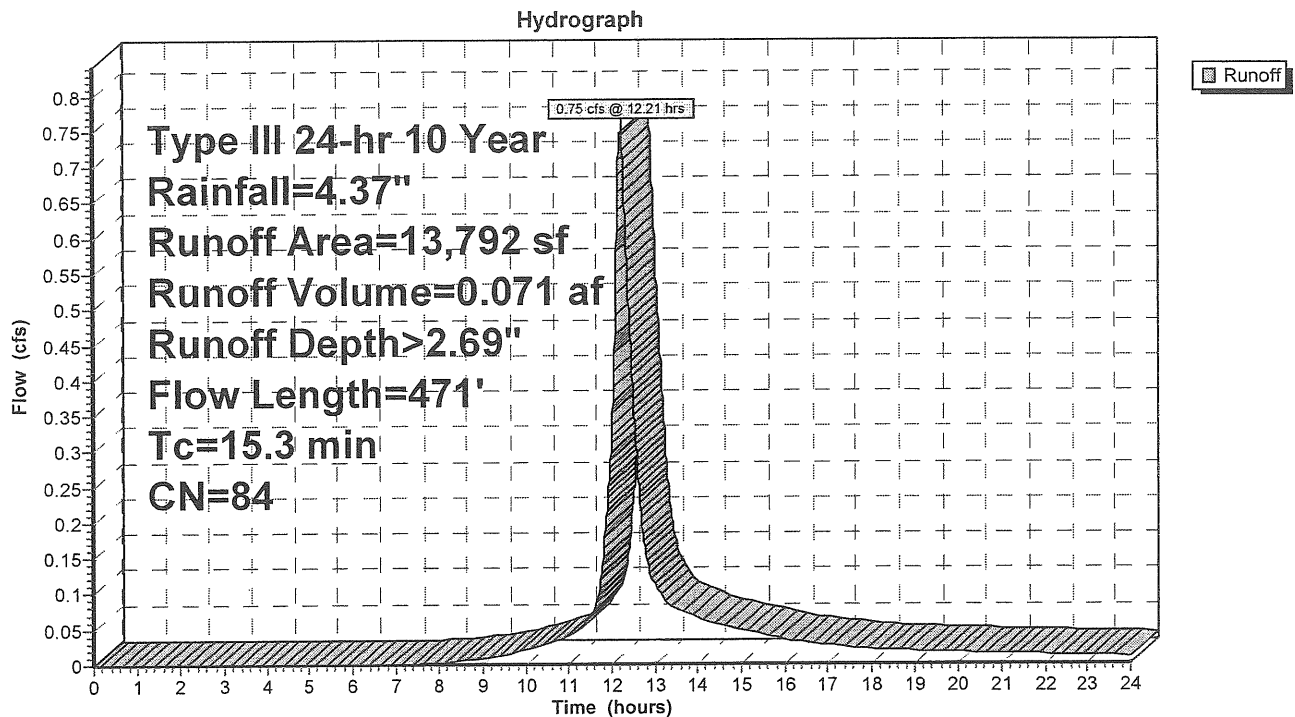
Runoff = 0.75 cfs @ 12.21 hrs, Volume= 0.071 af, Depth&gt; 2.69"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs  
Type III 24-hr 10 Year Rainfall=4.37"

	Area (sf)	CN	Description
*	4,921	98	Impervious (existing access road)
*	8,871	77	Brush, Fair, HSG D
	13,792	84	Weighted Average
	8,871		Pervious Area
	4,921		Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
13.6	150	0.0200	0.18		Sheet Flow, A-B
					Grass: Short n= 0.150 P2= 3.18"
1.7	321	0.0450	3.18		Shallow Concentrated Flow, B-C
					Grassed Waterway Kv= 15.0 fps
15.3	471	Total			

**Subcatchment PR-1D:**

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Type III 24-hr 10 Year Rainfall=4.37"

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**Summary for Subcatchment PR-1E:**

Runoff = 12.91 cfs @ 12.42 hrs, Volume= 1.613 af, Depth&gt; 2.09"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs  
Type III 24-hr 10 Year Rainfall=4.37"

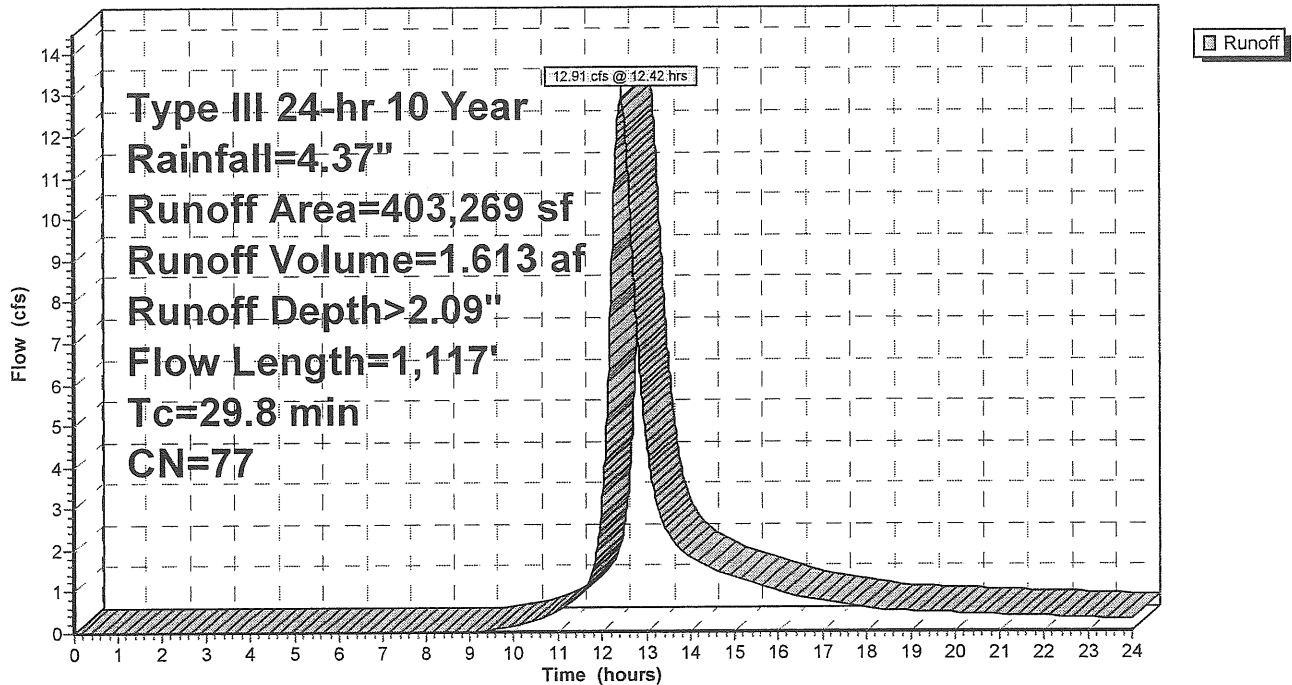
	Area (sf)	CN	Description
*	5,801	91	Gravel roads (existing), HSG D
	162,865	77	Brush, Fair, HSG D
*	234,603	77	Wetlands with brush cover, Fair, HSG D
	403,269	77	Weighted Average
	403,269		Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
13.9	150	0.0190	0.18		Sheet Flow, A-B
					Grass: Short n= 0.150 P2= 3.18"
5.5	293	0.0160	0.89		Shallow Concentrated Flow, B-C
					Short Grass Pasture Kv= 7.0 fps
10.4	674	0.0240	1.08		Shallow Concentrated Flow, C-D
					Short Grass Pasture Kv= 7.0 fps
29.8	1,117	Total			

**Subcatchment PR-1E:**

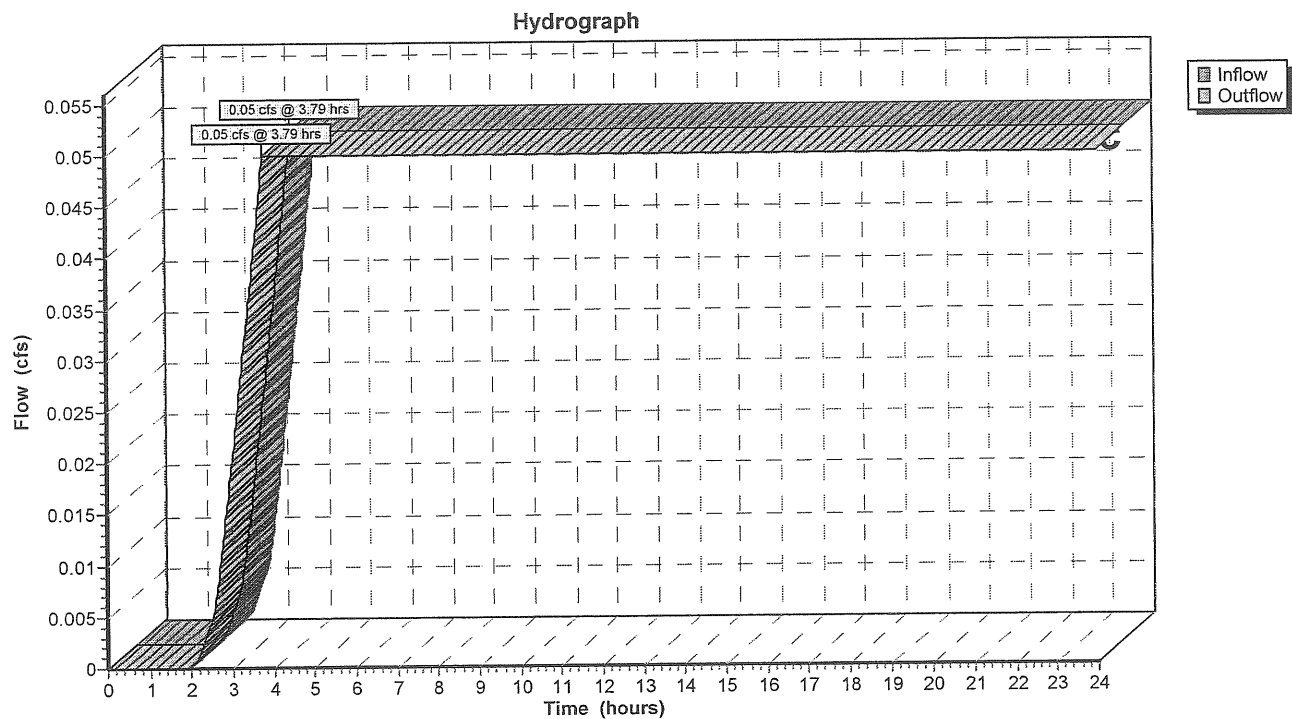
Hydrograph



**Summary for Reach 5R: Storm Treat Systems**

Inflow Area = 4.591 ac, 77.67% Impervious, Inflow Depth > 0.23" for 10 Year event  
Inflow = 0.05 cfs @ 3.79 hrs, Volume= 0.086 af  
Outflow = 0.05 cfs @ 3.79 hrs, Volume= 0.086 af, Atten= 0%, Lag= 0.0 min

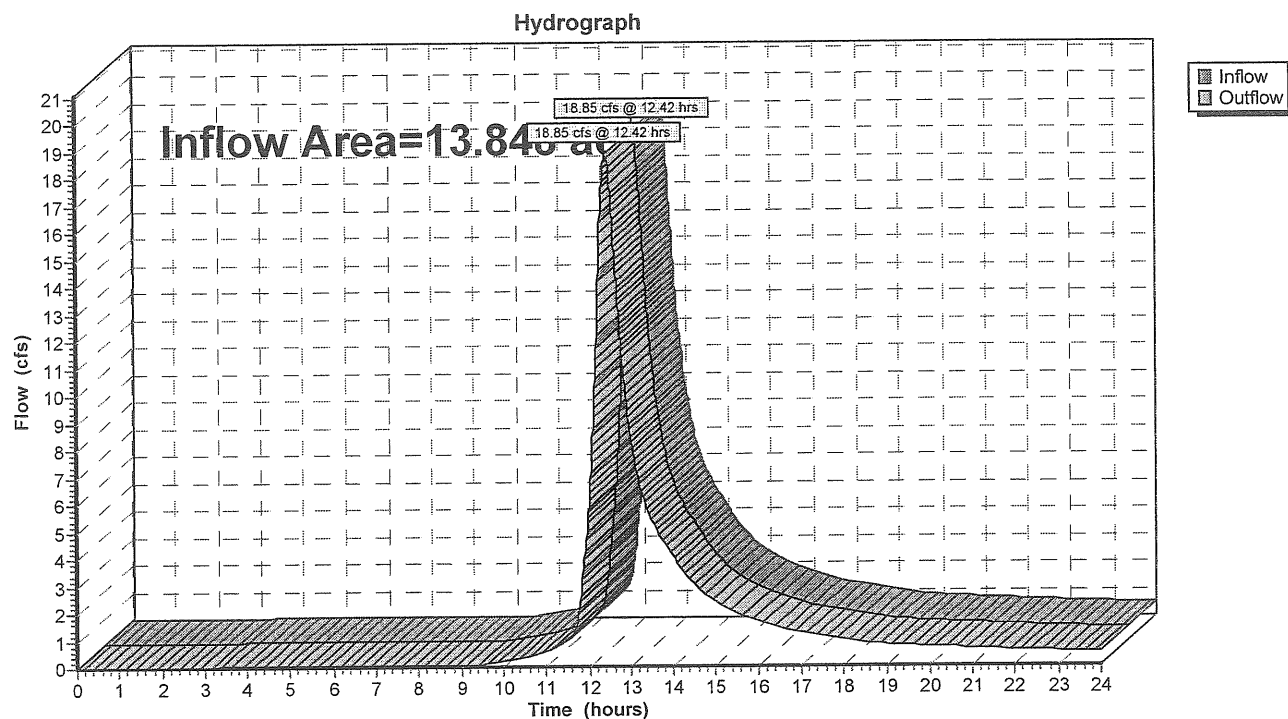
Routing by Stor-Ind+Trans method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

**Reach 5R: Storm Treat Systems**

**Summary for Reach DP-1: Existing Wetland Culvert**

Inflow Area = 13.848 ac, 25.75% Impervious, Inflow Depth > 2.36" for 10 Year event  
Inflow = 18.85 cfs @ 12.42 hrs, Volume= 2.724 af  
Outflow = 18.85 cfs @ 12.42 hrs, Volume= 2.724 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

**Reach DP-1: Existing Wetland Culvert**

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Type III 24-hr 10 Year Rainfall=4.37"

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**Summary for Pond 1P: Detention Pond**

Inflow Area = 4.591 ac, 77.67% Impervious, Inflow Depth > 3.64" for 10 Year event  
 Inflow = 17.44 cfs @ 12.09 hrs, Volume= 1.391 af  
 Outflow = 5.98 cfs @ 12.39 hrs, Volume= 1.111 af, Atten= 66%, Lag= 18.1 min  
 Primary = 0.05 cfs @ 3.79 hrs, Volume= 0.086 af  
 Secondary = 5.93 cfs @ 12.39 hrs, Volume= 1.024 af

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs  
 Peak Elev= 90.25' @ 12.39 hrs Surf.Area= 8,887 sf Storage= 27,238 cf

Plug-Flow detention time= 155.8 min calculated for 1.110 af (80% of inflow)  
 Center-of-Mass det. time= 80.1 min ( 855.0 - 774.9 )

Volume	Invert	Avail.Storage	Storage Description
#1	85.40'	40,415 cf	<b>Custom Stage Data (Prismatic) Listed below (Recalc)</b>

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
85.40	125	0	0
86.00	1,683	542	542
87.00	5,253	3,468	4,010
88.00	6,565	5,909	9,919
88.20	6,773	1,334	11,253
89.00	7,567	5,736	16,989
90.00	8,589	8,078	25,067
91.00	9,787	9,188	34,255
91.61	10,408	6,159	40,415

Device	Routing	Invert	Outlet Devices
#1	Secondary	90.00'	<b>5.0' long x 8.0' breadth Broad-Crested Rectangular Weir</b> 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 4.00 4.50 5.00 5.50 Coef. (English) 2.43 2.54 2.70 2.69 2.68 2.68 2.66 2.64 2.64 2.64 2.65 2.65 2.66 2.66 2.68 2.70 2.74
#2	Primary	85.40'	<b>0.05 cfs To StormTreat Systems at all elevations</b>
#3	Secondary	85.00'	<b>18.0" x 29.0' long Culvert</b> CPP, square edge headwall, Ke= 0.500 Outlet Invert= 83.90' S= 0.0379 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior
#4	Device 3	88.20'	<b>8.0" Vert. Orifice/Grate X 2.00</b> C= 0.600

**Primary OutFlow** Max=0.05 cfs @ 3.79 hrs HW=85.46' (Free Discharge)  
 ↳ **2=To StormTreat Systems** (Exfiltration Controls 0.05 cfs)

**Secondary OutFlow** Max=5.92 cfs @ 12.39 hrs HW=90.25' (Free Discharge)  
 ↳ **1=Broad-Crested Rectangular Weir** (Weir Controls 1.52 cfs @ 1.22 fps)  
 ↳ **3=Culvert** (Passes 4.40 cfs of 18.05 cfs potential flow)  
 ↳ **4=Orifice/Grate** (Orifice Controls 4.40 cfs @ 6.31 fps)

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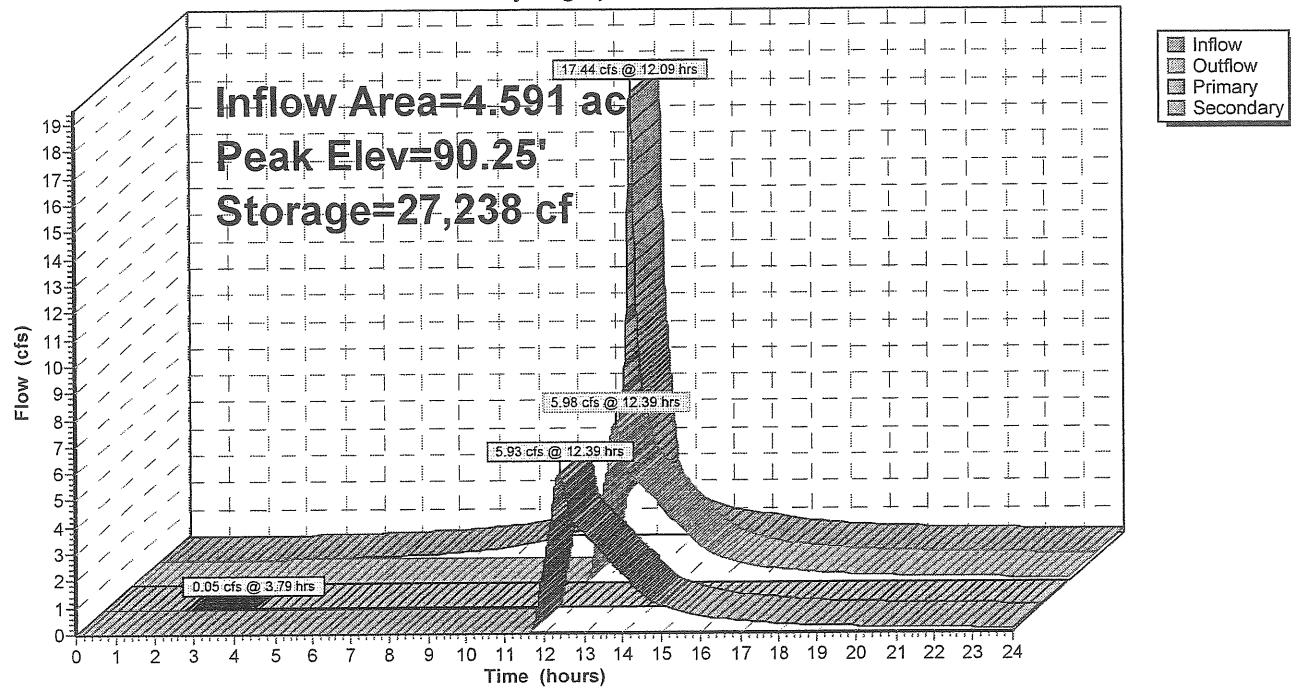
Type III 24-hr 10 Year Rainfall=4.37"

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## Pond 1P: Detention Pond

Hydrograph



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Type III 24-hr 25 Year Rainfall=5.08"

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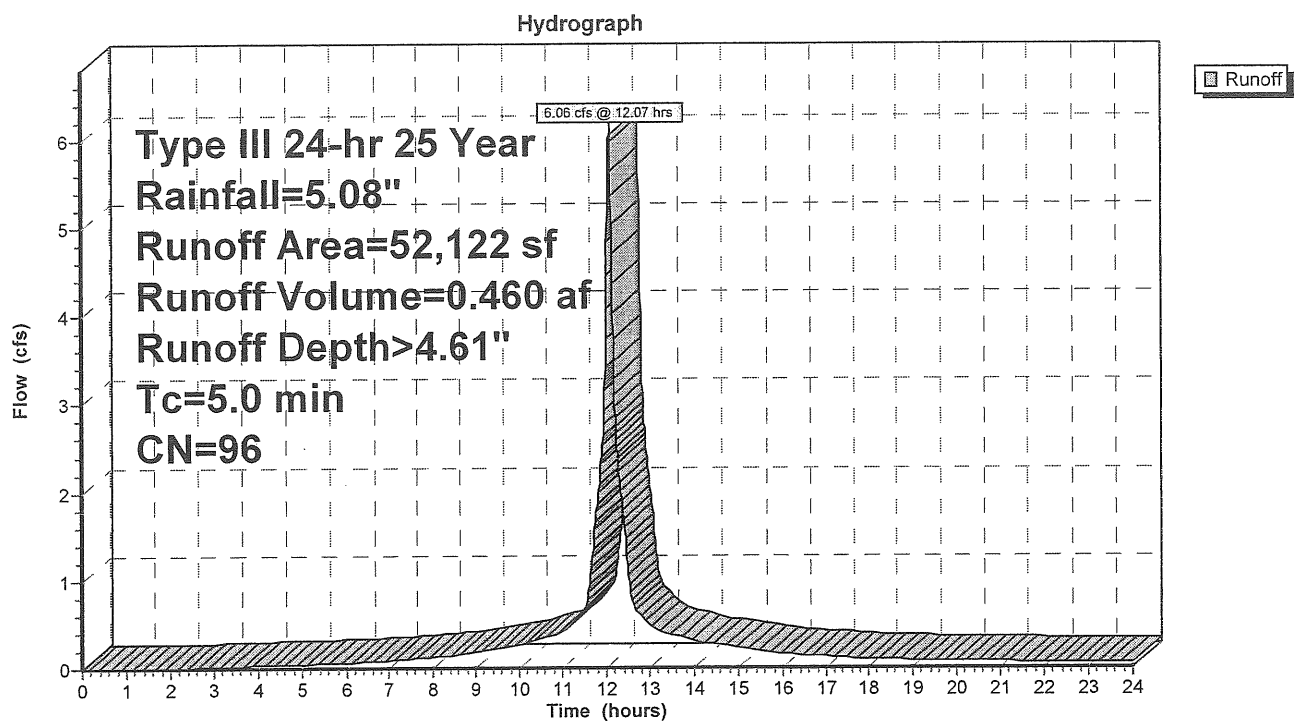
**Summary for Subcatchment PR-1A:**

Runoff = 6.06 cfs @ 12.07 hrs, Volume= 0.460 af, Depth&gt; 4.61"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs  
Type III 24-hr 25 Year Rainfall=5.08"

	Area (sf)	CN	Description
*	47,718	98	Impervious Parking Lot, HSG D
	4,404	80	>75% Grass cover, Good, HSG D
	52,122	96	Weighted Average
	4,404		Pervious Area
	47,718		Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry, Min. Value

**Subcatchment PR-1A:**

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Type III 24-hr 25 Year Rainfall=5.08"

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**Summary for Subcatchment PR-1B:**

Runoff = 13.01 cfs @ 12.09 hrs, Volume= 1.035 af, Depth&gt; 4.49"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs  
Type III 24-hr 25 Year Rainfall=5.08"

	Area (sf)	CN	Description
*	102,680	98	Impervious Parking Lot, HSG D
*	13,217	78	Vegetated Swale, HSG D
	4,492	80	>75% Grass cover, Good, HSG D
	120,389	95	Weighted Average
	17,709		Pervious Area
	102,680		Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.2	150	0.0100	1.13		<b>Sheet Flow, A-B</b> Smooth surfaces n= 0.011 P2= 3.18"
1.7	337	0.0250	3.21		<b>Shallow Concentrated Flow, B-C</b> Paved Kv= 20.3 fps
0.1	18	0.3000	3.83		<b>Shallow Concentrated Flow, C-D</b> Short Grass Pasture Kv= 7.0 fps
1.6	143	0.0100	1.50		<b>Shallow Concentrated Flow, D-E</b> Grassed Waterway Kv= 15.0 fps
1.2	325	0.0040	4.44	7.85	<b>Circular Channel (pipe), E-F</b> Diam= 18.0" Area= 1.8 sf Perim= 4.7' r= 0.38' n= 0.011 PVC, smooth interior
6.8	973	Total			



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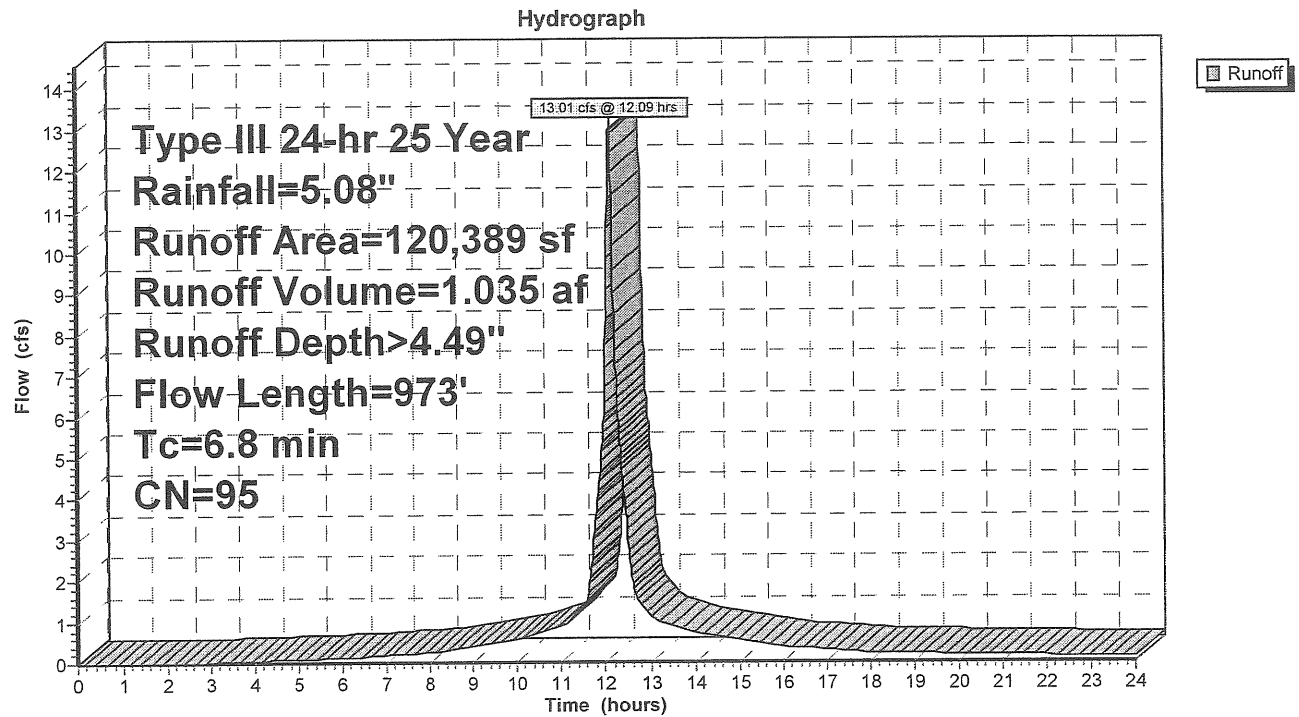
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Type III 24-hr 25 Year Rainfall=5.08"

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### Subcatchment PR-1B:



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Type III 24-hr 25 Year Rainfall=5.08"

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### Summary for Subcatchment PR-1C:

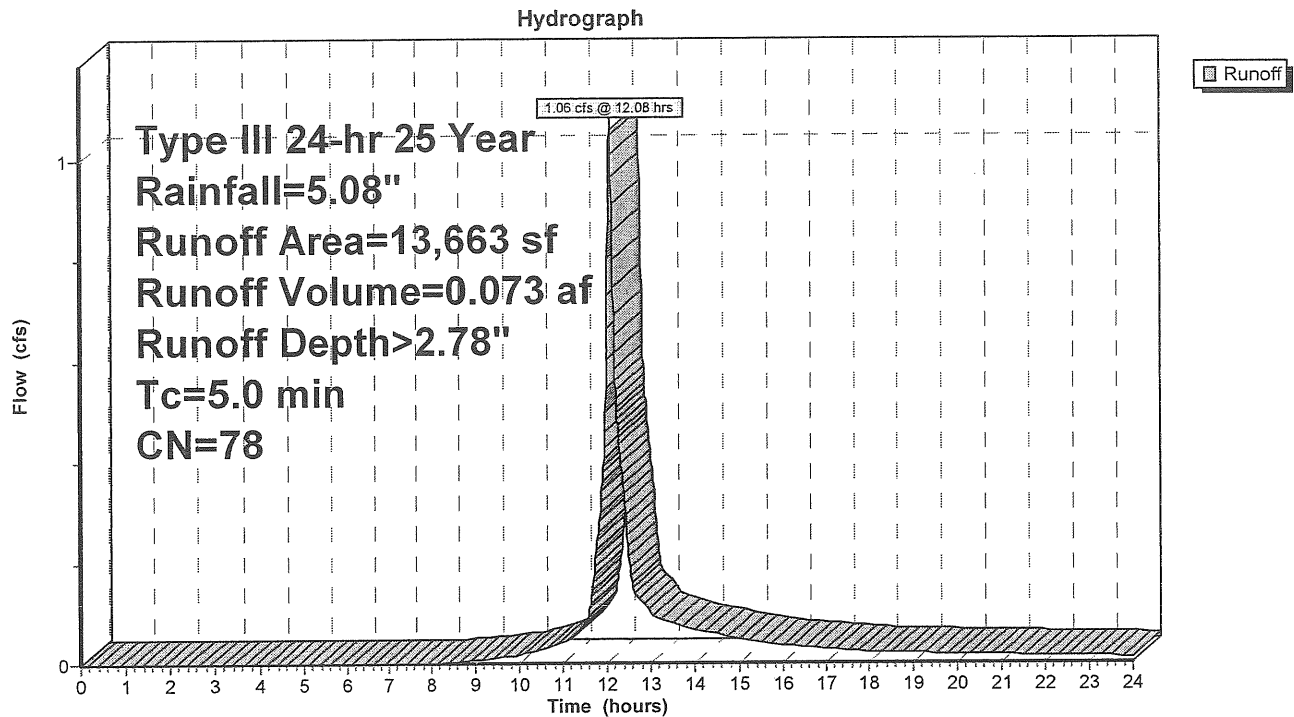
Runoff = 1.06 cfs @ 12.08 hrs, Volume= 0.073 af, Depth> 2.78"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs  
Type III 24-hr 25 Year Rainfall=5.08"

	Area (sf)	CN	Description
*	13,663	78	Detention Basin, HSG D
	13,663		Pervious Area

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

### Subcatchment PR-1C:



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Type III 24-hr 25 Year Rainfall=5.08"

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### Summary for Subcatchment PR-1D:

Runoff = 0.93 cfs @ 12.21 hrs, Volume= 0.088 af, Depth> 3.33"

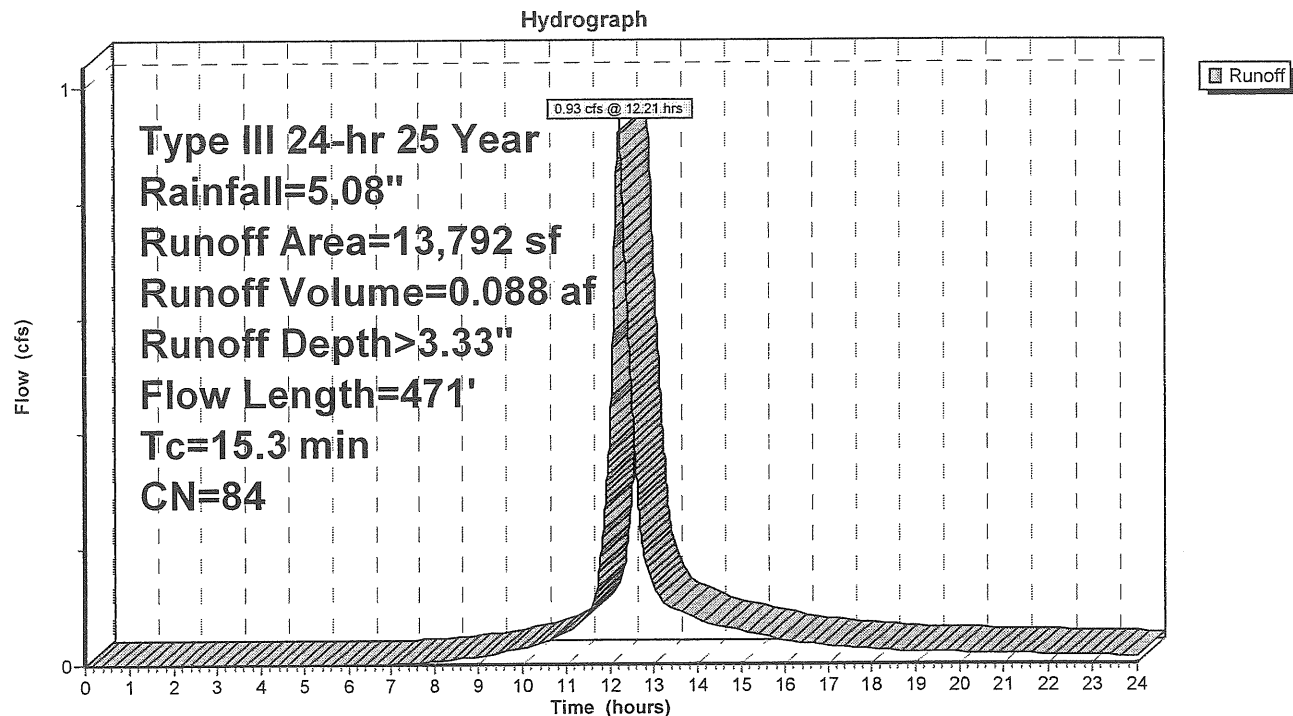
Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs  
Type III 24-hr 25 Year Rainfall=5.08"

	Area (sf)	CN	Description
*	4,921	98	Impervious (existing access road)
*	8,871	77	Brush, Fair, HSG D
	13,792	84	Weighted Average
	8,871		Pervious Area
	4,921		Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
13.6	150	0.0200	0.18		<b>Sheet Flow, A-B</b> Grass: Short n= 0.150 P2= 3.18"
1.7	321	0.0450	3.18		<b>Shallow Concentrated Flow, B-C</b> Grassed Waterway Kv= 15.0 fps
15.3	471	Total			

### Subcatchment PR-1D:



**prop-cond**

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Type III 24-hr 25 Year Rainfall=5.08"

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**Summary for Subcatchment PR-1E:**

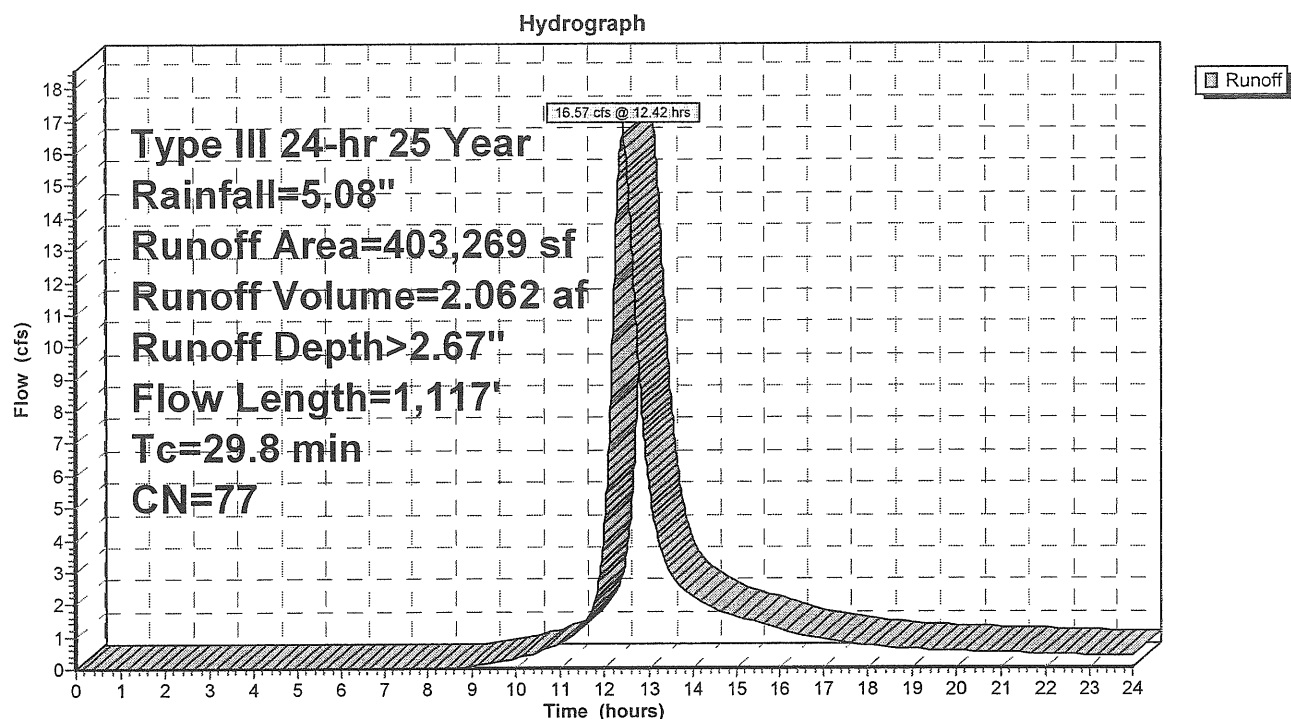
Runoff = 16.57 cfs @ 12.42 hrs, Volume= 2.062 af, Depth&gt; 2.67"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs  
Type III 24-hr 25 Year Rainfall=5.08"

	Area (sf)	CN	Description
*	5,801	91	Gravel roads (existing), HSG D
	162,865	77	Brush, Fair, HSG D
*	234,603	77	Wetlands with brush cover, Fair, HSG D
	403,269	77	Weighted Average
	403,269		Pervious Area

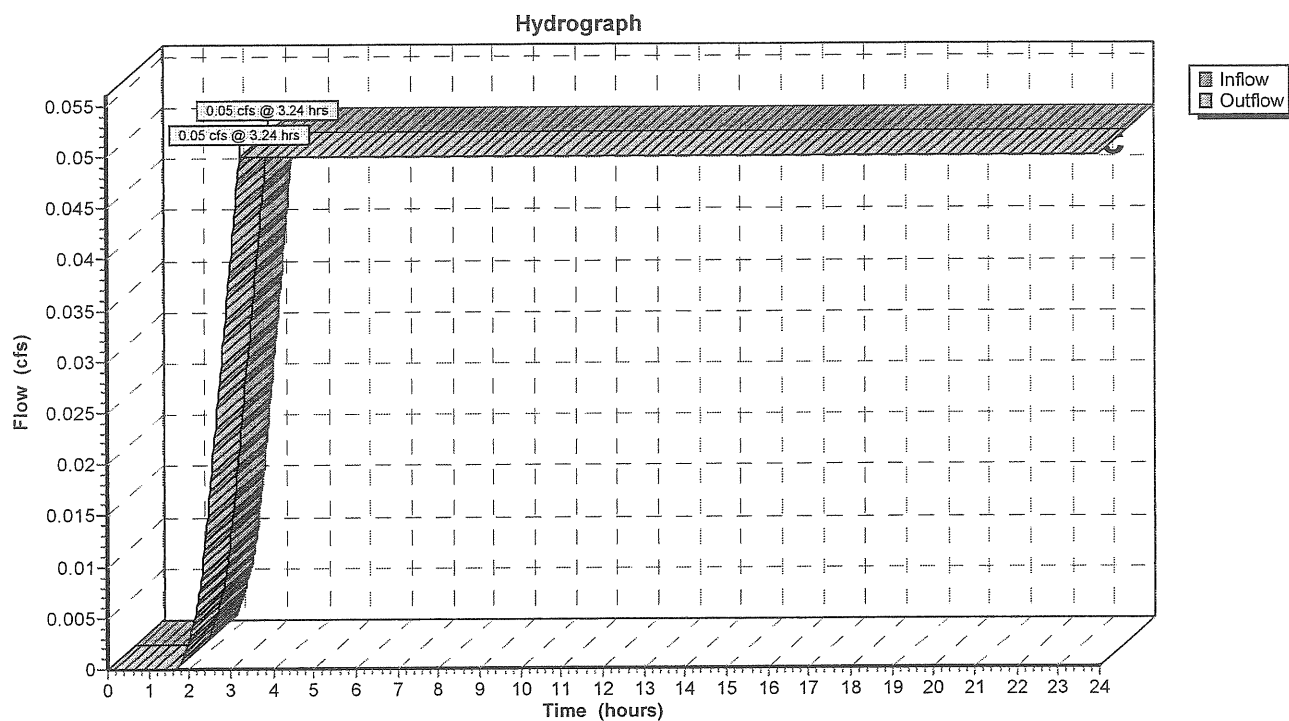
Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
13.9	150	0.0190	0.18		<b>Sheet Flow, A-B</b> Grass: Short n= 0.150 P2= 3.18"
5.5	293	0.0160	0.89		<b>Shallow Concentrated Flow, B-C</b> Short Grass Pasture Kv= 7.0 fps
10.4	674	0.0240	1.08		<b>Shallow Concentrated Flow, C-D</b> Short Grass Pasture Kv= 7.0 fps
29.8	1,117	Total			

**Subcatchment PR-1E:**

**Summary for Reach 5R: Storm Treat Systems**

Inflow Area = 4.591 ac, 77.67% Impervious, Inflow Depth > 0.23" for 25 Year event  
Inflow = 0.05 cfs @ 3.24 hrs, Volume= 0.088 af  
Outflow = 0.05 cfs @ 3.24 hrs, Volume= 0.088 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

**Reach 5R: Storm Treat Systems**

prop-cond

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Type III 24-hr 25 Year Rainfall=5.08"

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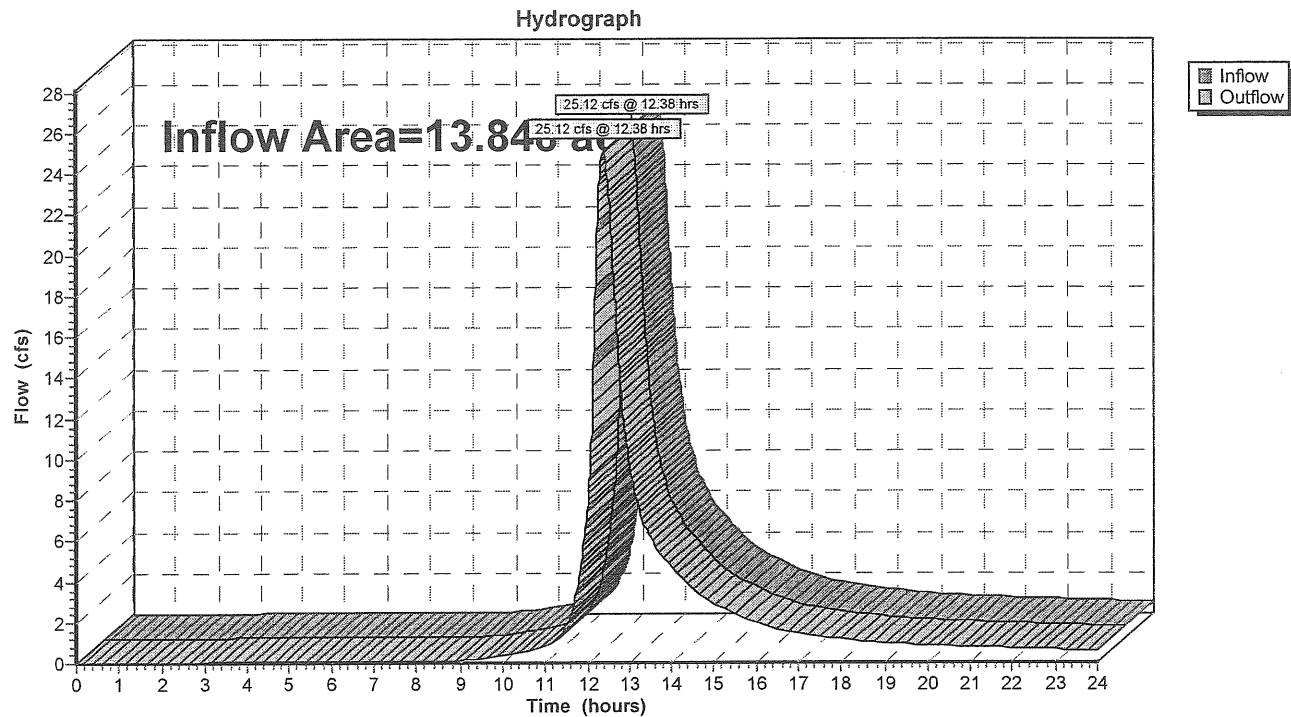
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### Summary for Reach DP-1: Existing Wetland Culvert

Inflow Area = 13.848 ac, 25.75% Impervious, Inflow Depth > 2.98" for 25 Year event  
Inflow = 25.12 cfs @ 12.38 hrs, Volume= 3.435 af  
Outflow = 25.12 cfs @ 12.38 hrs, Volume= 3.435 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

### Reach DP-1: Existing Wetland Culvert



**Summary for Pond 1P: Detention Pond**

Inflow Area = 4.591 ac, 77.67% Impervious, Inflow Depth > 4.33" for 25 Year event  
 Inflow = 20.57 cfs @ 12.09 hrs, Volume= 1.655 af  
 Outflow = 9.28 cfs @ 12.29 hrs, Volume= 1.372 af, Atten= 55%, Lag= 12.1 min  
 Primary = 0.05 cfs @ 3.24 hrs, Volume= 0.088 af  
 Secondary = 9.23 cfs @ 12.29 hrs, Volume= 1.284 af

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs  
 Peak Elev= 90.49' @ 12.29 hrs Surf.Area= 9,180 sf Storage= 29,448 cf

Plug-Flow detention time= 144.6 min calculated for 1.372 af (83% of inflow)  
 Center-of-Mass det. time= 75.6 min ( 846.6 - 771.0 )

Volume	Invert	Avail.Storage	Storage Description
#1	85.40'	40,415 cf	<b>Custom Stage Data (Prismatic) Listed below (Recalc)</b>

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
85.40	125	0	0
86.00	1,683	542	542
87.00	5,253	3,468	4,010
88.00	6,565	5,909	9,919
88.20	6,773	1,334	11,253
89.00	7,567	5,736	16,989
90.00	8,589	8,078	25,067
91.00	9,787	9,188	34,255
91.61	10,408	6,159	40,415

Device	Routing	Invert	Outlet Devices
#1	Secondary	90.00'	<b>5.0' long x 8.0' breadth Broad-Crested Rectangular Weir</b> 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 4.00 4.50 5.00 5.50 Coef. (English) 2.43 2.54 2.70 2.69 2.68 2.68 2.66 2.64 2.64 2.64 2.65 2.65 2.66 2.66 2.68 2.70 2.74
#2	Primary	85.40'	<b>0.05 cfs To StormTreat Systems at all elevations</b>
#3	Secondary	85.00'	<b>18.0" x 29.0' long Culvert</b> CPP, square edge headwall, Ke= 0.500 Outlet Invert= 83.90' S= 0.0379 '/ Cc= 0.900 n= 0.013 Corrugated PE, smooth interior
#4	Device 3	88.20'	<b>8.0" Vert. Orifice/Grate X 2.00</b> C= 0.600

**Primary OutFlow** Max=0.05 cfs @ 3.24 hrs HW=85.46' (Free Discharge)

↑ **2=To StormTreat Systems** (Exfiltration Controls 0.05 cfs)

**Secondary OutFlow** Max=9.23 cfs @ 12.29 hrs HW=90.49' (Free Discharge)

↑ **1=Broad-Crested Rectangular Weir** (Weir Controls 4.52 cfs @ 1.84 fps)

↑ **3=Culvert** (Passes 4.71 cfs of 18.53 cfs potential flow)

↑ **4=Orifice/Grate** (Orifice Controls 4.71 cfs @ 6.74 fps)

prop-cond

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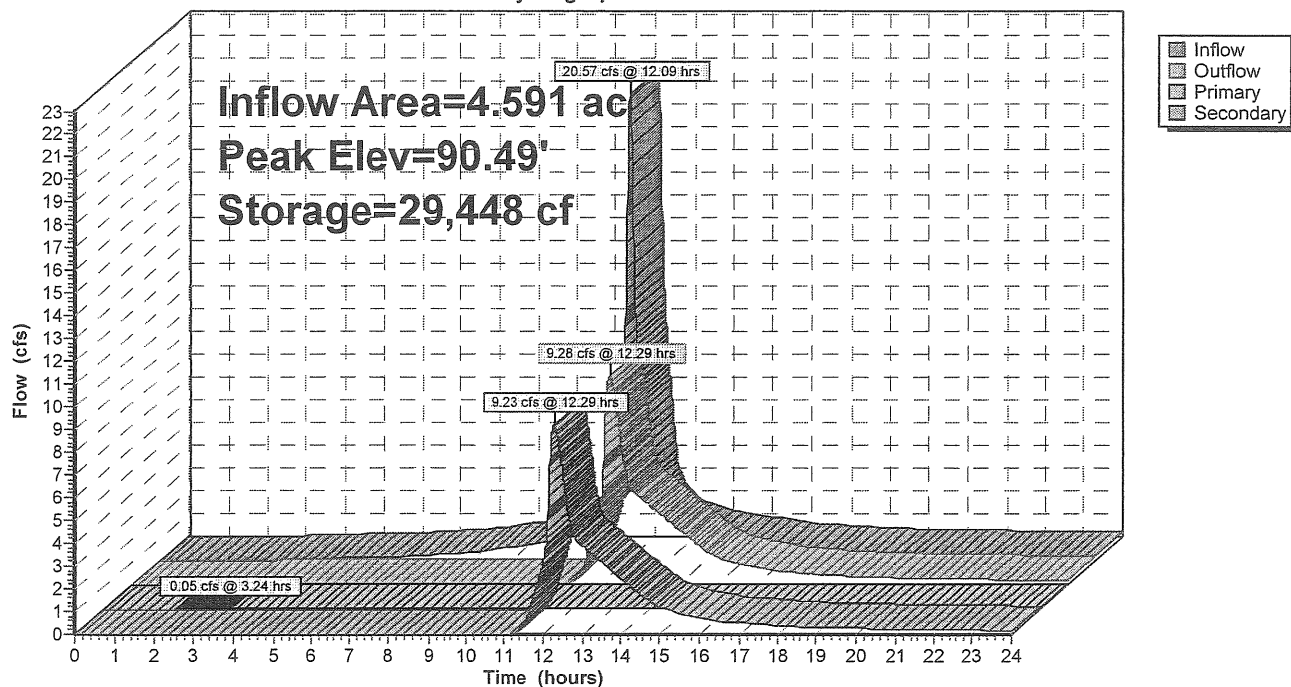
Type III 24-hr 25 Year Rainfall=5.08"

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## Pond 1P: Detention Pond

Hydrograph





## 11.0 URBAN IMPAIRED STREAM SUBMISSIONS (Site Location Section 13)

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The Urban Impaired Stream standard must be met when a project located within the direct watershed of an urban impaired stream or stream segment listed in Chapter 502 results in three acres or more of impervious area or 20 acres or more of developed area. The remote parking lot consists of approximately 3.45 acres of impervious surface in the watershed of Long Creek, a waterbody identified as an urban impaired stream. Therefore, the Urban Impaired Stream standard must be met for this project.

To meet the standard, a combination of mitigation credits and payment of a compensation fee is proposed. The mitigation credits will be obtained from on-site treatment of impervious and landscaped areas in excess of that required to meet the General Standards (95% for impervious / 80% for developed). Additionally, a portion of the existing access road will also receive treatment by the proposed water quality Best Management Practices (BMPs). As shown in the attached Figure 11.1, approximately 10,657 SF of non-roof impervious, and 1,779 SF of landscaped lawn area will be treated by the proposed BMPs to earn mitigation credits.

A compensation fee will be required to be paid to make up the difference between the earned credits and required credits. The City of South Portland has developed a Compensation Fee Utilization Plan for projects within the Long Creek watershed. The applicant proposes to provide a compensation fee into this plan in the amount of \$14,700.00. Below is a summary of the required and earned mitigation credits proposed for this project.

Required Credits:

Non-Roof Impervious=1.73 Credits

Landscaped=0.02 Credits

Earned Mitigation Credits:

Non-Roof Impervious=0.27 Credits

Landscaped=0.01 Credits

Compensation Fee Required:

Non-Roof Impervious=\$14,600.00

Landscaped=\$100.00

Total=\$14,700.00

**FIGURE 11.1**

**URBAN IMPAIRED STREAM STANDARD**

Required Compensation Calculations

<u>Non-Roof Impervious Area</u>		<u>Landscaped Area</u>	
Total Project Area	=	150,735 SF	=
95% Requiring BMP Treatment	=	143,198 SF	=
Receiving BMP Treatment*	=	153,855 SF	=
Excess to be used as mitigation credit	=	10,657 SF	=
		Excess to be used as mitigation credit	
		=	
		1,779 SF	

\*Note: Includes 3,120 SF (260'x12') of existing access road.

Mitigation Credits Earned

Retrofit with General Standards at Required Sizing		Earned Credit		Total Credit Earned	
-Road	3,120 SF	1.5	per acre	=	0.11
-Low Use Parking Lot	7,537 SF	0.9	per acre	=	0.16
-Lawn	1,779 SF	0.3	per acre	=	0.01
				0.27 Impervious Credits	

Required Mitigation Credits

Total Non-Roof Impervious Area	150,735 SF	Req. Credit	0.5	per acre	Total Required Credit	1.73
Total Landscaped Area	8,896 SF		0.1	per acre		0.02

Remaining Credits Needed

Impervious Credits	=	(Earned - Required Credits)	1.73 credits - 0.27 credits = 1.46 credits
Landscape Credits	=		0.02 credits - 0.01 credits = 0.01 credits

Compensation Fee Required

Convert Credits to Compensation Fee	Credits	Conversion Factor	Compensation Fee
Non-Roof Impervious Area	1.46	0.5 Credit = \$5,000	= \$14,600
Landscaped Area	0.01	0.1 Credit = \$1,000	= \$100
<b>TOTAL COMPENSATION FEE REQUIRED</b>			<b>\$14,700</b>

## 12.0 BASIC STANDARDS (Site Location Section 14)

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### 12.1 INTRODUCTION

This plan for Erosion and Sedimentation Control (ESC) has been developed to provide a strategy for controlling soil erosion and sedimentation during and after construction of the proposed development. This plan is based on Standards and Specifications for Erosion Prevention in Developing Areas as contained in the 2005 online version of the *Maine Erosion and Sediment Control BMP Manual* for the Maine Department of Environmental Protection and on Appendix A, *Erosion and Sedimentation Control*, of the Maine Department of Environmental Protection Rules, 06-96, Chapter 500 Stormwater Management, effective November 16, 2005. The narrative contained in this section is combined with the Plan Sheets and the Erosion Control Details found in the back of this application to create an overall erosion control plan, which addresses the stabilization of the site and the protections of off-site water resources.

### 12.2 SCHEDULE

This project is anticipated to take place during the 2009 construction season, from approximately August 1, 2009 through September 1, 2009.

### 12.3 GENERAL CONSTRUCTION DETAILS

The equipment anticipated to be used for construction may include the following: excavator, backhoe, bulldozer, loader, trucks, compactor, and grader. Intensive on-site erosion control methods will be utilized. The following methods will be undertaken to provide maximum protection to the soil, water, and abutting lands:

1. Permanent soil erosion control measures for all slopes, channels, ditches, or any disturbed land areas will be completed within seven (7) calendar days after final grading has been completed. When it is not possible or practical to permanently stabilize disturbed land, temporary erosion control measures will be implemented within seven (7) calendar days of exposure of soil. Temporary erosion control measures shall include at a minimum the application of wood fiber mulch at a rate of 75-90 lbs per 1000 SF by the wet application method as outlined in Item T-901 of the contract specifications. Within 75 feet of a wetland area (including lakes and streams), mulch will be applied within 48 hours, or prior to any storm event, whichever is first.
2. Prior to grubbing or any earthmoving operation, siltation fence will be installed across the slope on the contour at the downhill limit of the work as protection against construction related erosion. Siltation fence shall also be installed at the downhill limit of the base of soil stockpiles.
3. Temporary siltation control risers will be installed at all existing culvert/ storm drain inlet locations in accordance with Maine Erosion and Sedimentation Control BMP B-3.

4. All siltation fence will be inspected by the contractor on a weekly basis, following any significant rainfall (1/2 inch or more) or snowmelt, or daily during prolonged rainfall. All damaged siltation fence will be repaired and/or replaced immediately. Trapped sediment will be removed before it has accumulated to one half of the installed siltation fence height. Siltation fence no longer serviceable due to sediment accumulation will also be repaired and/or replaced as necessary. Any sediment deposits remaining in place after the siltation fence or filter barrier is no longer required will be incorporated into the existing grade, seeded, and mulched.
5. Removal of temporary sediment control measures shall occur within thirty (30) days of permanent stabilization.
6. To provide permanent protection against erosion, riprap will be placed at all storm drain inlets and outlets as shown on the contract drawings in accordance with Maine Erosion and Sedimentation Control BMP E-2 and E-3.
7. All ditch bases to be seeded will also be lined with erosion control mesh to stabilize the ditch channels until vegetation is established. Stone check dams and temporary mulching will be used to stabilize any section of rough graded ditch that will not be final graded and permanently stabilized within seven (7) days of initial disturbance.
8. Native topsoil shall be saved, stockpiled, mulched, and reused as much as possible on the site. Stockpiles will be stabilized by seeding and mulching within seven (7) days of the formation of the stockpile. Near wetland areas (including lakes and streams), seeding and mulching shall be completed within 24 hours of the formation of the stockpile. Uphill of stockpiles, stabilized ditches and/or berms will be constructed to divert stormwater runoff away from the piles. Side slopes of topsoil stockpiles will not exceed 2:1.

#### **12.3.1 Seeding and Revegetation Plan**

Upon completion of site construction, all areas previously disturbed will be treated as stated below. These areas will be closely monitored by the contractor until such time as a satisfactory growth of vegetation is established.

1. Loam will be spread over all disturbed areas and graded to a uniform depth of 4 inches.
2. All exposed surfaces not to be final graded for thirty (30) days or more will be seeded with winter rye, oats, annual ryegrass, or sudangrass perennial, depending on the time of year in accordance with Maine Erosion and Sedimentation Control BMP A-2 for details and specifications.
3. Agricultural limestone and fertilizer will be incorporated into the soil prior to seeding at the rate of 1-2 tons per acre and 15 lbs per 1,000 SF, respectively, per Item T-901 in the contract specifications.

4. Disturbed areas will be seeded at the rate of 1 lb. per 1000 SF. The seed mix will be specified in Item T-901 of the contract specifications.
5. Seeding will be completed between the dates of May 1 and September 15. Irrigation will be completed during the period of June 1 to August 15, as necessary.
6. Areas which have been temporarily or permanently seeded shall be mulched immediately following seeding.
7. In accordance with Maine Erosion and Sedimentation Control BMPs A-1 and C-4, and Item T-908 in the contract specifications, hay mulch will be applied at the rate of 75-90 lbs. per 1000 SF. Mulch shall be anchored with biodegradable netting on steep slopes (7:1 or greater) and on areas within 100 feet of lakes, streams, and wetlands. Erosion control mix can be used on slopes between 3:1 and 2:1.
8. All mulches will be inspected periodically, particularly after rainfall. If less than 90% of the disturbed area is covered, additional mulch will be spread.
9. All sediment control structures will remain in place until vegetation is established. Established means a minimum of 85% of the area is vegetated with vigorous growth.

#### **12.3.2 Fall/Winter Seeding and Stabilization**

In accordance with the Maine Erosion and Sedimentation Control BMP A-3, please note the following:

By September 1-

All grass-lined ditches and channels will be constructed and stabilized. All slopes greater than 7:1 to be vegetated will be seeded and mulched (past September 15, mulch anchoring should be used on slopes greater than 20:1, and heavy grade mats and biodegradable netting should be used in conjunction on slopes greater than 12:1 and on side slopes of ditches). If this is not completed then:

By October 1-

Sod will be placed in all ditch channels where vegetation has not been established. Sod will extend to a height of one foot above ditch channel bottom. All slopes greater than 7:1 will be seeded to a winter cover crop of rye at a rate of 3 lbs per 1000 SF. If the rye fails to grow at least three inches or fails to cover at least 75% of the slope by November 1, or if sod is not placed in the appropriate ditch channels, then:

By November 1-

The ditch will be lined with stone riprap. The slope will be covered with erosion control mix or stone riprap, or alternatively:

By November 15-

The disturbed soil will be mulched at the winter rate and anchored properly. No construction is anticipated to take place after November 15.

The winter construction period is from November 1 to April 15.

1. Winter excavation and earthwork shall be completed such that no more than 1 acre of the site is without stabilization at any one time. The exposed area will be limited to that in which work is to occur during the following 15 days and those areas that can be mulched in one day prior to any snow event.
2. Hay mulch will be applied to a depth of 4 inches (150 lbs. per 1000 SF).
3. After each day of final grading, any disturbed area will be stabilized with anchored mulch or erosion control mesh. No ground surface should be visible through the mulch.
4. Soil stockpiles will be mulched at winter rates within 24 hours of stocking and reestablished prior to rain or snowfall. No stockpiles will be placed within 100 feet of lakes, streams, wetlands, or other natural resources.

### **12.3.3 Monitoring Details**

Sedimentation and erosion control structures will be inspected weekly by the contractor, and all structures damaged by construction equipment, vandals, or the elements will be repaired immediately. Following rainstorms and during runoff events, the site and all structures will be repaired and/or additional erosion control structures will be installed prior to continuing the construction.

Following the final seeding, the site will be inspected to ensure that the vegetation has been established. Reseeding will be carried out, with follow-up inspections, in the event of any unsatisfactory growth.

After the project area has stabilized, the contractor will remove all siltation fence and any other temporary erosion control measures.

Implementation and monitoring of erosion control measures will be the responsibility of the contractor under the supervision of the project engineer and the resident project representative for Stantec Consulting Services Inc.

## **12.4 INSPECTION AND MAINTENANCE**

The Engineer will have a resident project representative (RPR) at the site during the construction project. The RPR will conduct routine inspections of all erosion and sedimentation controls. The RPR will also be responsible for ensuring that maintenance of erosion and sedimentation structures, when required, is performed in a timely and effective manner. After construction, airport maintenance personnel will also conduct inspections and perform routine maintenance. See *Inspection and Maintenance Plan- Responsible Parties* form included in the back of this Section for a list of the appropriate persons designated to perform these duties at the airport.

### **12.4.1 Inspection Schedule during Construction**

All areas disturbed by construction that have not been permanently stabilized will be inspected at least once every seven (7) calendar days. These areas will also be inspected (within 24 hours) following any storm event in which 0.5 inches or more of rain occurs in a 24-hour period. The RPR will inspect the erosion and sedimentation controls in accordance with the schedule indicated above and note any required corrections in the Daily Inspection Report. Inspection forms and certification forms for erosion control are located in the back of this section.

Inspections will include all areas of the site disturbed by construction activity and areas used for storage of materials exposed to precipitation. Inspectors must look for evidence of, or the potential for, pollutants entering the stormwater conveyance system or an infiltration area. Sedimentation and erosion control measures identified in this ESC plan will be inspected to ensure proper operation. Discharge locations, where accessible, shall be inspected to ascertain the effectiveness of erosion control measures in preventing significant impacts to waters of the United States (including wetlands). Locations where vehicles enter or exit the site will be inspected for evidence of off-site sediment tracking (see Section 12.5.4, *Fugitive Sediment and Dust*).

Upon completion of construction activities, all areas that have been temporarily or permanently stabilized will be inspected by the Engineer/ RPR to ensure that final stabilization has been successful.

#### **12.4.1.1 Inspection Procedures during Construction**

Inspections shall be conducted by the on-site engineer/RPR. The following items shall be inspected as described below:

**Hay bales:** Hay bale lines will be inspected to insure that bales are intact and remain snugly butted to each other and firmly embedded in the ground. Depth of sediment behind the bales will be noted and removed if sediment exceeds one-half the height of the bale.

**Silt Fence:** Silt fence will be inspected to insure that the fence line is intact with no breaks or tears, and that the bottom of the fabric is securely buried in the ground. Areas where the fence is excessively sagging or where support posts are broken or uprooted will be noted and repaired. Depth of sediment behind the fence will be noted and removed when sediment exceeds one-third the height of the fence.

**Discharge Points:** All discharge points will be inspected, where practicable, to monitor the effectiveness of erosion control measures in preventing impacts to receiving waters and wetlands. If impacts to surface waters or wetlands are observed, the source of such impacts will be located immediately and improvements made to erosion and sedimentation controls in order to prevent the reoccurrence of impacts to surface waters. Any impacts observed and corrective measures taken will be noted in the inspection log and recorded in this ESC Plan.

**Vehicle Access Points:** Locations where vehicles enter and exit the site will be inspected for evidence of off-site sedimentation tracking. Any incidences of sedimentation tracking in these areas will be corrected immediately and noted in the inspection log. Corrective measures taken to prevent future occurrences of off-site sediment tracking will also be recorded in the inspection log and ESC Plan.

#### 12.4.1.2 Maintenance Procedures during Construction

Maintenance procedures will be implemented as soon as possible after the need for maintenance is recognized. Contractors will utilize Good Housekeeping practices to minimize the possibility of erosion and sedimentation and spills and leaks of potential pollutants. Hazardous materials will be handled with the utmost care in accordance with state and federal regulations and the recommendations of the Manufacturer. Erosion controls will be maintained as noted below.

**Hay bales:** Any broken, excessively tilted or undermined hay bales will be promptly replaced or re-installed. When sediment builds up behind bales to one-half the height of the bale, the sediment will be removed or a second row of bales added. Washouts at the ends of the hay bales will be repaired and additional bales added.

**Silt Fence:** Sediment will be removed when it reaches one-third the height of the silt fence. Care will be taken to avoid damaging the fence during clean-out. Any areas of damaged or torn fabric, broken posts or undermined fence will be repaired immediately.

**Discharge Points:** Any sediment or debris accumulated at the discharge points will be removed and disposed of appropriately. As stated above, if impacts to surface waters or wetlands are observed, the source of such impact will be located immediately and improvements made to erosion and sedimentation controls in order to prevent the reoccurrence of impacts to surface waters.



**General:** Any debris blowing or flowing off the site will be immediately collected. Any unsafe storage practices noted in the inspection will be immediately remedied. Temporary and permanent seeding and/or planting will be inspected for bare spots, washouts, and healthy growth.

#### **12.4.2 Inspection Procedures and Maintenance after Construction**

Refer to the attached Stormwater System Inspection & Maintenance Plan included at the end of this section.

### **12.5 HOUSEKEEPING**

#### **12.5.1 Housekeeping during Construction**

Potential pollution sources that may reasonably be expected to affect the quality of stormwater at the construction site include construction debris, soil stockpiles, and fluids associated with construction equipment (fuel and oils).

Precautions will be implemented which minimize the risk of potential pollutants impacting stormwater. All construction debris and soil stockpiles will be stabilized and placed away from surface water resources and catch basins. No stockpiled material will remain on site after the completion of the project. Construction debris will be removed from the site and disposed of properly.

If necessary, staging and storage areas will be established prior to construction. Staging areas will be located in upland areas removed from stormwater conveyance channels, catch basins and surface waters including wetlands. If necessary, contractor supplies and equipment will also be kept in this designated area. It is intended that all machinery and equipment be fueled and maintained at the designated staging area. However, heavy machinery and equipment will be fueled and maintained on site when necessary. Fuel and oils will not be stored in the project area.

#### **12.5.2 Spill Prevention and Response Procedures**

The following measures and strategies are intended to provide an overview of proper spill prevention and response procedures at the facility during construction activities in order to minimize the risk of accidental spills/releases to the greatest extent possible.

##### **12.5.2.1 Potential Spill Area Identification**

The activities and areas where spills are likely to occur are fueling and oiling areas (i.e. staging areas and construction areas).

##### **12.5.2.2 Spill Prevention Procedures**

To reduce spill potential, it is recommended that caution be used when filling vehicles and equipment with fuel in order to prevent overflows, that the topping off of fuel tanks be avoided, and that material transfer procedures which reduce the chance of spills be implemented.

The spill response plan (i.e., clean up) for this construction site will be as follows:

- The OWNER and CONTRACTOR will be responsible for implementing the spill response plan during construction.
- Spill response equipment will be stored in the staging area. The spill response equipment will include at a minimum:

Safety equipment: eye guards, protective clothing, fire extinguisher, and rubber gloves.

In the event of a spill or release:

1. Notify the City of Portland Fire Department of any emergency spill or leak. The phone number for emergency response is 911.
2. Notify appropriate State agencies:

**Oil Spills** must be reported to the MDEP at 1-800-482-0777. The MDEP may be reached at this number 24 hours/day.

**Hazardous Materials Spills** must be reported to the Department of Public Safety at 1-800-452-4664. The Department of Public Safety may be reached at this number 24 hours/day.

The following procedures will be followed by all personnel in the event of a reportable quantity spill or leak. A reportable quantity release occurs when a quantity of hazardous material is spilled or released within one 24-hour period of time and exceeds the reportable quantity level assigned to that substance.

- The facility is required to immediately notify the National Response Center at 1-800-424-8802 for chemical or oil spills that impact surface waters (including wetlands) or compromise water quality standards.
- The Facility Stormwater Pollution Prevention Plan (SWPPP) will be updated within 14 calendar days of a spill or leak of reportable quantity. The update will include a description of the release, an account of the circumstances leading to the release, and the date of the release. In addition, the SWPPP will be reviewed to identify measures to prevent the recurrence of such releases, and it will be modified where appropriate.

- The Spill Prevention, Control and Countermeasures Plan (SPCC) will be updated within 14 calendar days of a spill or leak of reportable quantity. The update will include a description of the release, an account of the circumstances leading to the release, and the date of the release. In addition, the SPCC will be reviewed to identify measures to prevent the recurrence of such releases, and it will be modified where appropriate.
- In the event of a reportable quantity discharge, the facility will also submit to the EPA within 14 calendar days of knowledge of the release, a written description of the release (including the type and estimate of the amount of material released), the date that such release occurred, the circumstances leading to the release, and steps to be taken to modify the pollution prevention plan at the airport.

All appropriate personnel will receive instruction pertaining to proper spill response and notification procedures.

#### **12.5.3 Groundwater Protection**

Liquid petroleum products and other materials with the potential to contaminate groundwater will not be stored or handled in areas of the site draining to an infiltration area. An "infiltration area" is any area of the site that accumulates runoff that infiltrates into the soil. Dikes, berms, sumps, and other forms of secondary containment that prevent discharge to groundwater may be used to isolate portions of the site for the purposes of storage and handling of these materials. The appropriate pollutant removal Best Management Practices (BMPs) will be consulted prior to on-site storage of these materials in order to prevent impacts to groundwater quality.

#### **12.5.4 Fugitive Sediment and Dust**

Locations where vehicles enter or exit the site will be inspected weekly for evidence of off-site sediment tracking. If off-site sediment tracking is observed, the sediment will be removed and measures taken to prevent future occurrences of off-site sediment tracking. A temporary stabilized construction entrance will be used by construction equipment to minimize sediment tracking. Oil will not be used for dust control; water will not be drawn from a stream without first obtaining a permit.

#### **12.5.5 Debris and Other Materials**

Any debris blowing or flowing off the site will be immediately collected. Any unsafe storage practices noted during inspection will be immediately remedied. Contractors will utilize Good Housekeeping practices to minimize the possibility of erosion and sedimentation and spills and leaks of potential pollutants. Hazardous materials will be handled with the utmost care in accordance with state and federal regulations and the recommendations of the manufacturer.

### **12.5.6 De-watering**

In the event that dewatering and / or predrainage is necessary for construction of the proposed improvements, adequate filter BMP's shall be provided to ensure that runoff leaving the site shall be relatively free of sediment. This may include installation of a pumped discharge sediment control device such as Dirtbag supplied by ACF Environmental, Wilmington, MA (978-657-0711), a riprap lined settling basin, or approved equivalent. The collected water will not flow over disturbed areas.

### **12.5.7 Non-stormwater Discharges**

The following non-stormwater discharges may occur on the site during the construction period:

- Discharges from fire fighting activities
- Waters (without soap) used to wash vehicles or control dust in accordance with efforts to minimize off-site sediment tracking

All allowed non-stormwater discharges will be directed to a storm drainage system or a natural conveyance channel without impacting disturbed areas. Any illicit connections to the stormwater drainage system will be eliminated and any associated non-stormwater discharges will be reported in order to achieve compliance with all current federal, state and local requirements.

### **12.5.8 Housekeeping after Construction**

**WASTE MATERIALS:** Any waste materials will be collected and stored in a manner that will prevent materials from entering drainage systems including storm drain pipes, natural conveyance channels, wetlands or other off-site areas. Material will be regularly collected and disposed of off-site in a manner consistent with federal, state and local regulations.

**HAZARDOUS WASTE:** Any and all hazardous materials will be used and/or disposed of in accordance with the manufacturer's recommendations and in a manner that is consistent with state and federal regulations.

Good Housekeeping practices will also include the maintenance of clean surfaces by pavement sweeping, using brooms and/or shovels, picking up garbage and waste material regularly, checking maintenance equipment for proper operation, conducting routine inspections to check for leaks and conditions that could lead to discharge of chemicals or contact with stormwater by waste materials, ensuring spill clean-up procedures are understood and implemented by employees, and maintaining appropriate material storage and inventory practices. The stormwater drainage system will be inspected as required to ensure proper operation. The Stormwater Pollution Prevention Plan (SWPPP) and Spill Prevention Control and

Countermeasure Plan (SPCC) developed for this airport contains a more detailed plan which addresses Good Housekeeping strategies after construction is complete.

## **12.6 REVISIONS**

The Erosion and Sedimentation Control Plan, Inspection and Maintenance Plan, and Good Housekeeping Plan will be amended whenever there is a change in design, construction, operation, or maintenance at the construction site that has or could have a significant effect on the discharge of pollutants to the waters of the United States not previously addressed in this plan.

These Plans will also be amended if during inspections or investigations by the RPR, regulating officials, or designated facility inspector, it is determined that the plans are ineffective in eliminating or significantly minimizing pollutants in stormwater discharges from the facility site. The plan will be modified as necessary to include additional BMPs designed to correct identified problems. Revisions to these Plans will be completed within seven (7) calendar days following the inspection.

If existing BMPs require modification or if additional BMPs are necessary for any reason, implementation will be completed within seven (7) calendar days of inspection and prior to the next storm event. If implementation before the next storm event is impracticable, the situation will be documented in the Plans and alternative BMPs will be implemented as soon as possible.

## **12.7 RECORD KEEPING**

Within 24 hours of inspections, both during and after construction, a report (log) will be prepared summarizing the scope of the inspection and any corrective actions taken, the names and qualifications of the person(s) making the inspections, and the date(s) and time of inspection. Additional information listed in the following two paragraphs will also be included:

If the inspection occurs during construction, the report will include a description of major observations about the operation and maintenance of erosion and sedimentation controls, materials storage areas if exposed to precipitation, and vehicular access points to the parcel. Major observations will include, if necessary, BMPs that need maintenance, BMPs that are not performing as intended or are inadequate for a particular location, and location(s) where additional BMPs are needed.

If the inspection occurs after the construction is complete, the report will include a description of the inspection finding or maintenance task that was performed. In addition, if a clean-out of any sediments or debris was required, the location of disposal after removal will be noted.

The inspection reports will be signed by the responsible person designated by the registrant. These reports will be filed with the plan and kept on-site for a minimum of three years after the date of the Notice of Termination (NOT). The permittee will submit a NOT to the Maine

Department of Environmental Protection within 20 days of achieving permanent stabilization at the site or after coverage under an alternative permit has been obtained.

## **12.8 RE-CERTIFICATION**

The airport will submit a certification of the following to the Department within three months of the expiration of each five-year interval from the date of issuance of the permit: identification and repair of erosion problems; inspection and repair of the stormwater control system; and maintenance of the erosion and stormwater control system(s), including the maintenance of post-construction inspection/log reports (refer to documents in the back of this section).

INSPECTION AND MAINTENANCE  
DURING CONSTRUCTION



# INSPECTION REPORT FORMS FOR EROSION CONTROLS

INSPECTOR: \_\_\_\_\_ DATE: \_\_\_\_\_

DAYS SINCE LAST RAINFALL: \_\_\_\_\_ AMOUNT OF LAST RAIN FALL \_\_\_\_\_ INCHES

AREA	DATE LAST DISTURBED	DATE OF NEXT DISTURB.	STABILIZED?	STABILIZED WITH/BY	CONDITION

STABILIZATION REQUIRED:

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TO BE PERFORMED BY: \_\_\_\_\_ ON OR  
BEFORE: \_\_\_\_\_



# INSPECTION REPORT FORMS FOR STABILIZATION PRACTICES

INSPECTOR: \_\_\_\_\_ DATE: \_\_\_\_\_

DAYS SINCE LAST RAINFALL: \_\_\_\_\_ AMOUNT OF LAST RAIN FALL \_\_\_\_\_ INCHES

LOCATION OF CONTROL	IN PLACE?	CONDITION	SEDIMENT DEPTH	WASHED OUT OR OVERTOPPE D	ACTION

STABILIZATION REQUIRED:

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TO BE PERFORMED BY: \_\_\_\_\_ ON \_\_\_\_\_ OR  
BEFORE: \_\_\_\_\_

INSPECTION AND MAINTENANCE  
AFTER CONSTRUCTION

STORMWATER SYSTEM  
INSPECTION & MAINTENANCE PLAN  
Remote Parking Lot – Drainage Improvements  
Portland International Jetport  
Portland, Maine

1. Maintenance Responsibility:

It shall be the responsibility of the **Portland International Jetport** to implement the Stormwater Maintenance Plan in accordance with the provisions set forth herein:

Owner: Portland International Jetport  
1001 Westbrook Street  
Portland, Maine 04102

B. Telephone: (207) 874-8877  
Fax: (207) 774-7740

C. Contact Person: Artie Sewall, Operations Manager

2. Inspection of Drainage Structures:

A. Inspect all catch basins, drain manholes, culverts, ponds, soil filters and outlet structures once each month inclusive from March through November. Owner may designate a responsible party to perform monthly inspections. Inspection shall include as a minimum:

- 1) Visual inspection of grates and covers. Report any defective or damaged frames and covers and repair or replace such defects prior to the next month's inspection.
- 2) Visual inspection of catch basins and drain manholes. Report any loose, broken or defective bricks or risers. Report any cracked or leaking structures including top section, barrel sections, bottom section, and seals. Repair or waterproof defects as needed to restore integrity of structure prior to next inspection.
- 3) Visual inspection of catch basin sumps. Remove sediment from each basin as required when sediment level reaches a level of six inches below outlet pipe. Sediment shall be removed and disposed of off-site to an acceptable location in such a manner so as not to be washed into stormwater flowpaths or other drainage structures.
- 4) Visual inspection of pipe inlets and outlets. Remove accumulated debris or sediment from pipe inverts to prevent obstruction of flow.
- 5) Visual inspection of detention pond including sideslopes, embankments, vegetated areas, riprap spillways, aprons and outlets. Remove accumulated debris or sediment from detention pond bottom. Mow, trim, cut, reseed, repair or replant vegetated areas. Mowing should be performed on a limited basis, no more than twice per year in order to maintain grass length less than 12 inches in height.

- 6) Upon completion of final monthly inspection each November report all outstanding defects, damage or maintenance deficiencies to Owner in writing identifying each location, defect or deficiency and take corrective action to restore all components of the stormwater management system immediately prior to significant snow and icing conditions.

### 3. Emergency Measures:

Owner or designated responsible party shall report any problems in performance, damage or other defects, which may significantly reduce the efficiency, or performance of the system. Such problems shall be reported immediately to Owner without waiting until next scheduled maintenance inspection. Owner shall authorize responsible party, where applicable, to perform emergency repairs as required insuring proper operation of system.

### 4. Annual Maintenance:

- A. Prior to, or at the time of, the initial monthly inspection in March of each year the Owner or his designated party shall perform, or engage a contractor to perform, maintenance to remove accumulated winter sand and debris from all pavement areas, to prevent washing of sediment into structures and underground storage pipes. The following measures may be used:
  - 1) Mechanical sweepers
  - 2) Vacuum sweepers
  - 3) Pavement flushing may be used only if followed by sump cleaning of all structures.
- B. Following pavement cleaning, a visual inspection shall be made of all catch basin sumps. Sediment and debris shall be removed if sediment has reached a depth of at least six inches in any basin sump.

### 5. General Maintenance:

General maintenance shall include preventive measures related to the site, which may help preserve and maintain the stormwater management system. Such measure should include, but not be limited to:

- A. Removal of trash, debris, leaves, broken or fallen twigs and branches, etc. from the site, especially in areas where such objects may be washed into the stormwater management system.
- B. Removal of spills, broken glass, etc. which may have the potential to enter the stormwater management system.
- C. Repairs to culverts, rip-rap, ditches, eroded areas, landscaping, lawns, etc. of the site to reduce the potential for sedimentation and to improve the efficiency of the stormwater management system.

## **STORMTREAT Operation & Maintenance**

Operation and maintenance of the StormTreat System is limited to annual inspections and solids removal on an as-needed basis. Annual inspections should include the following steps:

1. Check the discharge flow rate. The lower outlet is designed to discharge at a rate of 2 gallons/minute. This provides for a retention time of approximately 10.7 hours for the full tank to empty following a storm event. The discharge rate should be checked by directly measuring a timed-discharge volume if the outlet is "daylighted" or through "falling-level" measurements inside the central sedimentation chambers. The total static volume of the tank is 1280 gallons and the height of the tank is 4 feet, therefore a 2 gallon/minute discharge rate can be observed as the water level in the tank falling at a rate of 4.5 inches/hour.
2. Measure sediment depth inside the sedimentation chamber and schedule a pump-out if depth reaches 5 inches. A future pump-out date can be estimated by projecting based upon sediment accumulation rates since the last measurement or since original installation. On average, StormTreat Systems need to have sediment removed once every three years. This can be done using a standard septic system pump truck.
3. Observe wetland plant conditions and height during growing season. Wetland plants may need to be supplemented during the first three growing seasons depending upon local site conditions. Established plants should be trimmed back in order to maintain access to tank lids and debris should be cleaned from wetland chamber surface.

## Detention Basin Operation, Maintenance, Management and Inspection Checklist

Project: Portland International Jetport – Remote Parking LotLocation: Portland, Maine

Site Status: \_\_\_\_\_

Date: \_\_\_\_\_

Time: \_\_\_\_\_

Inspector: \_\_\_\_\_

MAINTENANCE ITEM	SATISFACTORY / UNSATISFACTORY	COMMENTS (see last page if more space is needed)
<b>1. Debris Cleanout (Monthly)</b>		
Basin Bottom/ Trench Surface Clear of Debris		
Inlet/ Inflow Pipes Clear of Debris		
Outlet Clear of Debris		
Emergency Spillway Clear of Debris		
<b>2. Sediment Traps or Forebays (Annual)</b>		
Obviously trapping sediment		
Greater than 50% of storage volume remaining		
<b>3. Vegetation (monthly)</b>		
Mowing done no more than 2X/YR (kept less than 12 inches high)		
No evidence of erosion		
Fertilized (avoid if poss.), harvested, pruned, or weeded as needed		
<b>4. Dewatering (Bi-annually; After Major Storms)</b>		
Basin dewatered within 24 hours between storms		

MAINTENANCE ITEM	SATISFACTORY / UNSATISFACTORY	COMMENTS
<b>5. Sediment Cleanout of Basin (Annual)</b>		
No evidence of sedimentation		
Sediment accumulation does not yet require cleanout (no noticeable loss of detention volume capacity)		
<b>6. Inlets (Annual)</b>		
Good condition		
No evidence of erosion		
<b>7. Outlet/Overflow Spillway (Annual, After Major Storms)</b>		
Good condition, no need for repair		
No evidence of erosion		
<b>8. Aggregate Repairs (Annual)</b>		
Surface of aggregate clean		
Top layer of stone does not need replacement		
Trench does not need rehabilitation		
<b>9. Structural Repairs (Annual, After Major Storms)</b>		
Embankment in good repair		
Side slopes are stable		
No evidence of erosion		
<b>10. Fences/Access Repairs (Annual)</b>		
Fences in good condition		
No damage which would allow undesirable entry		
Lock and gate function adequate		
Access point in good condition		

If clean-out of any sediments or debris is required, indicate where the sediment and debris was disposed after removal.

**Comments:**



**Actions to be Taken:**

**\*\*IMPORTANT\*\***

**INSPECTION CERTIFICATION FORM**

**CERTIFICATION:**

I CERTIFY UNDER PENALTY OF LAW THAT THIS DOCUMENT AND ALL ATTACHMENTS WERE PREPARED UNDER MY DIRECTION IN ACCORDANCE WITH A SYSTEM DESIGNED TO ASSURE THAT QUALIFIED PERSONNEL PROPERLY GATHERED AND EVALUATED THE INFORMATION SUBMITTED. BASED ON MY INQUIRY OF THE PERSON OR PERSONS WHO MANAGE THE SYSTEM, OR THOSE PERSONS DIRECTLY RESPONSIBLE FOR GATHERING INFORMATION, THE INFORMATION SUBMITTED IS, TO THE BEST OF MY KNOWLEDGE AND BELIEF, TRUE, ACCURATE AND COMPLETE. I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION, INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT FOR KNOWING VIOLATIONS.

*Note: The Site Location of Development permit application is included after the title page of the document prepared for this project.*

**PROJECT COVERED BY THIS PERMIT:**

**PROJECT DESCRIPTION:** Remote Parking Lot – Drainage Improvements  
Outer Congress Street

**ADDRESS/LOCATION:** Portland International Jetport  
1001 Westbrook Street  
Portland, Maine 04102

**REQUIRED SIGNATURES:**

*Note: This certification **must be completed after each inspection** to signify that the inspection has been properly completed and the site has been found to be in compliance with Maine Site Location of Development regulations.*

SIGNED: \_\_\_\_\_

TITLE: \_\_\_\_\_

COMPANY: \_\_\_\_\_

ADDRESS: \_\_\_\_\_

TELEPHONE: \_\_\_\_\_

DATE: \_\_\_\_\_

### 13.0 SOLID WASTE (Site Location Section 18)

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A small amount of construction debris will be produced during construction of the proposed improvements. It is anticipated that all excavated materials will be re-used for construction of embankments or re-used as topsoil. The existing Vortech water quality unit and several catch basin structures are proposed to be demolished. The frames and covers will be salvaged for re-use, but the concrete and stormdrain piping will be removed from the site and disposed of at an appropriate licensed facility in accordance with all applicable local, state and federal requirements. The estimated amount of demolition material is approximately 25-30 cubic yards. The contractor that is awarded the construction work will be required to submit a disposal plan identifying the ultimate site of disposal to the applicant for review and approval prior to commencing work.

## **14.0 NOTICES (Site Location Section 25)**

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Notice of Intent to File was sent by certified mail to all property abutters and was published in the Portland Press Herald. Included in this section are the following items:

1. Copy of Notice of Intent to File (Form B)
2. Public Notice Filing and Certification (Form C)
3. List of Abutting Property Owners

**PUBLIC NOTICE:  
NOTICE OF INTENT TO FILE**

Please take notice that

Portland International Jetport, 1001 Westbrook Street, Portland, Maine 04101, 207-756-8313  
(Name, Address and Phone # of Applicant)

is intending to file a Site Location of Development Act permit application with the Maine Department of Environmental Protection pursuant to the provisions of 38 M.R.S.A. §§ 481 thru 490 on or about

March 16, 2009

(anticipated filing date)

The application is for

Construction of Drainage Improvements

(description of the project)

at the following location:

Portland International Jetport Remote Parking Lot adjacent to City Snow Dump, 2378 Congress Street, Portland, Maine  
(project location)

A request for a public hearing or a request that the Board of Environmental Protection assume jurisdiction over this application must be received by the Department in writing, no later than 20 days after the application is found by the Department to be complete and is accepted for processing. A public hearing may or may not be held at the discretion of the Commissioner or Board of Environmental Protection. Public comment on the application will be accepted throughout the processing of the application.

For Federally licensed, permitted, or funded activities in the Coastal Zone, review of this application shall also constitute the State's consistency review in accordance with the Maine Coastal Program pursuant to Section 307 of the federal Coastal Zone Management Act, 16 U.S.C. § 1456. (Delete if not applicable.)

The application will be filed for public inspection at the Department of Environmental Protection's office in Portland during normal working hours. A copy of the application may also be seen at the municipal offices in Portland, Maine.  
(town)

Written public comments may be sent to the regional office in Portland, Augusta, or Bangor where the application is filed for public inspection:

MDEP, Southern Maine Regional Office, 312 Canco Road, Portland, Maine 04103

## PUBLIC NOTICE FILING AND CERTIFICATION

The DEP Rules, Chapter 2, require an applicant to provide public notice for all Site Location projects with the exception of minor revisions and condition compliance applications. In the notice, the applicant must describe the proposed activity and where it is located. "Abutter" for the purposes of the notice provision means any person who owns property that is BOTH (1) adjoining and (2) within one mile of the delineated project boundary, including owners of property directly across a public or private right of way.

1. **Newspaper:** You must publish the Notice of Intent to File in a newspaper circulated in the area where the activity is located. The notice must appear in the newspaper within 30 days prior to the filing of the application with the Department. You may use the attached Notice of Intent to File form, or one containing identical information, for newspaper publication and certified mailing.
2. **Abutting Property Owners:** You must send a copy of the Notice of Intent to File by certified mail to the owners of the property abutting the activity. Their names and addresses can be obtained from the town tax maps or local officials. They must receive notice within 30 days prior to the filing of the application with the Department.
3. **Municipal Office:** You must send a copy of the Notice of Intent to File and a **duplicate of the entire application** to the Municipal Office.

**ATTACH a list of the names and addresses of the owners of abutting property.**

### CERTIFICATION

By signing below, the applicant or authorized agent certifies that:

1. A Notice of Intent to File was published in a newspaper circulated in the area where the project site is located within 30 days prior to filing the application;
2. A certified mailing of the Notice of Intent to File was sent to all abutters within 30 days of the filing of the application;
3. A certified mailing of the Notice of Intent to File, and a duplicate copy of the application was sent to the town office of the municipality in which the project is located; and
4. ~~Provided notice of, if required, and held a public informational meeting in accordance with Chapter 2, Rules Concerning the Processing of Applications, Section 14, prior to filing the application. Notice of the meeting was sent by certified mail to abutters and to the town office of the municipality in which the project is located at least ten days prior to the meeting. Notice of the meeting was also published once in a newspaper circulated in the area where the project site is located at least seven days prior to the meeting.~~

The Public Informational Meeting was held on N/A \_\_\_\_\_.  
Date

Approximately N/A members of the public attended the Public Informational Meeting.

C. Feagles  
Signature of Applicant or authorized agent

3/18/09  
Date

SYSCO Food SVCS of Northern  
New England Inc.  
Thomas Drive  
Westbrook, ME 04092  
003\*000\*114\* /003\*000\*115

Sablegolf, LLC  
1000 Market Street  
Portsmouth, NH 03801  
003\*000\*006/ 069//003/A

City of Portland  
589 Congress Street  
Portland, ME 04101  
33 A002001/A006001  
047//005//

Royal Four LLC.  
C/O Richard Atkinson  
47 Thomas Drive  
Westbrook, ME 04092  
003-000-117

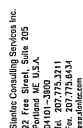
Parker - Hannifin Corp  
6035 Parkland Blvd.  
Cleveland, OH 44124  
234 A002001

Portland Water District  
225 Douglass Street  
Portland, ME 04102  
A233 A005001

Silvex Inc.  
45 Thomas Drive  
Westbrook, ME 04092  
003\*000\*118

Maine Turnpike Authority  
430 Riverside St.  
Portland, ME 04103  
233 A001001/A008001/069//002/A  
047//004//

1515 Sable LLC  
1515 Sable Oaks Drive  
South Portland, ME 04102  
072//018//



The Contractor shall verify and be responsible for all dimensions. DO NOT scale the drawing - any errors or omissions shall be reported to Sieniec without delay.

This Copyright is the design and drawings are the property of Sieniec. Reproduction or use for any purpose other than as

\_\_\_\_\_

[illegible]

File Name: SM_1_grading_drainage.dwg	AT	DN	AT	09.02.19
	User:	Draw:	Draw:	Yr.Mo.Dd



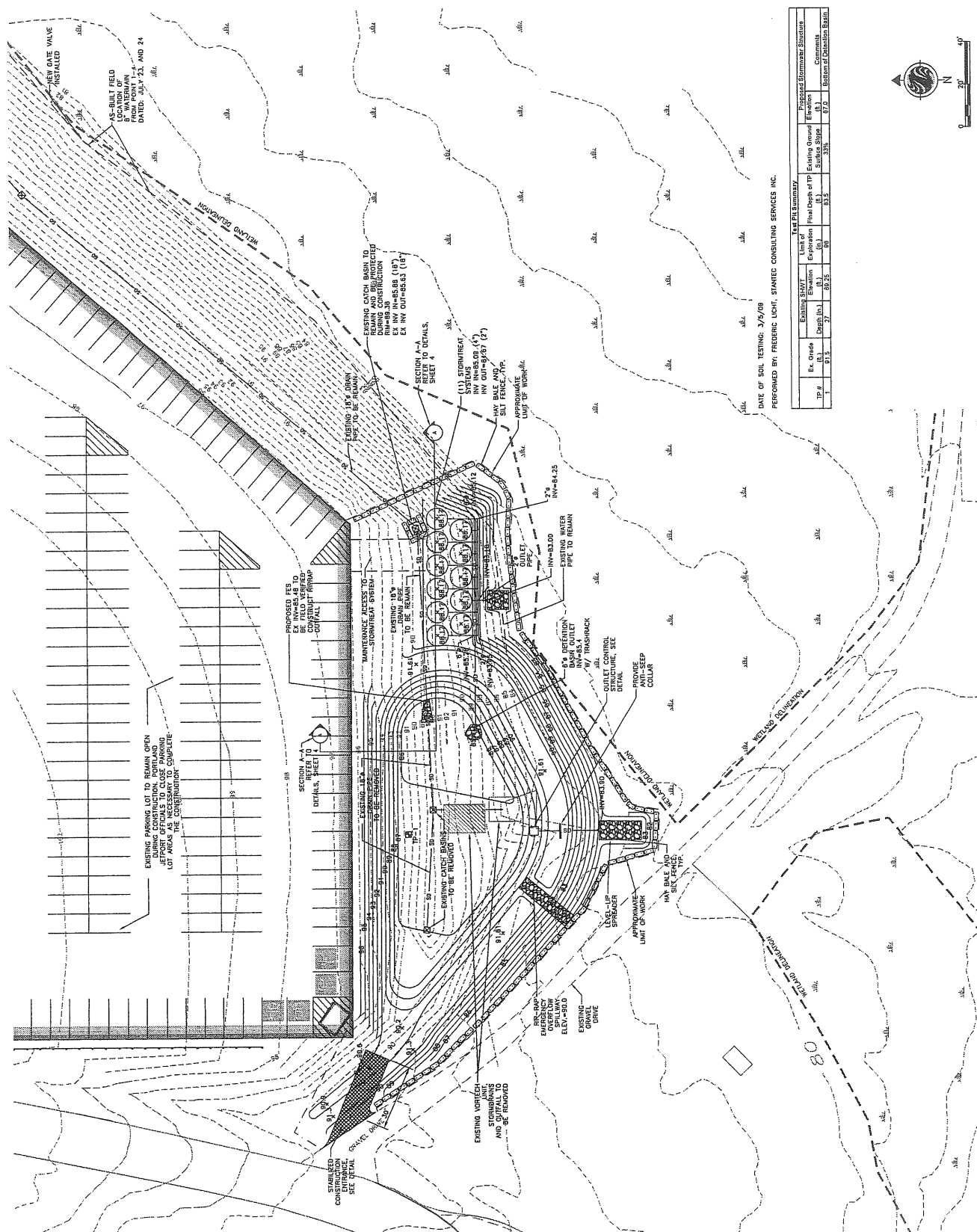
CERN Project

PORTLAND INTERNATIONAL  
JETPORT  
REMOTE PARKING LOT  
DRAINAGE IMPROVEMENTS

GRADING AND DRAINAGE

Project No. 195210313  
Scale 1"=20'

Drawing No.	Sheet	Revision
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[illegible]

DATE OF SOIL TESTING: 3/5/09











*Strengthening a Remarkable City. Building a Community for Life* [www.portlandmaine.gov](http://www.portlandmaine.gov)

**Planning & Urban Development Department**  
Penny St. Louis Littell, Director

**Planning Division**  
Alexander Jaegerman, Director

May 8, 2009

Cuyler Feagles  
Portland International Jetport  
1001 Westbrook St.  
Portland, ME 04102

RE: 2378 Congress St.  
CBL: 233-A002  
Application ID: 2009-0039

Dear Mr. Feagles:

On May 8, 2009, the Portland Planning Authority approved an amendment to a site plan for drainage improvements on the remote parking lot of the Portland International Jetport.

The approval is based on the submitted site plan 5/8/09. If you need to make any modifications to the approved site plan, you must submit a revised site plan for staff review and approval.

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

1. The site shall be developed and maintained as depicted in the site plan and the written submission of the applicant. Modification of any approved site plan or alteration of a parcel which was the subject of site plan approval after May 20, 1974, shall require the prior approval of a revised site plan by the Planning Board or the planning authority pursuant to the terms of this article. Any such parcel lawfully altered prior to the enactment date of these revisions shall not be further altered without approval as provided herein. Modification or alteration shall mean and include any deviations from the approved site plan including, but not limited to, topography, vegetation and impervious surfaces shown on the site plan. No action, other than an amendment approved by the planning authority or Planning Board, and field changes approved by the Public Services authority as provided herein, by any authority or department shall authorize any such modification or alteration.
2. Final sets of plans shall be submitted digitally to the Planning Division, on a CD or DVD, in AutoCAD format (\*.dwg), release AutoCAD 2005 or greater.
3. A performance guarantee covering the site improvements as well as an inspection fee payment of 2.0% of the guarantee amount and seven (7) final sets of plans must be submitted to and approved by the Planning Division and Public Works prior to the release of the subdivision plat for recording at the Registry of Deeds or prior to the release of a building permit, street opening permit or certificate of occupancy for site plans. If you need to make any modifications to the



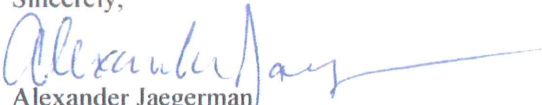
approved plans, you must submit a revised subdivision or site plan application for staff review and approval.

4. The site plan approval will be deemed to have expired unless work in the development has commenced within one (1) year of the approval or within a time period agreed upon in writing by the City and the applicant. Requests to extend approvals must be received before the expiration date.
5. A defect guarantee, consisting of 10% of the performance guarantee, must be posted before the performance guarantee will be released.
6. Prior to construction, a pre-construction meeting shall be held at the project site with the contractor, development review coordinator, Public Work's representative and owner to review the construction schedule and critical aspects of the site work. At that time, the site/building contractor shall provide three (3) copies of a detailed construction schedule to the attending City representatives. It shall be the contractor's responsibility to arrange a mutually agreeable time for the pre-construction meeting.
7. If work will occur within the public right-of-way such as utilities, curb, sidewalk and driveway construction, a street opening permit(s) is required for your site. Please contact Carol Merritt at 874-8300, ext. 8828. (Only excavators licensed by the City of Portland are eligible.)

The Development Review Coordinator must be notified five (5) working days prior to date required for final site inspection. The Development Review Coordinator can be reached at the Planning Division at 874-8632. Please make allowances for completion of site plan requirements determined to be incomplete or defective during the inspection. This is essential as all site plan requirements must be completed and approved by the Development Review Coordinator prior to issuance of a Certificate of Occupancy. Please schedule any property closing with these requirements in mind.

If there are any questions, please contact Eric Giles at 874-8723.

Sincerely,

  
Alexander Jaegerman  
Planning Division Director

**Electronic Distribution:**

Penny Littell, Planning & Development Dept. Director  
Alexander Jaegerman, Planning Division Director  
Barbara Barhydt, Development Review Services Manager  
Philip DiPierro, Development Review Coordinator  
Marge Schmuckal, Zoning Administrator  
Tammy Munson, Inspections Division  
Lisa Danforth, Administrative Assistant  
Michael Bobinsky, Public Works Director  
Kathi Earley, Public Works  
Bill Clark, Public works  
Jim Carmody, City Transportation Engineer  
Keith Gautreau, Fire Prevention  
Jeff Tarling, City Arborist  
Assessor's Office  
Approval Letter File  
**Hard Copy:** Project File



**Stantec**

**Stantec Consulting Services Inc.**  
22 Free Street Suite 205  
Portland ME 04101-3900  
Tel: (207) 775-3211  
Fax: (207) 775-6434

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May 8, 2009  
File: 195210313

Mr. Eric Giles  
Planning Division  
389 Congress Street 4<sup>th</sup> Floor  
Portland, Maine 04101

Dear Mr. Giles:

**Reference: Site Plan Amendment Application  
Portland International Jetport – Remote Parking Lot  
Portland, Maine**

Please find enclosed seven (7) copies of the final stamped Site Plan drawings with revisions based on review comments received from Mr. Dan Goyette of Woodard & Curran (review comment letter attached). A reduced set of drawings (11"x17") is also enclosed, along with a CD containing the electronic copies of the drawings, in both PDF and AutoCAD format.

Please feel free to contact us if any additional information is required.

Sincerely,

**STANTEC CONSULTING SERVICES INC.**

David P. Nadeau, P.E.  
Transportation Engineer  
Tel: (207) 775-3211  
Fax: (207) 775-6434  
dave.nadeau@stantec.com

Attachment: as stated

c. Cuyler Feagles - PWM



## MEMORANDUM

TO: Eric Giles  
FROM: Dan Goyette, PE  
DATE: April 30, 2009  
RE: Jetport Satellite Parking Lot

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Woodard & Curran has reviewed the Site Plan Application for the construction of drainage improvements at the Portland International Jetport's remote parking lot on outer Congress Street. The Applicant proposes to construct a dry detention basin with eleven engineered stormwater bio-filter chambers.

### Documents Reviewed

- Site Plan Amendment Application and Attachments dated April 17, 2009 prepared by Stantec.

### Comments

- The outlet control structure should have a three foot sump depth.

We have no additional comments at this time. Please contact our office if you have any questions.

DRG  
203939.56





70° 20' 26"

43° 38' 59"

4833840

4833760

4833680

4833600

4833520

4833440

43° 38' 43"

Map Scale: 1:2,410 if printed on B size (11" x 17") sheet.

