

26-P-3

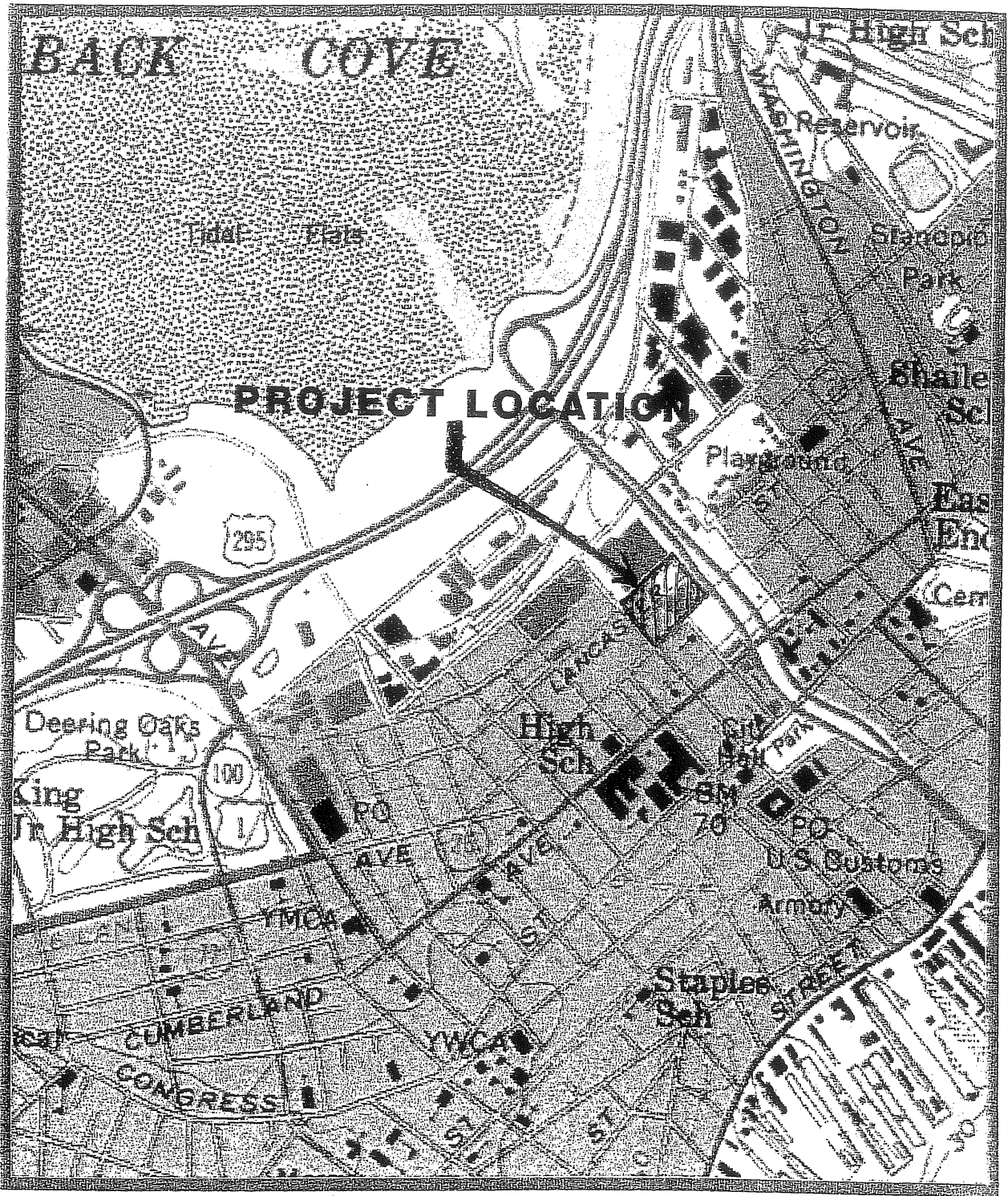
2000-0084

127 Oxford St.

Bld. Addition

Earle W. Noyes

on Spreadsheet



SITE LOCATION MAP
 USGS TOPOGRAPHIC
 7.5 MIN. QUADRANGLE
 PORTLAND WEST
 SCALE: 1"=1000'

00030

STORMWATER MANAGEMENT PLAN
E.W. Noyes & Sons
Pearl Street
Portland, Maine

General

This Stormwater Management Plan has been prepared to evaluate the pre and post-developed conditions associated with the proposed warehouse facility for E.W. Noyes & Sons off Pearl Street in Portland, Maine.

The total development proposal consists of constructing two buildings that will have a total of approximately 38,500 square feet of footprint with associated parking areas, landscape areas, sidewalks, and stormwater management facilities. The stormwater from the impervious areas will generally sheet flow to two proposed catch basins where the runoff will be transported via subsurface storm drains to a Vortech unit prior to outletting to the existing catch basin in Pearl Street.

Site Characteristics

The project site currently consists of the existing facility, a gravel area, and an area of scrub grass. The terrain consists of flat slopes that fall from a centrally located ridge to the outer boundaries of the site. The proposed grading of the impervious areas will allow for sheet flow towards the catch basins so that all the runoff from these areas will be intercepted and treated prior to outletting to the municipal system.

Soils

Soils information was obtained from a subsurface and foundation investigation done by Haley and Aldrich in April of 2000. A copy of the soil borings and project location is contained within the other sections of this application. The soil tests show a fill including sandy gravel with cobbles and brick. The HydroCAD calculations were done using a hydrologic soil group of "C" according to these borings.

Methodology

The pre and post-developed watershed analyses were conducted using the "HydroCAD" computer-modeling program, which incorporates the TR-55 and TR-20 methodologies as provided by the Soil Conservation Service of the U.S. Department of Agriculture.

Existing Watersheds

The existing site consists of three distinct watersheds with a total of approximately 3.82 acres. Watershed 1 (WS-1) consists of the developed area of the site and drains toward the existing catch basin within the pavement. The subsurface storm drains outlet the runoff in a westerly direction to an existing manhole in Pearl Street. Watershed 2 (WS-2) consists of the most southerly strip of the site and drains to an existing catch basin within the parking area. Watershed 3 (WS-3) consists of the undeveloped portion of the site and drains to an existing catch basin in Pearl Street.

Proposed Watersheds

The total post-developed contributing areas contain approximately 3.82 acres of land. The impervious and developed areas of the site were divided into four watersheds (WS 1-4). Watersheds 1 and 2 will remain the same as they were in the pre-developed condition. The only change will be in the newly developed area. This area will be broken into two separate watersheds that will each flow to their respective catch basins. These catch basins will intercept the runoff from the impervious areas and then the runoff will be transported via subsurface storm drains to the Vortech unit to be treated prior to outletting to the municipal system along Pearl Street.

Stormwater Management

The following table summarizes the results of stormwater calculations for the design storm events for the project areas. Calculations and computer modeling data sheets are provided with this report.

Study Point	Total Watershed Area		Avg. Weighted Curve No. (Cn)		Peak Rates of Runoff (cfs)					
	Pre	Post	Pre	Post	2-Year		10-Year		25-Year	
					Pre	Post	Pre	Post	Pre	Post
1	1.59	1.59	96	96	4.17	4.17	4.34	4.34	4.34	4.34
2	.37	.37	98	98	1.08	1.08	1.71	1.71	2.00	2.00
3	1.86	1.86	86	95	3.70	3.31	6.98	5.45	8.53	6.45

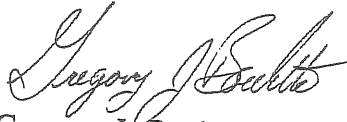
Summary

The proposed development of the warehouse facility complex for E.W. Noyes & Sons will include the installation of two catch basins to which the runoff from the majority of the impervious areas will be directed. The subsurface storm drains will transport the runoff to the Vortech unit for treatment prior to outletting to the municipal system.

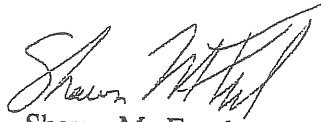
Other drainage provisions will include a specific grading plan and erosion and sedimentation control plan to be implemented throughout the construction cycle. The incorporation of these measures and the drainage provisions is expected to adequately address stormwater runoff from the developed site such that no downstream property will be adversely impacted.

Prepared by,

SEBAGO TECHNICS, INC.



Gregory J. Boulette
Project Engineer



Shawn M. Frank, PE
Project Manager

GJB:gjb/jc
April 27, 2000

EROSION AND SEDIMENT CONTROL PLAN

E. W. Noyes & Sons
Pearl Street
Portland, Maine

General

This plan has been developed to provide a strategy for dealing with soil erosion and sedimentation during and after the construction of the proposed warehouse facility in Portland, Maine. This plan is based on the Standards and Specifications for Erosion Prevention as contained in the Maine Erosion and Sediment Control Handbook for Construction: Best Management Practices (dated March 1991).

The proposed project site will entail construction of two buildings with a combined footprint of 38,500 square feet. The project site is on the east side of Pearl Street. The topography throughout the site consists of flat slopes that fall from a centrally located ridge to the outer boundaries of the site.

Construction Phase

In order to protect the soil, water, wetland, and wildlife resources of this development and adjacent lands, only those areas necessary to construct the roadway, utilities, and stormwater management structures will be disturbed.

Equipment anticipated to be used for construction includes backhoe(s), truck(s), loader(s), bulldozer(s), cement trucks, asphalt paver, and roller. The following actions will be taken:

1. Areas undergoing actual construction that will be left in an untreated or unvegetated condition for a maximum of 14 days will be protected with temporary erosion control. Areas within 100 feet of drainage courses and wetlands will be stabilized within 7 days of disturbance. Temporary erosion control will include erosion control mesh, netting or mulch as directed by owner or inspecting engineer.
2. All topsoil will be stockpiled at least 100 feet upgradient of existing wetlands for future use and protected from any erosion. Silt fencing will be placed down gradient from the topsoil stockpile. The location of topsoil stockpiles will be determined by the contractor at the time of construction.
3. Prior to clearing and grubbing the site, erosion control mesh will be installed and staked across/along points of concentration and at the inlets of all existing culverts.

4. Prior to clearing and grubbing, siltation fencing will be staked across the slope(s), on the contour, at or just below the limits of clearing or grubbing, and/or just above any adjacent property line or wetland to protect against construction related erosion
5. All silt fencing will be inspected, replaced and/or repaired weekly, as well as immediately following any significant rainfall or snow melt. Sediment will be removed and returned to the site when it reaches 1/3 the fence height.
6. Any fill used on the site will meet DOT Standard 703.18 for common borrow and DOT Standard 703.06(b) for subbase aggregate.
7. If final seeding of the disturbed areas is not completed by September 15th of the year of the construction, then on that date these areas will be graded and smoothed, then prepared to be seeded to a winter cover crop of Rye at the rate of 112 lbs./acre or 3 lbs./1000 sq. ft. The Rye seeding will be preceded by an application of 3 tons of lime and 1,000 lbs. of 10-10-10 fertilizer or its equivalent. If the Rye seeding cannot be completed by October 1st, then on that date, hay mulch will be applied at the rate of 2 tons per acre to provide winter protection. If Rye does not make adequate growth by December 1st, then on that date, hay mulch will be applied at the rates specified under Vegetation Plan #4.
8. During the construction phase, intercepted sediment will be returned to the site and regraded onto open areas. Post seeding sediment, if any, will be hauled to a disposal area approved by the Town Engineer.

Vegetation Plan

Revegetation measures will commence immediately upon completion of construction except as noted under paragraph 6 above. All disturbed areas not otherwise stabilized will be graded, smoothed, and prepared for final seeding as follows:

1. Four inches of loam will be spread over disturbed areas and smoothed to a uniform surface.
2. In lieu of soil tests, agricultural limestone will be spread at the rate of three tons per acre. 10-20-20 fertilizer will follow at the rate of 800 lbs. per acre. These two soil amendments will be incorporated into the soil prior to seeding.
3. Following seed bed preparation, any sediment-stormwater detention structures, swale areas, fill areas, and back slopes will be seeded to a mixture of 35% Creeping Red Fescue, 6% Red Top, 24% Kentucky Bluegrass, 10% Perennial Ryegrass, 20% Annual Ryegrass, and 5% White Dutch Clover. The lawn areas will be seeded to a premium turf mixture of bluegrass and/or Fescue with a seeding rate of 2-3 lbs. per 1,000 square feet.

* Lawn quality sod may be substituted for seed only.

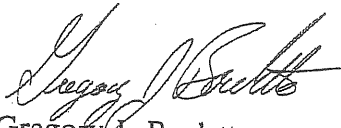
- 4. Hay mulch at the rate of 100 lbs. per 1,000 square feet or a hydro-application of asphalt, wood, or paper fiber will be applied following seeding. A suitable binder, such as Curasol or Terratack, will be used on hay mulch for wind control. At a minimum, the soil must be covered.
- 5. All erosion control measures will remain in place until seedings have become 90% established and then removed within 10 days.

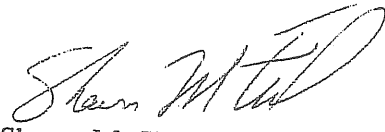
Monitoring

Maintenance measures will be applied as needed during the entire construction cycle. Weekly and after each rainfall, a visual inspection will be made of all installed erosion control measures and repairs will be made as needed to insure their continuing function as designed. Following the final seedings, the site will be inspected every fifteen days until the seedings have been established. Established means a minimum of 90% of area vegetated with vigorous growth. Reseeding will be carried out, with follow-up inspections, in the event of any failures. All erosion control measures will be removed within 10 days when vegetation is adequately established.

Prepared by:

SEBAGO TECHNICS, INC.


 Gregory J. Boulette
 Project Engineer


 Shawn M. Frank., P.E.
 Project Manager

GJB:jc
April 26, 2000

PLANNING BOARD REPORT #27-00

**WAREHOUSE EXPANSION
VICINITY OF 127 OXFORD STREET
E. W. NOYSE & SONS , APPLICANT**

Submitted to:

Portland Planning Board
Portland, Maine

June 27, 2000

I. INTRODUCTION

Earle W. Noyes and Sons is proposing an 34,177 sq. ft. expansion to its existing short-term storage warehouse facility at the corner of Oxford and Pearl Streets along with 3000 square feet of new associated office space. The Board held a May 23, 2000 workshop on this item and the warehouse addition has since been reduced from 37,000 sq. ft. for this submission. The site is located in the B-5, Urban Commercial Zone.

Findings:

Zoning:	B-5 Commercial
Land Area:	3.91 acres +/-
Existing buildings:	36,000 square feet
Proposed buildings:	34,177square feet warehouse (reduced from 37,000) 3,000 square feet office
Total:	73,177 square feet net
Parking:	59 auto spaces 16 truck spaces

Notices were sent to 203 neighboring property owners.

Background

The applicant wishes to expand the existing warehouse use onto an adjacent gravel lot which currently serves as vehicle and truck parking. The existing facility houses short-term furniture and office storage for the applicant's moving company and the proposed addition will provide an expansion of this use. Trucks for the company currently park on the vacant lot adjacent to the existing warehouse. The applicant's agent, from Sebago Technics Engineers, indicates that the number of trucks and employees are not anticipated to increase as a result of this expansion, and that parking for the existing vehicles will be accommodated on-site through better organization of the parking layout and circulation.

The site includes portions of abandoned City streets at both the Oxford Street and Lancaster Street ends of the property. The Oxford Street portion currently serves as parking for the existing office use housed in the south east portion of the existing building. A railroad easement which was shown on the site plan submitted for the May 23 workshop has been removed. Research conducted on the property could find no record of the easement and the survey has been amended accordingly. Guilford Transportation was notified of this development and has been provided with relevant information. Planning staff sent Guilford Transportation staff a copy of the May 23 Planning Board Memo on May 30, and no concerns have been expressed.

This proposal includes a 3000 square foot two story office ell at the south of the building. The office addition would have a 1500 square foot foundation footprint and have a one story presence on Oxford Street. The lower floor would sit below the oxford street level, opening onto the parking and loading area. There is a +/-12 foot drop in grade from Oxford Street to the loading area. This area, which is currently grassed, accommodates two +/-12 inch diameter hardwood trees. One of the trees will be

removed to accommodate the office addition and the slope is proposed to be stabilized with an interlocking block retaining wall. Alterations associated with the office addition are shown as phase two of the project, and may not be undertaken in the immediate future.

II. STAFF REVIEW

B. SITE PLAN

1/2. Traffic

Access to the site will be from an existing curb cut on Pearl Street which is proposed to remain the only vehicle access to the site. The Pearl Street facade shows truck loading doors to serve the facility in both the existing and proposed buildings. As the size of the addition has been reduced since the previous workshop, circulation within the site has been improved

Truck parking (16 spaces total) is proposed for both the Oxford Street and Lancaster Street sides of the property and passenger vehicle parking (59 spaces total) is located on the abandoned Oxford Street portion of the property, along Pearl Street, and along the Lancaster side of the warehouse addition. The applicant's engineer indicates that trucks will have additional parking opportunities in unused loading bays.

Bituminous sidewalks exist in satisfactory condition along Pearl Street.

3/4. Building Impact

The proposed addition will be approximately 33 feet tall at the lowest elevation of the property. The adjacent uses to the north are similarly scaled warehouses that will not be unduly impacted. For an discussion of the building design, see the B-5 section below.

5. Utility Capacity

The addition has no water or sanitary sewer hook up of its own, and no additional employees are proposed. A sewer capacity letter has been submitted. See Attachment #3.

6. Landscaping

At the previous meeting, the Board requested to see additional landscaping as part of this development. An additional tree island has been added to the Pearl Street side of the parking area and a mixed row of fir and ash trees have been added to the Franklin Arterial buffer.

7. Drainage

A total of 35,000 Square feet of impervious surface will be added as result of this development.

In the predeveloped condition drainage for the site is collected into a catch basin in the center of the existing loading and circulation area and piped into the City system in Pearl Street. The vacant lot sheet flows northerly to the vacated Lancaster Street area and off-site. In the post development condition, the existing facility will drain essentially as in the predevelopment condition while the expansion area will utilize two new catch basins along the northerly boundary.

The expansion area will receive treatment by feeding into a Vortech type treatment tank prior to outletting into the Pearl Street combined sewer system at an existing catchbasin. The existing paved area is not proposed to receive stormwater treatment.

Planning staff has included two suggested conditions of approval concerning the proposed treatment tanks and the existing paved area: (1) that the applicant enter into a stormwater maintenance agreement with the City that ensures proper maintenance of the Vortechs tank, and (2) that a Casco Trap (or equivalent) be installed and petroleum absorbent "skimmers" be utilized in the existing on-site catch basin. Staff suggests the catchbasin modification and use of the skimmers due to the fact that fuel pumps operate on site and that residual spillage feeds through this catchbasin.

8. Lighting

The applicant indicates that lighting will be limited to six wall pack units above the loading areas. The lights are to be 70 watts and mounted at 16 feet above grade. Non-cutoff fixtures have been proposed and a suggested condition of approval has been included which requires that full cutoff fixtures be submitted for Planning staff review and approval.

9. Fire

City Fire Safety has approved this proposal.

10. Off Premises Infrastructure

The proposal is consistent with off premises infrastructure

11. Environmental Impact

As stated above in the Drainage section of this report, Planning staff has concerns that the on-site truck fueling facility should provide reasonable environmental protections.

12. Signs

The existing building mounted sign facing Franklin Arterial is proposed to move onto

the addition.

13. Development in the B-5 Zone

Specific siteplan standards apply to development in the B-5 Zone.

- a. Shared Infrastructure with adjoining uses.
- b. Buildings are to be sited close to the street where practicable and provide an architectural presence.
- c. Buildings are to be oriented to the street.
- d. Parking shall be located to the rear where practicable or along property lines to allow for shared use.
- e. The Planning Board may modify or waive standards a. through d. as may be reasonably necessary to suit the operational needs of the users.

Due to the truck loading and circulation patterns established by the existing facility, strictly adhering to the siting provisions of the above standards b., c., and d. would require totally reconfiguring the existing facility.

At the previous meeting, the architecture of the building had been addressed by the Board, and the applicant's architect, John Wise of Gawron Architects, has added a horizontal cornice detail and stepped the concrete blocks to follow grade. The Board will need to find whether the additional detail and above described landscaping sufficiently address concerns of the building's impact on Franklin Street.

III. MOTIONS FOR THE BOARD TO CONSIDER

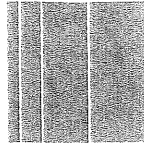
Based on the material submitted and the analysis contained in Planning Report #27-00 the Board finds that the building additions meets the siteplan standards of the City Landuse Code:

Subject to the following conditions of approval:

1. That the applicant provide revised full cutoff light fixtures for Planning staff review and approval:
2. That the existing on-site catchbasin be (a) fitted with a "Casco" trap or functional equivalent of a type to be reviewed and approved by the Development Review Coordinator; (b) and that petroleum absorbent skimmers, of a type to be reviewed and approved by Planning staff ,be utilized in accordance with the specific manufacturer's instructions:
3. That the applicant enter into a stormwater maintenance agreement with the City that ensures proper maintenance of the Vortechs tank in accordance with the manufacturer's instructions: and,
4. That architectural plans and elevation drawings for the proposed 3000 square foot office addition(shown as "phase II") be submitted for Planning Staff review and approval, prior to issuance of a building permit.

Attachments:

1. Applicant's updated Written Statement
2. City Engineering memos
3. Sewer capacity letter
4. Stormwater summary and Erosion and Sediment Control Plan
5. Plans



Sebago Technics

Engineering & Planning for the Future

June 13, 2000
00030

William Needelman, Planner
City of Portland
389 Congress Street
Portland, ME 04101

Supplemental Submission to Major Site Plan Application
E. W. Noyes & Sons, Pearl Street

Dear Bill:

On behalf of E. W. Noyes & Sons, we are pleased to submit seven (7) copies of the enclosed revised plans and additional supplemental information associated with their previously submitted application for Major Site Plan approval. As you will recall, this project was reviewed at workshop with the Planning Board at their meeting on May 23, 2000. At that meeting, the Board members expressed their concerns with the building elevation as viewed from Franklin Street and the need for additional landscaping along Pearl Street. We also received staff review comments of the original submission. Additionally, the applicant and the contractor reviewed the project and recommended changes to the building to maintain construction costs within budget. The following provides a summary of the major plan revisions:

1. The building elevation along Franklin Street has been revised to include a concrete block wall. This wall will match the elevation of the existing wall at the common connection and will be stepped down the hill to the end of the building. Additionally, landscaping is proposed between the building addition and Franklin Street to provide further visual relief as shown on the landscaping plan.
2. Additional landscaping is proposed within the parking area along Pearl Street to augment the previously proposed landscaping as shown on the landscaping plan.
3. The building addition is proposed to be 34,177 square feet rather than the originally proposed 37,000 square feet by aligning the fronts of the proposed and existing building along Pearl Street. This also allows for the existing fuel pumps to be retained in their existing location.

4. The existing mechanical bays will not be relocated to the building addition. As such, no new sanitary sewer connection is required.
5. The railroad easement originally depicted on the plan set has been removed based upon further research. A revised, stamped property survey will be submitted upon receipt.

The following information is provided in response to the review comments provided by Anthony Lombardo in a memorandum to you dated May 16, 2000:

1. A note has been added to the Grading and Utility Plan stating that the sidewalk and curb along Pearl Street shall be reconstructed in accordance with City of Portland Technical Specifications and in coordination with Public Works.
2. A note has been added to the Grading and Utility Plan stating that the connection to the City drainage system shall be core bored.
3. The roof drains will be connected to the proposed subsurface storm drain system. Two connections are now denoted on the Grading and Utility Plan. The building addition was included within the drainage calculations for the storm drain and the treatment tank.
4. The erosion and sediment control narrative and associated details have been added to the detail sheet. Locations of hay bale barriers and silt fence are noted on the Grading and Utility Plan.

The following information is provided in response to the review comments provided by Steve Bushey in a memorandum to you dated June 2, 2000:

1. It is our understanding that this property was originally obtained by the City during an Urban Redevelopment project. At that time, the Lancaster Street right-of-way was discontinued. The railroad easement originally shown has been eliminated in accordance with additional research.
2. Notes have been added to the plan set stating that the propane tanks will be removed and the sanitary manhole will be reset.
3. The fuel pumps are no longer proposed to be relocated.
4. The revised building elevation shows no new doors located along the northwest corner of the building. Adequate aisle width will be maintained between vehicles at the building and parked vehicles.
5. The mechanical room is no longer proposed to be relocated and, therefore, the new sewer connection is no longer proposed.

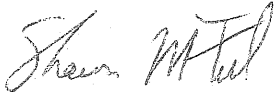
6. The connection to the storm drain line in Pearl Street is proposed at the existing catch basin and will be core bored as requested by Public Works.

Additionally, as we discussed, the total new impervious area on the site is 35,280 square feet. As such, no stormwater permit is required by the State. In accordance with City requirements, all new impervious areas will be directed through a treatment tank prior to entering the City system. We do not propose to revise the existing storm drain system.

We are hopeful that we have addressed the outstanding concerns such that the Planning Board may grant site plan approval. Upon your review of the enclosed plans and associated information, please call with any questions or comments. Thank you for your consideration.

Sincerely,

SEBAGO TECHNICS, INC.



Shawn M. Frank, P.E.
Project Manager

SMF:jc
Enc.

cc: Peter Noyes, E. W. Noyes & Sons
Peter Pelletier, Allied/Cook Construction

A# 2.1

From: "Steve Bushey" <srbushey@maine.rr.com>
To: "william needleman" <wbn@ci.portland.me.us>
Date: Tue, Jun 20, 2000 8:25 PM
Subject: E.W. Noyes

Bill,

I have reviewed the second submission by Sebago Technics for the E.W. Noyes expansion dated June 13, 2000 and find that they have substantially addressed my earlier comments. On this basis I have no further comments and can recommend Final approval be considered by the Planning Board. Please call if you have any further comments or questions.

Steve Bushey Acting Development review Coordinator

Att. 2.2

From: Anthony Lombardo
To: William Needleman
Date: Fri, Jun 16, 2000 8:12 AM
Subject: E.W. Noyes...Pearl St....6/16/00

I've reviewed the recent submittal dated 6/13/00 and find that the applicant has addressed all the comments, generated in my previous memo, to my satisfaction.

Att. 23

From: Anthony Lombardo
To: William Needleman
Date: Tue, May 16, 2000 7:23 AM
Subject: E.W. Noyes ...Pearl St. 5/16/00

Bill,

I have reviewed the submittal dated 5/8/00 have the following comments:

1. The plan set needs to include construction details for the repair to the Pearl St. sidewalk disturbed during the installation of the proposed storm drain system.
2. The plans must specify that each connection into a City drainage or sanitary structure shall be "core drilled". This notation should be clearly denoted on sheet 3 of 5.
3. It is not clear from the plans where the roof drains from the proposed building will discharge. Will the new system collect roof runoff or will the existing system collect the runoff ?
4. The plans need to include a site specific "erosion and sedimentation control plan".

Att. 2.4

From: "Steve Bushey" <srbushey@maine.rr.com>
To: "william needleman" <wbn@ci.portland.me.us>
Date: Fri, Jun 2, 2000 4:38 PM
Subject: e.w. noyes

Bill,

I have reviewed the E.W. Noyes expansion plans dated 3-28-00 submitted by Sebago Technics and provide the following comments for your review:

1. The applicant should provide an explanation of the status of what appears to be an extension of the Lancaster Street R.O.W on the north side of the site. The should also discuss the status of the railroad easement identified on the existing conditions plan.
2. The site plan should include notes as to the plans for the existing propane tank and the existing sanitary manhole at the southeast corner of the proposed expansion. Will they be removed, reset etc.?
3. The fire Dept. should review the fuel pump relocation for meeting NFPA standards.
4. Two overhead door loading docks will be located at the northwest corner of the expansion. When semitrailers will be at the docks, access to the north side of the building may be limited, particularly if other trailers are parked in the designated spaces along the north side. The Fire Dept and Larry Ash should comment on this potential conflict and access limitations.
5. The utilities plan shows the sanitary connection into an existing manhole. more data must be provided on pipe sizing, slope, inverts and accessibility into the existing structure. If the flow go towards Pearl Street, then the proposed connection would be unacceptable, due to an inlet angle less than 90 deg.
6. the proposed storm drain leaving the site should be connected to a drain manhole in Pearl street. Tony Lombardo should comment on this connection.
7. I am satisfied as to the other submission materials for stormwater and erosion control.

If you have any questions regarding these comments please call. I assume you will relay these comments onto the applicant's engineer.

Steve Bushey Acting development review coordinator.



William J. Bray
Director

CITY OF PORTLAND

20 June 2000

Gregory J. Boulette,
Project Engineer,
Sebago Technics, Inc.,
P.O. Box 1339,
Westbrook, Maine 04098-1339

**RE: The Capacity to Handle Wastewater Flows, from the Proposed
E.W. Noyes & Sons Warehouse Expansion, at 127 Oxford Street.**

Dear Mr. Boulette:

The forty-four inch diameter brick sanitary sewer pipe, located in Lancaster Street has adequate capacity to transport the anticipated wastewater flows of zero GPD, from your proposed addition. The Portland Water District sewage treatment facilities, located off Marginal Way, have adequate capacity to treat the anticipated wastewater flows of zero GPD, from your proposed addition.

Anticipated Wastewater Flows from the Proposed Warehouse Addition

Proposed 37,000 s. f. addition @ 0 GPD Increase in Wastewater Flows	= 0,000 GPD
Total Proposed Increase in Wastewater Flows for this Project	= 0,000 GPD

If I can be of further assistance, please call me at 874-8832.

Sincerely,
CITY OF PORTLAND

Frank Brancely
Frank J. Brancely, BA, MA
Senior Engineering Technician

FJB

- CC: Joseph E. Gray, Director, Department of Planning, & Urban Development, City of Portland
 ✓ William Needelman, Planner, Dept. of Planning, & Urban Development, City of Portland
 Katherine A. Staples, PE, City Engineer, City of Portland
 Bradley A. Roland, PE, Environmental Projects Engineer, City of Portland
 Anthony W. Lombardo, PE, Project Engineer, City of Portland
 Stephen K. Harris, Assistant Engineer, City of Portland
 Desk File

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STORMWATER MANAGEMENT PLAN
E.W. Noyes & Sons
Pearl Street
Portland, Maine

General

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The pre and post-developed watershed analyses were conducted using the "HydroCAD" computer-modeling program, which incorporates the TR-55 and TR-20 methodologies as provided by the Soil Conservation Service of the U.S. Department of Agriculture.

Existing Watersheds

The existing site consists of three distinct watersheds with a total of approximately 3.82 acres. Watershed 1 (WS-1) consists of the developed area of the site and drains toward the existing catch basin within the pavement. The subsurface storm drains outlet the runoff in a westerly direction to an existing manhole in Pearl Street. Watershed 2 (WS-2) consists of the most southerly strip of the site and drains to an existing catch basin within the parking area. Watershed 3 (WS-3) consists of the undeveloped portion of the site and drains to an existing catch basin in Pearl Street.

Proposed Watersheds

The total post-developed contributing areas contain approximately 3.82 acres of land. The impervious and developed areas of the site were divided into four watersheds (WS 1-4). Watersheds 1 and 2 will remain the same as they were in the pre-developed condition. The only change will be in the newly developed area. This area will be broken into two separate watersheds that will each flow to their respective catch basins. These catch basins will intercept the runoff from the impervious areas and then the runoff will be transported via subsurface storm drains to the Vortechincs unit to be treated prior to outletting to the municipal system along Pearl Street.

Stormwater Management

The following table summarizes the results of stormwater calculations for the design storm events for the project areas. Calculations and computer modeling data sheets are provided with this report.

Stormwater Runoff Summary Table										
Study Point	Total Watershed Area		Avg. Weighted Curve No. (Cn)		Peak Rates of Runoff (cfs)					
	Pre	Post	Pre	Post	2-Year		10-Year		25-Year	
					Pre	Post	Pre	Post	Pre	Post
1	1.59	1.59	96	96	4.17	4.17	4.34	4.34	4.34	4.34
2	.37	.37	98	98	1.08	1.08	1.71	1.71	2.00	2.00
3	1.86	1.86	86	95	3.70	3.31	6.98	5.45	8.53	6.45

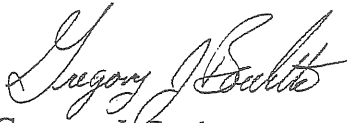
Summary

The proposed development of the warehouse facility complex for E.W. Noyes & Sons will include the installation of two catch basins to which the runoff from the majority of the impervious areas will be directed. The subsurface storm drains will transport the runoff to the Vortechincs unit for treatment prior to outletting to the municipal system.

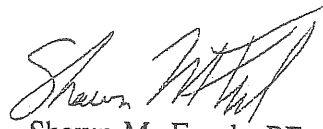
Other drainage provisions will include a specific grading plan and erosion and sedimentation control plan to be implemented throughout the construction cycle. The incorporation of these measures and the drainage provisions is expected to adequately address stormwater runoff from the developed site such that no downstream property will be adversely impacted.

Prepared by,

SEBAGO TECHNICS, INC.



Gregory J. Boulette
Project Engineer



Shawn M. Frank, PE
Project Manager

GJB:gjb/jc
April 27, 2000

EROSION AND SEDIMENT CONTROL PLAN

E. W. Noyes & Sons
Pearl Street
Portland, Maine

General

This plan has been developed to provide a strategy for dealing with soil erosion and sedimentation during and after the construction of the proposed warehouse facility in Portland, Maine. This plan is based on the Standards and Specifications for Erosion Prevention as contained in the Maine Erosion and Sediment Control Handbook for Construction: Best Management Practices (dated March 1991).

The proposed project site will entail construction of two buildings with a combined footprint of 38,500 square feet. The project site is on the east side of Pearl Street. The topography throughout the site consists of flat slopes that fall from a centrally located ridge to the outer boundaries of the site.

Construction Phase

In order to protect the soil, water, wetland, and wildlife resources of this development and adjacent lands, only those areas necessary to construct the roadway, utilities, and stormwater management structures will be disturbed.

Equipment anticipated to be used for construction includes backhoe(s), truck(s), loader(s), bulldozer(s), cement trucks, asphalt paver, and roller. The following actions will be taken:

1. Areas undergoing actual construction that will be left in an untreated or unvegetated condition for a maximum of 14 days will be protected with temporary erosion control. Areas within 100 feet of drainage courses and wetlands will be stabilized within 7 days of disturbance. Temporary erosion control will include erosion control mesh, netting or mulch as directed by owner or inspecting engineer.
2. All topsoil will be stockpiled at least 100 feet upgradient of existing wetlands for future use and protected from any erosion. Silt fencing will be placed down gradient from the topsoil stockpile. The location of topsoil stockpiles will be determined by the contractor at the time of construction.
3. Prior to clearing and grubbing the site, erosion control mesh will be installed and staked across/along points of concentration and at the inlets of all existing culverts.

4. Prior to clearing and grubbing, siltation fencing will be staked across the slope(s), on the contour, at or just below the limits of clearing or grubbing, and/or just above any adjacent property line or wetland to protect against construction related erosion
5. All silt fencing will be inspected, replaced and/or repaired weekly, as well as immediately following any significant rainfall or snow melt. Sediment will be removed and returned to the site when it reaches 1/3 the fence height.
6. Any fill used on the site will meet DOT Standard 703.18 for common borrow and DOT Standard 703.06(b) for subbase aggregate.
7. If final seeding of the disturbed areas is not completed by September 15th of the year of the construction, then on that date these areas will be graded and smoothed, then prepared to be seeded to a winter cover crop of Rye at the rate of 112 lbs./acre or 3 lbs./1000 sq. ft. The Rye seeding will be preceded by an application of 3 tons of lime and 1,000 lbs. of 10-10-10 fertilizer or its equivalent. If the Rye seeding cannot be completed by October 1st, then on that date, hay mulch will be applied at the rate of 2 tons per acre to provide winter protection. If Rye does not make adequate growth by December 1st, then on that date, hay mulch will be applied at the rates specified under Vegetation Plan #4.
8. During the construction phase, intercepted sediment will be returned to the site and regraded onto open areas. Post seeding sediment, if any, will be hauled to a disposal area approved by the Town Engineer.

Vegetation Plan

Revegetation measures will commence immediately upon completion of construction except as noted under paragraph 6 above. All disturbed areas not otherwise stabilized will be graded, smoothed, and prepared for final seeding as follows:

1. Four inches of loam will be spread over disturbed areas and smoothed to a uniform surface.
2. In lieu of soil tests, agricultural limestone will be spread at the rate of three tons per acre. 10-20-20 fertilizer will follow at the rate of 800 lbs. per acre. These two soil amendments will be incorporated into the soil prior to seeding.
3. Following seed bed preparation, any sediment-stormwater detention structures, swale areas, fill areas, and back slopes will be seeded to a mixture of 35% Creeping Red Fescue, 6% Red Top, 24% Kentucky Bluegrass, 10% Perennial Ryegrass, 20% Annual Ryegrass, and 5% White Dutch Clover. The lawn areas will be seeded to a premium turf mixture of bluegrass and/or Fescue with a seeding rate of 2-3 lbs. per 1,000 square feet.

* Lawn quality sod may be substituted for seed only.

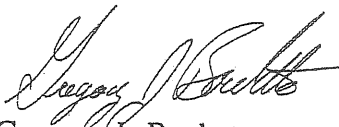
4. Hay mulch at the rate of 100 lbs. per 1,000 square feet or a hydro-application of asphalt, wood, or paper fiber will be applied following seeding. A suitable binder, such as Curasol or Terratack, will be used on hay mulch for wind control. At a minimum, the soil must be covered.
5. All erosion control measures will remain in place until seedings have become 90% established and then removed within 10 days.

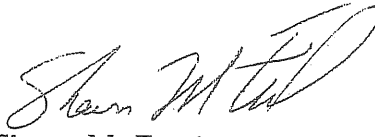
Monitoring

Maintenance measures will be applied as needed during the entire construction cycle. Weekly and after each rainfall, a visual inspection will be made of all installed erosion control measures and repairs will be made as needed to insure their continuing function as designed. Following the final seedings, the site will be inspected every fifteen days until the seedings have been established. Established means a minimum of 90% of area vegetated with vigorous growth. Reseeding will be carried out, with follow-up inspections, in the event of any failures. All erosion control measures will be removed within 10 days when vegetation is adequately established.

Prepared by:

SEBAGO TECHNICS, INC.


 Gregory J. Boulette
 Project Engineer


 Shawn M. Frank., P.E.
 Project Manager

GJB:jc
 April 26, 2000

Development Principles

1 *Urban gateway...*

Bayside will be an attractive urban gateway and extension of the downtown business district for the City of Portland. This district will create a new front face of the City, and present the character of Portland which will encourage people to stop, visit, and enjoy all that the downtown and Portland peninsula have to offer. A fully functioning urban district and neighborhood will reconnect with and add to the fabric of the peninsula from downtown to the adjacent neighborhoods. A compact blend of uses fosters lively daily interaction and a sense of community spirit. A wide variety of housing, shops, workplaces, open spaces, centers of community and civic activity, and needed social services will comprise the future of Bayside.



2 *Economic and employment opportunities...*

Bayside's location between downtown and I-295 presents a significant economic and market opportunity to be planned and managed to create the best value for development and quality of life improvements for the community, generate a broad range of employment opportunities and improve the tax base. Bayside presents prime real estate development prospect to expand the central business district with new office and commercial space, along with small-scale affordable spaces for start-up and small business.

3 *A walkable district...*

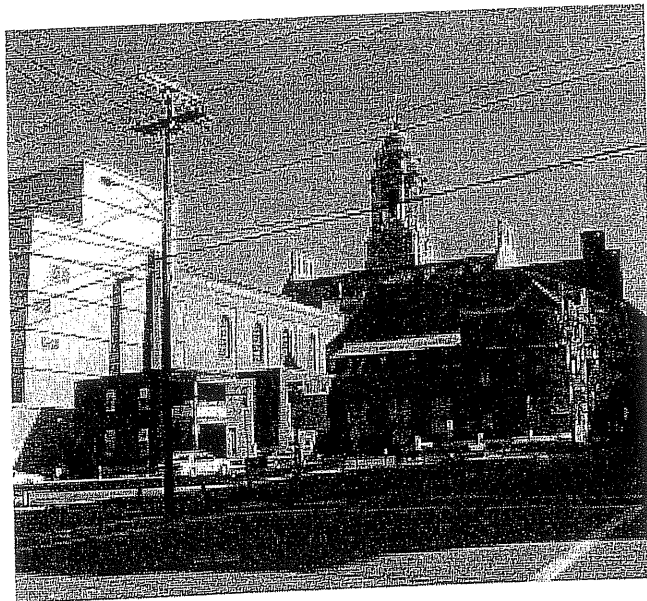
Bayside will contain housing, workplaces, services, transportation, recreation, dining and shopping, all within comfortable walking distance of each other and the downtown. Attractive lighted sidewalks, bicycle and pedestrian trail linkages will connect these uses, designed for full and maximum accessibility. Key features will include Bayside Avenue (currently Marginal Way) as a landscaped boulevard, with Chestnut, Elm, Oxford, and the rail-to-trail corridor forming major pedestrian axes.

4 A critical mass of dwellings...

An urban district must have a mix of residences to be truly vital. The Bayside plan will fill in, extend, and enhance the existing residential fabric with a substantial amount of new housing units. A diversity of dwelling types will enable citizens from a wide range of economic levels, age groups, and life circumstances to live in Bayside. Careful attention to design, scale, density and variety will strive to create a healthy and compatible neighborhood similar to other successful urban neighborhoods on the Portland peninsula.

5 Transit oriented development...

Mixed use, compact and intensive land development, and quick and convenient transit service combine to make Bayside a neighborhood that has genuine mobility choice. This model for the peninsula and beyond will be designed from the ground up free from dependence upon the automobile. Features including the trail connectors and frequent shuttle service throught the peninsula area and to all major transportation centers will signify progress and commitment by the city to implement the 1993 *Portland Transportation Plan*.



6 Multi-level parking structures...

Ample parking is needed to serve the needs of the Bayside residents, visitors and workforce. Strategically located parking structures will serve multiple functions, connect with transit services, facilitate the flow of traffic with minimal impact on neighborhood residents, and avoid extensive land consumption by surface parking lots. The location and timing of development of parking structures must complement and enhance the function of Bayside as a transit-oriented district and respond to the policies of the *Portland Transportation Plan*.

7 A neighborhood center...

The community centers at the Chestnut Street church, Boys and Girls Club, and Portland High School combine to form a significant center for the neighborhood with space for youth and family recreation and community gatherings.

8 *Recreation and open space...*

Development of a multi-use trail and bikeway on the abandoned rail corridor will be a significant cornerstone feature of the Bayside plan. The trail and open spaces such as squares, greens, parks and community gardens will be located and designed to encourage active use, and to link with the Eastern Prom Trail, Back Cove, and Deering Oaks Parks. The plaza at the base of Chestnut Street will provide a focal open space.

9 *Social service resource network...*

Bayside will continue to fulfill its role as the hub of a social service network of substantial recognized value to the city, the region and the State of Maine. The homeless, the disabled, and those in poverty rely on these services for survival and hope.

Vital facilities such as the homeless shelters and related services will remain in this area. Service cluster will provide a permanent and stable working environment, integral to the fabric of the community, that builds upon new and established working relationships to best serve the needs of the community.



10 *Environmental Remediation...*

The USEPA Brownfields Program encourages the reuse of vacant and underutilized land by providing for practical cleanup standards that are based on the future use of the land. Bayside redevelopment projects will clean up the soil and recycle these underutilized parcels into productive resources for the future of the Portland community. Redevelopment of brownfields in

Bayside counters the trend toward sprawl development in this region, adding the the vigorous urban center of Portland

11 *Scrapyard Redevelopment...*

Removal and redevelopment of the current scrapyards into more compatible and productive uses is another cornerstone to the Bayside

redevelopment plan, that will spur private development and improve the aesthetic, economic, and community character of the Bayside district.

DIVISION 12.6. B-5 URBAN COMMERCIAL MIXED USE ZONE

Sec. 14-230. Purpose.

The purpose of the B-5 and B-5b zones is to provide zones in areas of the peninsula near the central business district where a mixture of uses, including marine, industrial, commercial, and residential, is encouraged. The B-5 and B-5b zones are characterized by larger underdeveloped lots with great potential for denser, clustered, urban mixed use development and more efficient reuse of existing land and buildings.

It is anticipated that such denser, mixed uses would rely on a shared infrastructure system, including service alleys, parking lots, public transportation facilities, stormwater management, and driveways.

(Ord. No. 168-93, § 3, 1-4-93; Ord. No. 164-97(Subst.), § 1, 5-19-97)

Sec. 14-230.1. Permitted uses.

The following uses are permitted in the B-5 and B-5b urban commercial mixed use zones:

(1) *Commercial:*

- a. Professional, business and general offices;
- b. Restaurants and other eating and drinking establishments;
- c. Meeting and convention halls;
- d. Hotels and motels;
- e. Craft and specialty shops, including the on-premises production of handcrafted goods;
- f. Retail and service establishments except convenience stores with gas pumps;
- g. Theaters and places of public assembly;
- h. Banking services;
- i. Laundry and dry cleaning services;
- j. Cabinet and carpentry shops;
- k. Indoor recreation and family amusement establishments;
- l. Intermodal transportation facilities;
- m. Off-street parking lots and garages;
- n. Cold storage facilities;
- o. Lumber and building materials dealers (in existence on date of passage);
- p. Major and minor gasoline service stations, as defined in section 14-47. Major and minor gasoline service stations shall be located at least two thousand (2,000) feet from each other;
- q. Personal services;

- r. Business services;
 - s. Billiard parlors;
 - t. Offices of business tradespeople;
 - u. Miscellaneous repair services;
 - v. Communication studios, broadcast and receiving facilities;
 - w. Theaters;
 - x. Exhibition halls;
 - y. Indoor amusement and recreation centers.
- (2) *Industrial:*
- a. Warehousing and wholesaling;
 - b. Low impact industrial uses with total floor area of less than ten thousand (10,000) square feet and which meet the performance standards of the I-L zone;
 - c. Breweries, including associated bottling activities.
- (3) *Marine:*
- a. Marine products wholesaling and retailing;
 - b. Marine repair services and machine shops;
 - c. Harbor and marine supplies and services and ship supply;
 - d. Reserved;
 - e. Shipbuilding and facilities for construction, maintenance and repair of vessels;
 - f. Marine museums and aquariums;
 - g. Reserved;
 - h. Boat repair yards;
 - i. Boat storage facilities;
 - j. Seafood processing for human consumption;
 - k. Seafood packing and packaging;
 - l. Seafood distribution;
- (4) *Residential:*
- a. Attached single-family, two-family and multifamily dwellings;
 - b. Handicapped family units;
 - c. Lodging houses;
 - d. Combined living/working spaces, including but not limited to artist residences with studio space.
- (5) *Public:*
- a. Utility substations, including sewage collection and pumping stations, water pumping stations, transformer stations, telephone electronic equipment enclosures and other similar structures;

- b. Museums and art galleries;
 - c. Landscaped pedestrian parks, plazas and other similar outdoor pedestrian spaces.
- (6) *Institutional:*
- a. Public or private schools of any type;
 - b. Clinics;
 - c. Churches;
 - d. Private clubs or fraternal organizations;
 - e. Colleges, universities or trade schools;
 - f. Governmental buildings and uses;
 - g. Nursery schools, kindergartens, and day care facilities or home babysitting services.
- (7) *Other:*
- a. Studios for artists and craftspeople including but not limited to, carpenters, cabinetmakers, and silkscreeners;
 - b. Printing and publishing establishments;
 - c. Accessory uses customarily incidental and subordinate to the location, function and operation of permitted uses.

(Ord. No. 168-93, § 3, 1-4-93; Ord. No. 39-96, § 4, 10-7-96; Ord. No. 164-97(Subs.), § 2, 5-19-97; Ord. No. 164-97, § 5, 12-1-97)

Sec. 14-230.2. Conditional uses.

The following uses shall be permitted as conditional uses in the B-5 and B-5b urban commercial mixed use zones, provided that, notwithstanding section 14-471(3), section 14-474(a), or any other provision of this Code, the planning board shall be substituted for the board of appeals as the reviewing authority, and further provided that, in addition to the provisions of section 14-474(c)(2), they shall also meet the requirements set forth below:

- (1) *Commercial:*
- a. Reserved.
- (2) *Industrial:*
- a. Low impact industrial uses over ten thousand (10,000) square feet provided that they meet the following requirements:
 - i. Truck loading and access and vehicle parking shall be located in the rear or side yard of the site where possible.
 - ii. Street frontage shall be designed for pedestrian scale or interest.
 - iii. Shared infrastructure to the extent practicable, including, but not limited to, service alleys, parking areas, stormwater treatment, public transportation facilities and driveways, shall be utilized.

(Ord. No. 168-93, § 3, 1-4-93; Ord. No. 39-96, § 5, 10-7-96; Ord. No. 164-97(Subst.), § 3, 5-19-97)

Sec. 14-230.3. Prohibited uses.

Uses which are not enumerated in either section 14-230.1 as permitted uses or in section 14-230.2 as conditional uses are prohibited.

(Ord. No. 168-93, § 3, 1-4-93)

Sec. 14-230.4. Dimensional requirements.

In addition to the provisions of article III, division 25 of this Code, lots in the B-5 and B-5b urban commercial mixed use zones shall meet the following requirements:

- (1) *Minimum lot size:* None.
- (2) *Minimum frontage:* None.
- (3) *Yard dimensions:*
 - a. Minimum yards in the B-5 and B-5b zones:
Front setback: None required.
Side setback: None required.
Rear setback: None required.
 - b. Maximum front yard setback in the B-5b zone: Ten (10) feet.
- (4) *Maximum lot coverage:* One hundred (100) percent.
- (5) *Maximum residential density:* Sixty (60) dwelling units per acre.
- (6) *Maximum building height:* Sixty-five (65) feet.

(Ord. No. 168-93, § 3, 1-4-93; Ord. No. 164-97(Subst.), § 4, 5-19-97)

Sec. 14-230.5. Performance standards.

All uses shall comply with the following standards:

- (1) *Storage:* Any storage of new materials, finished products, or related equipment must be suitably screened from the public way and from abutting properties by a solid fence at least five (5) feet in height, or by a solid evergreen planting strip. All waste shall be stored in covered containers that do not leak or otherwise permit liquids or solids to escape from the container. All food processing waste shall be stored within a completely enclosed structure and if not refrigerated shall be removed from the site in an enclosed container within forty-eight (48) hours of its generation. All enclosed and exterior areas shall be cleaned and sanitized on a regular basis. Outdoor storage of refuse or debris shall be in an appropriate container or located within a designated, screened area.
- (2) *Noise:*
 - a. *Definitions:*
 - i. Tonal sounds are defined as sound waves usually perceived as a hum or whine because their instantaneous sound pressure varies essentially as a simple sinusoidal function of time.

- ii. Impulse sounds are defined as sound events characterized by brief excursions of sound pressure, each with a duration of less than one (1) second.
- b. *Measurement:* Sound levels shall be measured with a sound level meter with a frequency weighting network manufactured according to standards prescribed by the American National Standards Institute (ANSI) or its successor body. Measurements shall be made at all major lot lines of the site, at a height of at least four (4) feet above the ground surface. In measuring sound levels under this section, sounds with a continuous duration of less than sixty (60) seconds shall be measured by the maximum reading on a sound level meter set to the A weighted scale and the fast meter response (L maxfast). Sounds with a continuous duration of sixty (60) seconds or more shall be measured on the basis of the energy average sound level over a period of sixty (60) seconds (LEQ₁).
- c. *Maximum permissible sound levels:* The maximum permissible sound level of any continuous, regular or frequent source of sound produced by an activity shall be as follows:
 - i. Sixty (60) dBA between the hours of 7:00 a.m. and 10:00 p.m.
 - ii. Fifty (50) dBA between the hours of 10:00 p.m. and 7:00 a.m., as measured at or within the boundaries of any residential zone.

In addition to the sound level standards established above, all uses located within this zone shall employ best practicable sound abatement techniques to prevent tonal sounds and impulse sounds or, if such tonal and impulse sounds cannot be prevented, to minimize the impact of such sounds in residential zones.

- d. *Exemptions:*
 - i. Noises created by construction and maintenance activities between 7:00 a.m. and 10:00 p.m. are exempt from the maximum permissible sound levels set forth in subsection (1)c. of this section. Construction activities on a site abutting any residential use between the hours of 10:00 p.m. of one (1) day and 7:00 a.m. of the following day shall not exceed fifty (50) dBA.
 - ii. The following uses and activities shall also be exempt from the requirements of subsection (1)c. of this section:
 - a. The noises of safety signals, warning devices, emergency pressure relief valves, and any other emergency devices.
 - b. Traffic noise on public roads or noise created by airplanes and railroads.
 - c. Noise created by refuse and solid waste collection, provided that the activity is conducted between 6:00 a.m. and 7:00 p.m.
 - d. Emergency construction or repair work by public utilities, at any hour.
 - e. Noise created by any recreational activities which are permitted by law and for which a license or permit has been granted by the city, including but not limited to parades, sporting events, and fireworks displays.

- (3) *Vibration*: Vibration inherently and recurrently generated shall be imperceptible without instruments at lot boundaries.
- (4) *Federal and state environmental regulations*: All uses shall comply with federal and state environmental statutes and regulations regarding emissions into the air, except where provisions of this Code are more stringent.
- (5) *Storage of vehicles*: Storage of any unregistered automotive vehicle on the premises for more than sixty (60) days, and outdoor storage of any used automotive tires on the premises shall not be permitted.
- (6) *Off-street parking and loading*: No off-street parking shall be required.
- (7) *Shoreland and flood plain management regulations*: Any lot or portion of a lot located in a shoreland zone as identified on the city shoreland zoning map or in a flood hazard zone shall be subject to the requirements of division 26 and/or division 26.5.
- (8) *Glare, radiation or fumes*: Glare, radiation or fumes shall not be emitted to an obnoxious or dangerous degree beyond lot boundaries.
- (9) *Enclosure of uses*: All uses shall be operated within a fully enclosed structure, except for those customarily operated in open air.
- (10) *Materials or wastes*: Any permitted outdoor storage of materials shall be done in such a manner as to prevent the breeding and harboring of insects or vermin, to prevent the transfer of such materials from the site by natural causes or forces and to contain fumes, dust, or other materials which constitute a fire hazard. This storage shall be accomplished within enclosed containers or by one (1) or more of the following methods: raising materials above ground, separating materials, preventing stagnant water, or by some other means. Any areas used for permitted outdoor storage of materials shall be screened from view of any adjoining properties and public rights-of-way. No outdoor storage shall be permitted in the required yard between the front of any building on the site and the street.
- (11) *Odor*: It shall be a violation of this chapter to create an odor nuisance.
 - a. *Determination of odor nuisance*: An odor nuisance shall be considered to exist when ten (10) confirmed complaints occur in an area within two (2) separate twenty-four-hour periods. The ten (10) confirmed complaints must originate from ten (10) different households in an area zoned residential or from ten (10) different individuals in a commercial or industrial facility. The building authority shall only respond to a complainant who confirms that the odor is detectable at the time of the actual complaint. In order to confirm a complaint, the building authority or its designee shall first determine that an odor is detectable in the area of the complaint. The building authority or its designee shall interview the complainant to verify that the detectable odor is in fact the odor that resulted in the complaint. If the complainant verifies the odor as the source of the complaint, then the building authority shall notify the owner or operator of the alleged odor source either in person or by telephone within one (1) working day, with a written

confirmation within seven (7) working days of the complaint. In the event that the building authority is unable to contact the owner or operator of the alleged odor source in person or by telephone within one (1) working day, then the building authority shall send written notice to the operator within seven (7) working days of the complaint.

In the event that ten (10) complaints are confirmed as set forth in subsection 1. in two (2) separate twenty-four-hour periods within a ninety-day period, the building authority shall cause a certified odor inspector to investigate any odor complaints received in the next thirty (30) days following the receipt of the tenth confirmed complaint from the second twenty-four-hour period. If the odors remain under the ambient intensity standard as established in this subsection for the next thirty (30) days, then a new odor nuisance must be established after that time in accordance with the requirements of this section. The certified odor inspector shall do the following in response to a complaint under this section:

1. Verify that an odor is detectable in the area of the complaint and confirm that it is the odor that resulted in the complaint;
2. Quantify the intensity of the odor on the eight-point n-butanol intensity scale as defined in regulations promulgated by the director of the planning authority to establish training and technical standards to support this section; and
3. Track the odor to its source.

When the certified odor inspector determines that a violation has occurred because an odor has exceeded the maximum ambient odor levels set forth in this section, the building authority shall notify the owner or operator either by telephone or in person of the violation within one (1) working day of the violation. The building authority shall confirm this notification in writing within seven (7) working days of this initial notice. In the event that the building authority is unable to contact the owner or operator by telephone or in person within the required time period, then it will send written notification within seven (7) working days of the violation.

Upon receipt of the written notice of violation, the owner or operator of the odor source shall do the following:

1. Implement odor reduction procedures immediately upon notification by the building authority that the facility has violated this section wherever odor reduction can be achieved by operational or procedural changes at the facility;
2. Submit to the building authority, within thirty (30) days of the written notice of violation, an odor reduction plan which is designed to reduce ambient odors attributable to emissions from that source to the maximum allowable intensity for that zone. The plan shall include a detailed summary of the measures that the owner or operator will take to mitigate the community

annoyance and estimated dates for completion of those measures. In the event that it will take longer than thirty (30) days to develop the odor reduction plan, the owner or operator of the facility shall submit within the thirty-day time period a schedule for the development of the odor reduction plan. The building authority shall review this plan to determine whether it will be adequate to resolve the odor nuisance in a reasonable time period; and

- 3. Implement the plan in accordance with the schedule approved by the building authority.
- b. *Ambient odor limits:* The maximum ambient intensity standard for odors generated by uses located in the I-L zone shall not exceed the following levels when the odor is measured in the zone indicated:
 - 4.0 in any industrial or business zone for odors resulting from any use in the B-5 zone.
 - 3.0 in any residential zone for odors resulting from any use in the B-5 zone.
- (12) *Smoke:* Discharges of smoke shall not exceed opacity percentage of forty (40) percent or number 2 on the Ringelman chart.
- (13) *Discharge into sewers:* No discharge shall be permitted at any point into any private sewage disposal system, or stream, or into the ground, of any materials in such a way or of such nature or temperature as to contaminate any water supply, or otherwise cause the emission of dangerous or objectionable elements, except in accordance with standards approved by the health authority or by the public works authority.
- (14) *Lighting:* All lighting shall be designed and installed with cut-off fixtures to direct illumination onto the site and to prevent illumination from such fixtures on neighboring properties.

(Ord. No. 168-93, § 3, 1-4-93; Ord. No. 164-97(Subst.), § 5, 5-19-97)

Secs. 14-230.6—14-230.9. Reserved.

DIVISION 12.7. O-P OFFICE PARK ZONE

Sec. 14-230.10. Purpose.

The purpose of the O-P zone is to provide substantial areas for integrated development of professional offices in a park- or campus-like setting which are of the highest quality, are well designed and maintained and are compatible with their natural surroundings.

(Ord. No. 297-88, 5-23-88)

Sec. 14-230.11. Permitted uses.

The following uses are permitted in the O-P zone:

- (1) Office park (O-P) with a minimum gross area, as defined in section 14-47 (definitions) of this article, of at least three (3) acres of contiguous land, consisting of either an Office

**CITY OF PORTLAND, MAINE
MEMORANDUM**

TO: Chair Caron and Members of the Portland Planning Board
FROM: William B. Needelman, Planner
DATE: May 23, 2000
SUBJECT: 127 Oxford Street; Earle W. Noyes and Sons, Applicant

Introduction

Earle W. Noyes and Sons is proposing an 37,000 sq. ft. expansion to its existing short-term storage warehouse facility at the corner of Oxford and Pearl Streets along with 3000 square feet of new associated office space. The site is located in the B-5, Urban Commercial Zone.

Findings:

Zoning:	B-5 Commercial
Land Area:	3.91 acres +/-
Existing buildings:	36,000 square feet
Proposed buildings:	37,000 square feet warehouse 3,000 square feet office
Total:	76,000 square feet net

Background

The applicant wishes to expand the existing warehouse use onto an adjacent gravel lot which currently serves as vehicle and truck parking. The existing facility houses short-term furniture and office storage for the applicant's moving company and the proposed addition will provide an expansion of this use. Trucks for the company currently park on the vacant lot adjacent to the existing warehouse. The applicant's agent, from Sebago Technics Engineers, indicates that the number of trucks and employees are not anticipated to increase as a result of this expansion, and that parking for the existing vehicles will be accommodated on-site through better organization of the parking layout and circulation.

The site includes portions of abandoned City streets at both the Oxford Street and Lancaster Street ends of the property. The Oxford Street portion currently serves as parking for the existing office use housed in the south east portion of the existing building. Additionally, a railroad easement is shown on the site plan which lies within the footprint of the proposed addition. The applicant has been asked to provide information relating to the status of this easement.

This proposal includes a 3000 square foot two story office ell at the south of the building. The office addition would have a 1500 square foot foundation footprint and have a one story presence on Oxford

Street. The lower floor would sit below the Oxford Street level, opening onto the parking and loading area. There is a +/-12 foot drop in grade from Oxford Street to the loading area. This area, which is currently grassed, accommodates two +/-12 inch diameter hardwood trees. One of the trees will be removed to accommodate the office addition and the slope is proposed to be stabilized with an interlocking block retaining wall. Alterations associated with the office addition are shown as phase two of the project, and may not be undertaken in the immediate future.

Access/Circulation/parking

Access to the site will be from an existing curb cut on Pearl Street which is proposed to remain the only vehicle access to the site. The Pearl Street facade shows truck loading doors to serve the facility in both the existing and proposed buildings. Truck parking (16 spaces total) is proposed for both the Oxford Street and Lancaster Street sides of the property and passenger vehicle parking (59 spaces total) is located on the abandoned Oxford Street portion of the property, along Pearl Street, and along the Lancaster side of the warehouse addition. The applicant's engineer indicates that trucks will have additional parking opportunities in unused loading bays.

Bituminous sidewalks exist in satisfactory condition along Pearl Street.

Utilities

Utilities including electric, water and sewer will be connected to existing lines. Utility capacity letters have not yet been submitted.

Drainage

In the predeveloped condition drainage for the site is collected into a catch basin in the center of the existing loading and circulation area and piped into the City system in Pearl Street. The vacant lot sheet flows northerly to the vacated Lancaster Street area and off-site. In the post development condition, the existing facility will drain essentially as in the predevelopment condition while the expansion area will utilize two new catch basins along the northerly boundary. The expansion area will receive treatment by feeding into a Vortech type treatment tank prior to outletting into the Pearl Street system. The existing paved area is not proposed to receive stormwater treatment.

Lighting

The applicant indicates that lighting will be limited to be wall pack units above the loading areas. The applicant shall provide information regarding type of light fixtures, catalogue cut of fixtures, height of wall mounts and photometric plan.

Landscaping

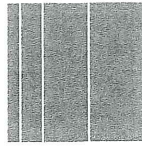
An existing tree will be removed along Oxford Street and eight new street trees are proposed for along Oxford and Pearl streets. Staff suggests a greater number of trees along Pearl Street and the addition of landscaping along the rear of the property at Franklin Street Arterial. As described below, the warehouse architecture is a uniform mass, uninterrupted by windows or detail. Reasonable property screening should be provided. The City Arborist will be asked to make a recommendation prior to Public Hearing.

Building Design

The building will measure approximately 37,000 sq. ft. with the 3000 sq. ft. office ell. The building exterior will be metal siding with concrete block along the bottom. The major concern with the appearance of the building is the undifferentiated mass along Franklin Street. An elevation drawing of the building is attached.

Attachments:

1. Applicant's Written Statement
2. City Engineering memo
3. Vicinity Map
4. Stormwater summary and Erosion and Sediment Control Plan
5. Plans



Sebago Technics
Engineering & Planning for the Future

Att. 1.1

May 8, 2000
00030

William Needelman, Planner
City of Portland
389 Congress Street
Portland, Maine 04101

Major Site Plan Application, E.W. Noyes and Sons, Pearl Street

Dear Bill:

On behalf of E.W. Noyes and Sons, we are pleased to submit nine (9) copies of the enclosed plans and associated information for a Major Site Plan Application. E.W. Noyes & Sons proposes to construct a 37,000 square foot warehouse addition at the north end of their existing facility and a 1,500 square foot, two-story office building on the southerly side of their site located on Pearl Street. The development is proposed to take place in two phases as depicted on the Site Plan. The development proposal also includes additional paved parking to be installed from the edge of the existing parking area to the northerly property line. The pavement will also abut the proposed building addition to service the four new truck bays. All existing and proposed easements encumbering the site are shown on the Site Plan. The applicant will submit a letter regarding financing for the project prior to public hearing. Enclosed is a construction schedule for the proposed development.

The Phase 1 building addition will simply provide additional warehousing and truck bay areas. No new employees are anticipated with Phase 1. With the installation of additional pavement, a total of 75 vehicular parking spaces will be available on the site. Proposed grading will maintain the existing drainage scheme that directs runoff from the developed areas to catch basins. The catch basins will be utilized to intercept the runoff, which will be transported via subsurface storm drains to a proposed Vortechs unit for treatment prior to connecting into the municipal storm drain system within Pearl Street.

The enclosed plan set depicts proposed landscaping of the project as well as utility connections and infrastructure design. Landscaping will consist of removing existing pavement to establish street trees along Pearl Street. The building addition will connect to the municipal sewer near the northerly lot line. Minor additions of solid waste will be generated during the Phase 2 development of the new office space. Municipal water will be extended to service the buildings; the existing hydrants adequately provide fire protection. Natural gas will be connected to heat the building. Site lighting will consist of building mounted fixtures above each proposed truck bay and access door.

Mr. Needelman

-2-

Att 1.2

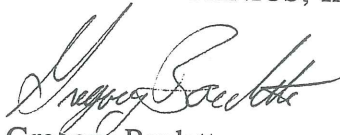
May 8, 2000

We are in the process of receiving letters of acceptance of the sanitary sewer and letter of capacity from the Portland Water District. As the site has been previously developed, we do not believe letters from the Department of Inland Fisheries and Wildlife, the Maine Historic Preservation Commission, or the Natural Heritage Program are required for this development.

We look forward to working with the Planning Board at the workshop on May 23rd to discuss the proposed project in more detail. In the interim, please call with any questions or comments. Thank you for your consideration.

Sincerely,

SEBAGO TECHNICS, INC.



Gregory Boulette
Project Engineer



Shawn M. Frank, P.E.
Project Manager

GJB/SMF:dlf/jc
Enc.

Att 1.3

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

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

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

Earle W. Noyes & Sons

May 4, 2000

Applicant
P O Box 936 Portland ME 04104

Application Date
E.W. Noyes & Sons

Applicant's Mailing Address
Shawn M. Frank P.E. c/o Sebago Technics Inc

Project Name/Description
127 Oxford Street

Consultant/Agent
(207) 856-0277 / (207) 856-2206

Address Of Proposed Site
Map 26; Block P; Lot 3

Applicant/Agent Daytime telephone and FAX

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 Other(Specify) _____

37037sf/1500sf

3.91

B5-Urban Commerical

Proposed Building Square Footage and/or # of Units

Acrage of Site

Zoning

You must Include the following with you application:

- 1) A Copy of Your Deed or Purchase and Sale Agreement
- 2) 7 sets of Site Plan packages containing the information found in the attached sample plans and checklist.

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

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

Signature of applicant: <u>Peter L. Noyes</u>	Date: <u>5/4/00</u>
---	---------------------

Site Review Fee: Major \$500.00 Minor 400.00

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

Exhibit 2

Construction Schedule

Site improvements will most likely begin in July 2000, depending on final approval and the selection of a site contractor. Based upon an May construction start, the following schedule has been prepared:

Schedule

Completion Dates

1.	Estimated construction time:	July 1, 2000 – October 1, 2000
2.	Erosion control measures placed.	July 1, 2000 – July 3, 2000
3.	Site access and drive.	July 4, 2000 – August 1, 2000
4.	Site clearing, grubbing, excavation and filling.	July 4, 2000 – August 15, 2000
5.	Rough grading, utility improvements and parking lot construction.	July 18, 2000 – August 30, 2000
6.	Building construction	August 1, 2000 – September 15, 2000
7.	Miscellaneous	September 15, 2000 – October 1, 2000

* Dates are subject to change at the discretion of the construction manager, depending on construction progress.

Att. 2

From: Anthony Lombardo
To: William Needleman
Date: Tue, May 16, 2000 7:23 AM
Subject: E.W. Noyes ...Pearl St. 5/16/00

Bill,

I have reviewed the submittal dated 5/8/00 have the following comments:

1. The plan set needs to include construction details for the repair to the Pearl St. sidewalk disturbed during the installation of the proposed storm drain system.
2. The plans must specify that each connection into a City drainage or sanitary structure shall be "core drilled". This notation should cleared denoted on sheet 3 of 5.
3. It is not clear from the plans where the roof drains from the proposed building will discharge. Will the new system collect roof runoff or will the existing system collect the runoff ?
4. The plans need to include a site specific "erosion and sedimentation control plan".

00030

STORMWATER MANAGEMENT PLAN
E.W. Noyes & Sons
Pearl Street
Portland, Maine

General

This Stormwater Management Plan has been prepared to evaluate the pre and post-developed conditions associated with the proposed warehouse facility for E.W. Noyes & Sons off Pearl Street in Portland, Maine.

The total development proposal consists of constructing two buildings that will have a total of approximately 38,500 square feet of footprint with associated parking areas, landscape areas, sidewalks, and stormwater management facilities. The stormwater from the impervious areas will generally sheet flow to two proposed catch basins where the runoff will be transported via subsurface storm drains to a Vortech unit prior to outletting to the existing catch basin in Pearl Street.

Site Characteristics

The project site currently consists of the existing facility, a gravel area, and an area of scrub grass. The terrain consists of flat slopes that fall from a centrally located ridge to the outer boundaries of the site. The proposed grading of the impervious areas will allow for sheet flow towards the catch basins so that all the runoff from these areas will be intercepted and treated prior to outletting to the municipal system.

Soils

Soils information was obtained from a subsurface and foundation investigation done by Haley and Aldrich in April of 2000. A copy of the soil borings and project location is contained within the other sections of this application. The soil tests show a fill including sandy gravel with cobbles and brick. The HydroCAD calculations were done using a hydrologic soil group of "C" according to these borings.

Methodology

The pre and post-developed watershed analyses were conducted using the "HydroCAD" computer-modeling program, which incorporates the TR-55 and TR-20 methodologies as provided by the Soil Conservation Service of the U.S. Department of Agriculture.

Existing Watersheds

The existing site consists of three distinct watersheds with a total of approximately 3.82 acres. Watershed 1 (WS-1) consists of the developed area of the site and drains toward the existing catch basin within the pavement. The subsurface storm drains outlet the runoff in a westerly direction to an existing manhole in Pearl Street. Watershed 2 (WS-2) consists of the most southerly strip of the site and drains to an existing catch basin within the parking area. Watershed 3 (WS-3) consists of the undeveloped portion of the site and drains to an existing catch basin in Pearl Street.

Proposed Watersheds

The total post-developed contributing areas contain approximately 3.82 acres of land. The impervious and developed areas of the site were divided into four watersheds (WS 1-4). Watersheds 1 and 2 will remain the same as they were in the pre-developed condition. The only change will be in the newly developed area. This area will be broken into two separate watersheds that will each flow to their respective catch basins. These catch basins will intercept the runoff from the impervious areas and then the runoff will be transported via subsurface storm drains to the Vortechincs unit to be treated prior to outletting to the municipal system along Pearl Street.

Stormwater Management

The following table summarizes the results of stormwater calculations for the design storm events for the project areas. Calculations and computer modeling data sheets are provided with this report.

Study Point	Total Watershed Area		Avg. Weighted Curve No. (Cn)		Peak Rates of Runoff (cfs)					
	Pre	Post	Pre	Post	2-Year		10-Year		25-Year	
					Pre	Post	Pre	Post	Pre	Post
1	1.59	1.59	96	96	4.17	4.17	4.34	4.34	4.34	4.34
2	.37	.37	98	98	1.08	1.08	1.71	1.71	2.00	2.00
3	1.86	1.86	86	95	3.70	3.31	6.98	5.45	8.53	6.45

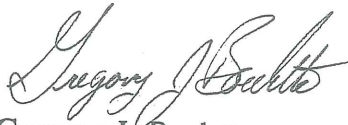
Summary

The proposed development of the warehouse facility complex for E.W. Noyes & Sons will include the installation of two catch basins to which the runoff from the majority of the impervious areas will be directed. The subsurface storm drains will transport the runoff to the Vortechincs unit for treatment prior to outletting to the municipal system.

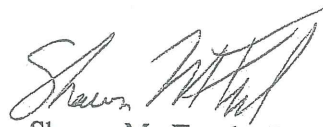
Other drainage provisions will include a specific grading plan and erosion and sedimentation control plan to be implemented throughout the construction cycle. The incorporation of these measures and the drainage provisions is expected to adequately address stormwater runoff from the developed site such that no downstream property will be adversely impacted.

Prepared by,

SEBAGO TECHNICS, INC.



Gregory J. Boulette
Project Engineer



Shawn M. Frank, PE
Project Manager

GJB:gjb/jc
April 27, 2000

00030

EROSION AND SEDIMENT CONTROL PLAN

E. W. Noyes & Sons
Pearl Street
Portland, Maine

General

This plan has been developed to provide a strategy for dealing with soil erosion and sedimentation during and after the construction of the proposed warehouse facility in Portland, Maine. This plan is based on the Standards and Specifications for Erosion Prevention as contained in the Maine Erosion and Sediment Control Handbook for Construction: Best Management Practices (dated March 1991).

The proposed project site will entail construction of two buildings with a combined footprint of 38,500 square feet. The project site is on the east side of Pearl Street. The topography throughout the site consists of flat slopes that fall from a centrally located ridge to the outer boundaries of the site.

Construction Phase

In order to protect the soil, water, wetland, and wildlife resources of this development and adjacent lands, only those areas necessary to construct the roadway, utilities, and stormwater management structures will be disturbed.

Equipment anticipated to be used for construction includes backhoe(s), truck(s), loader(s), bulldozer(s), cement trucks, asphalt paver, and roller. The following actions will be taken:

1. Areas undergoing actual construction that will be left in an untreated or unvegetated condition for a maximum of 14 days will be protected with temporary erosion control. Areas within 100 feet of drainage courses and wetlands will be stabilized within 7 days of disturbance. Temporary erosion control will include erosion control mesh, netting or mulch as directed by owner or inspecting engineer.
2. All topsoil will be stockpiled at least 100 feet upgradient of existing wetlands for future use and protected from any erosion. Silt fencing will be placed down gradient from the topsoil stockpile. The location of topsoil stockpiles will be determined by the contractor at the time of construction.
3. Prior to clearing and grubbing the site, erosion control mesh will be installed and staked across/along points of concentration and at the inlets of all existing culverts.

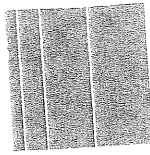
4. Prior to clearing and grubbing, siltation fencing will be staked across the slope(s), on the contour, at or just below the limits of clearing or grubbing, and/or just above any adjacent property line or wetland to protect against construction related erosion
5. All silt fencing will be inspected, replaced and/or repaired weekly, as well as immediately following any significant rainfall or snow melt. Sediment will be removed and returned to the site when it reaches 1/3 the fence height.
6. Any fill used on the site will meet DOT Standard 703.18 for common borrow and DOT Standard 703.06(b) for subbase aggregate.
7. If final seeding of the disturbed areas is not completed by September 15th of the year of the construction, then on that date these areas will be graded and smoothed, then prepared to be seeded to a winter cover crop of Rye at the rate of 112 lbs./acre or 3 lbs./1000 sq. ft. The Rye seeding will be preceded by an application of 3 tons of lime and 1,000 lbs. of 10-10-10 fertilizer or its equivalent. If the Rye seeding cannot be completed by October 1st, then on that date, hay mulch will be applied at the rate of 2 tons per acre to provide winter protection. If Rye does not make adequate growth by December 1st, then on that date, hay mulch will be applied at the rates specified under Vegetation Plan #4.
8. During the construction phase, intercepted sediment will be returned to the site and regraded onto open areas. Post seeding sediment, if any, will be hauled to a disposal area approved by the Town Engineer.

Vegetation Plan

Revegetation measures will commence immediately upon completion of construction except as noted under paragraph 6 above. All disturbed areas not otherwise stabilized will be graded, smoothed, and prepared for final seeding as follows:

1. Four inches of loam will be spread over disturbed areas and smoothed to a uniform surface.
2. In lieu of soil tests, agricultural limestone will be spread at the rate of three tons per acre. 10-20-20 fertilizer will follow at the rate of 800 lbs. per acre. These two soil amendments will be incorporated into the soil prior to seeding.
3. Following seed bed preparation, any sediment-stormwater detention structures, swale areas, fill areas, and back slopes will be seeded to a mixture of 35% Creeping Red Fescue, 6% Red Top, 24% Kentucky Bluegrass, 10% Perennial Ryegrass, 20% Annual Ryegrass, and 5% White Dutch Clover. The lawn areas will be seeded to a premium turf mixture of bluegrass and/or Fescue with a seeding rate of 2-3 lbs. per 1,000 square feet.

* Lawn quality sod may be substituted for seed only.



Sebago Technics
Engineering & Planning for the Future

June 13, 2000
00030

William Needelman, Planner
City of Portland
389 Congress Street
Portland, ME 04101

Supplemental Submission to Major Site Plan Application
E. W. Noyes & Sons, Pearl Street

Dear Bill:

On behalf of E. W. Noyes & Sons, we are pleased to submit seven (7) copies of the enclosed revised plans and additional supplemental information associated with their previously submitted application for Major Site Plan approval. As you will recall, this project was reviewed at workshop with the Planning Board at their meeting on May 23, 2000. At that meeting, the Board members expressed their concerns with the building elevation as viewed from Franklin Street and the need for additional landscaping along Pearl Street. We also received staff review comments of the original submission. Additionally, the applicant and the contractor reviewed the project and recommended changes to the building to maintain construction costs within budget. The following provides a summary of the major plan revisions:

1. The building elevation along Franklin Street has been revised to include a concrete block wall. This wall will match the elevation of the existing wall at the common connection and will be stepped down the hill to the end of the building. Additionally, landscaping is proposed between the building addition and Franklin Street to provide further visual relief as shown on the landscaping plan.
2. Additional landscaping is proposed within the parking area along Pearl Street to augment the previously proposed landscaping as shown on the landscaping plan.
3. The building addition is proposed to be 34,177 square feet rather than the originally proposed 37,000 square feet by aligning the fronts of the proposed and existing building along Pearl Street. This also allows for the existing fuel pumps to be retained in their existing location.

4. The existing mechanical bays will not be relocated to the building addition. As such, no new sanitary sewer connection is required.
5. The railroad easement originally depicted on the plan set has been removed based upon further research. A revised, stamped property survey will be submitted upon receipt.

The following information is provided in response to the review comments provided by Anthony Lombardo in a memorandum to you dated May 16, 2000:

1. A note has been added to the Grading and Utility Plan stating that the sidewalk and curb along Pearl Street shall be reconstructed in accordance with City of Portland Technical Specifications and in coordination with Public Works.
2. A note has been added to the Grading and Utility Plan stating that the connection to the City drainage system shall be core bored.
3. The roof drains will be connected to the proposed subsurface storm drain system. Two connections are now denoted on the Grading and Utility Plan. The building addition was included within the drainage calculations for the storm drain and the treatment tank.
4. The erosion and sediment control narrative and associated details have been added to the detail sheet. Locations of hay bale barriers and silt fence are noted on the Grading and Utility Plan.

The following information is provided in response to the review comments provided by Steve Bushey in a memorandum to you dated June 2, 2000:

1. It is our understanding that this property was originally obtained by the City during an Urban Redevelopment project. At that time, the Lancaster Street right-of-way was discontinued. The railroad easement originally shown has been eliminated in accordance with additional research.
2. Notes have been added to the plan set stating that the propane tanks will be removed and the sanitary manhole will be reset.
3. The fuel pumps are no longer proposed to be relocated.
4. The revised building elevation shows no new doors located along the northwest corner of the building. Adequate aisle width will be maintained between vehicles at the building and parked vehicles.
5. The mechanical room is no longer proposed to be relocated and, therefore, the new sewer connection is no longer proposed.

6. The connection to the storm drain line in Pearl Street is proposed at the existing catch basin and will be core bored as requested by Public Works.

Additionally, as we discussed, the total new impervious area on the site is 35,280 square feet. As such, no stormwater permit is required by the State. In accordance with City requirements, all new impervious areas will be directed through a treatment tank prior to entering the City system. We do not propose to revise the existing storm drain system.

We are hopeful that we have addressed the outstanding concerns such that the Planning Board may grant site plan approval. Upon your review of the enclosed plans and associated information, please call with any questions or comments. Thank you for your consideration.

Sincerely,

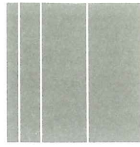
SEBAGO TECHNICS, INC.



Shawn M. Frank, P.E.
Project Manager

SMF:jc
Enc.

cc: Peter Noyes, E. W. Noyes & Sons
Peter Pelletier, Allied/Cook Construction



Sebago Technics

Engineering & Planning for the Future

May 8, 2000
00030

William Needelman, Planner
City of Portland
389 Congress Street
Portland, Maine 04101

Major Site Plan Application, E.W. Noyes and Sons, Pearl Street

Dear Bill:

On behalf of E.W. Noyes and Sons, we are pleased to submit nine (9) copies of the enclosed plans and associated information for a Major Site Plan Application. E.W. Noyes & Sons proposes to construct a 37,000 square foot warehouse addition at the north end of their existing facility and a 1,500 square foot, two-story office building on the southerly side of their site located on Pearl Street. The development is proposed to take place in two phases as depicted on the Site Plan. The development proposal also includes additional paved parking to be installed from the edge of the existing parking area to the northerly property line. The pavement will also abut the proposed building addition to service the four new truck bays. All existing and proposed easements encumbering the site are shown on the Site Plan. The applicant will submit a letter regarding financing for the project prior to public hearing. Enclosed is a construction schedule for the proposed development.

The Phase 1 building addition will simply provide additional warehousing and truck bay areas. No new employees are anticipated with Phase 1. With the installation of additional pavement, a total of 75 vehicular parking spaces will be available on the site. Proposed grading will maintain the existing drainage scheme that directs runoff from the developed areas to catch basins. The catch basins will be utilized to intercept the runoff, which will be transported via subsurface storm drains to a proposed Vortechs unit for treatment prior to connecting into the municipal storm drain system within Pearl Street.

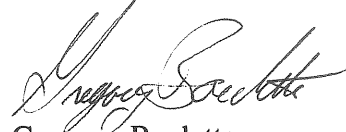
The enclosed plan set depicts proposed landscaping of the project as well as utility connections and infrastructure design. Landscaping will consist of removing existing pavement to establish street trees along Pearl Street. The building addition will connect to the municipal sewer near the northerly lot line. Minor additions of solid waste will be generated during the Phase 2 development of the new office space. Municipal water will be extended to service the buildings; the existing hydrants adequately provide fire protection. Natural gas will be connected to heat the building. Site lighting will consist of building mounted fixtures above each proposed truck bay and access door.

We are in the process of receiving letters of acceptance of the sanitary sewer and letter of capacity from the Portland Water District. As the site has been previously developed, we do not believe letters from the Department of Inland Fisheries and Wildlife, the Maine Historic Preservation Commission, or the Natural Heritage Program are required for this development.

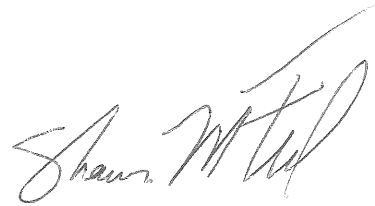
We look forward to working with the Planning Board at the workshop on May 23rd to discuss the proposed project in more detail. In the interim, please call with any questions or comments. Thank you for your consideration.

Sincerely,

SEBAGO TECHNICS, INC.



Gregory Boulette
Project Engineer



Shawn M. Frank, P.E.
Project Manager

GJB/SMF:dlf/jc
Enc.

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

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

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

Earle W. Noyes & Sons

May 4, 2000

Applicant

P O Box 936 Portland ME 04104

Application Date

E.W. Noyes & Sons

Applicant's Mailing Address

Shawn M. Frank P.E. c/o Sebago Technics Inc

Project Name/Description

127 Oxford Street

Consultant/Agent

(207) 856-0277 / (207) 856-2206

Address Of Proposed Site

Map 26; Block P; Lot 3

Applicant/Agent Daytime telephone and FAX

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 Other(Specify) _____

37037sf/1500sf

3.91

B5-Urban Commerical

Proposed Building Square Footage and /or # of Units

Acreage of Site

Zoning

You must Include the following with you application:

- 1) A Copy of Your Deed or Purchase and Sale Agreement
- 2) 7 sets of Site Plan packages containing the information found in the attached sample plans and checklist.

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

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

Signature of applicant:

Peter L. Noyes

Date:

5/4/00

Site Review Fee: Major \$500.00 Minor 400.00

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

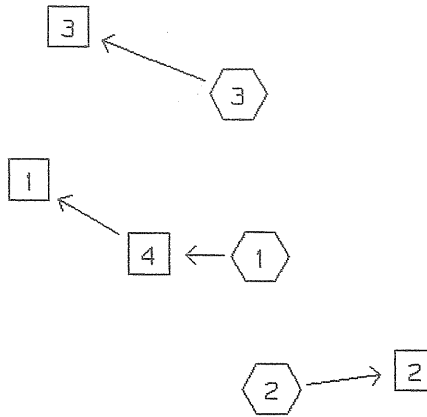
Construction Schedule

Site improvements will most likely begin in July 2000, depending on final approval and the selection of a site contractor. Based upon an May construction start, the following schedule has been prepared:

<u>Schedule</u>	<u>Completion Dates</u>
1. Estimated construction time:	July 1, 2000 – October 1, 2000
2. Erosion control measures placed.	July 1, 2000 – July 3, 2000
3. Site access and drive.	July 4, 2000 – August 1, 2000
4. Site clearing, grubbing, excavation and filling.	July 4, 2000 – August 15, 2000
5. Rough grading, utility improvements and parking lot construction.	July 18, 2000 – August 30, 2000
6. Building construction	August 1, 2000 – September 15, 2000
7. Miscellaneous	September 15, 2000 – October 1, 2000

* Dates are subject to change at the discretion of the construction manager, depending on construction progress.

WATERSHED ROUTING



SUBCATCHMENT 1	= SOUTHERLY HALF OF SITE	-> REACH 4
SUBCATCHMENT 2	= SOUTHERLY PORTION OF SITE	-> REACH 2
SUBCATCHMENT 3	= NORTHERLY HALF OF SITE	-> REACH 3
REACH 1	=	->
REACH 2	=	->
REACH 3	=	->
REACH 4	= EXISTING SUBSURFACE STORM DRAIN	-> REACH 1

SUBCATCHMENT 1 SOUTHERLY HALF OF SITE

PEAK= 4.52 CFS @ 11.99 HRS, VOLUME= .29 AF

ACRES	CN		SCS TR-20 METHOD
.15	74	DENSE GRASS, GOOD CONDITION, "C"	TYPE III 24-HOUR
1.44	98	IMPERVIOUS	RAINFALL= 3.00 IN
1.59	96		SPAN= 10-20 HRS, dt=.1 HRS

Method	Comment	Tc (min)
TR-55 SHEET FLOW		1.8
Grass: Dense	n=.24 L=30' P2=3 in s=.3667 '/'	
SHALLOW CONCENTRATED/UPLAND FLOW		.5
Paved	Kv=20.3282 L=120' s=.0321 '/' V=3.64 fps	
Total Length= 150 ft		Total Tc= 2.3

SUBCATCHMENT 2 SOUTHERLY PORTION OF SITE

PEAK= 1.08 CFS @ 12.00 HRS, VOLUME= .07 AF

ACRES	CN		SCS TR-20 METHOD
.37	98	IMPERVIOUS	TYPE III 24-HOUR
			RAINFALL= 3.00 IN
			SPAN= 10-20 HRS, dt=.1 HRS

Method	Comment	Tc (min)
TR-55 SHEET FLOW		2.3
Smooth surfaces	n=.011 L=150' P2=3 in s=.01 '/'	
SHALLOW CONCENTRATED/UPLAND FLOW		1.1
Paved	Kv=20.3282 L=135' s=.01 '/' V=2.03 fps	
Total Length= 285 ft		Total Tc= 3.4

SUBCATCHMENT 3 NORTHERLY HALF OF SITE

PEAK= 3.70 CFS @ 11.99 HRS, VOLUME= .24 AF

ACRES	CN		SCS TR-20 METHOD
.80	95	GRAVEL IMPERVIOUS	TYPE III 24-HOUR
1.06	79	GRASS, FAIR CONDITION, "C"	RAINFALL= 3.00 IN
1.86	86		SPAN= 10-20 HRS, dt=.1 HRS

Method	Comment	Tc (min)
TR-55 SHEET FLOW		1.5
Smooth surfaces	n=.011 L=150' P2=3 in s=.0267 '/'	
SHALLOW CONCENTRATED/UPLAND FLOW		.3
Paved	Kv=20.3282 L=40' s=.0125 '/' V=2.27 fps	
Total Length= 190 ft		Total Tc= 1.8

REACH 1

Not described
Qin = 4.17 CFS @ 12.01 HRS, VOLUME= .29 AF
Qout= 4.17 CFS @ 12.01 HRS, VOLUME= .29 AF, ATTEN= 0%, LAG= 0.0 MIN

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

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

REACH 2

Not described
Qin = 1.08 CFS @ 12.00 HRS, VOLUME= .07 AF
Qout= 1.08 CFS @ 12.00 HRS, VOLUME= .07 AF, ATTEN= 0%, LAG= 0.0 MIN

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

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

REACH 3

Not described
Qin = 3.70 CFS @ 11.99 HRS, VOLUME= .24 AF
Qout= 3.70 CFS @ 11.99 HRS, VOLUME= .24 AF, ATTEN= 0%, LAG= 0.0 MIN

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

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

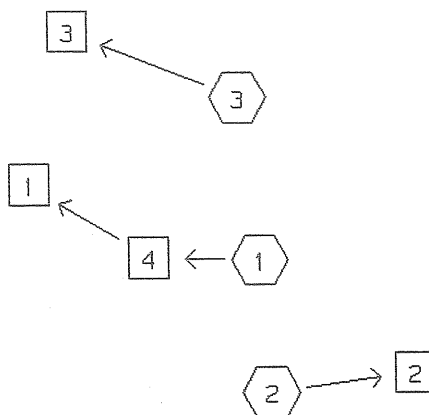
REACH 4

EXISTING SUBSURFACE STORM DRAIN

Qin = 4.52 CFS @ 11.99 HRS, VOLUME= .29 AF
Qout= 4.17 CFS @ 12.01 HRS, VOLUME= .29 AF, ATTEN= 8%, LAG= .8 MIN

DEPTH (FT)	END AREA (SQ-FT)	DISCH (CFS)	15" PIPE	STOR-IND+TRANS METHOD
0.0	0.0	0.00		PEAK DEPTH= 1.03 FT
.1	.1	.09	n= .015	PEAK VELOCITY= 4.0 FPS
.3	.2	.38	LENGTH= 150 FT	TRAVEL TIME = .6 MIN
.4	.3	.85	SLOPE= .006 FT/FT	SPAN= 10-20 HRS, dt=.1 HRS
.9	.9	3.63		
1.0	1.1	4.24		
1.1	1.2	4.62		
1.2	1.2	4.66		
1.2	1.2	4.62		
1.3	1.2	4.34		

WATERSHED ROUTING



SUBCATCHMENT 1	= SOUTHERLY HALF OF SITE	-> REACH 4
SUBCATCHMENT 2	= SOUTHERLY PORTION OF SITE	-> REACH 2
SUBCATCHMENT 3	= NORTHERLY HALF OF SITE	-> REACH 3
REACH 1	=	->
REACH 2	=	->
REACH 3	=	->
REACH 4	= EXISTING SUBSURFACE STORM DRAIN	-> REACH 1

SUBCATCHMENT 1 SOUTHERLY HALF OF SITE

PEAK= 7.28 CFS @ 11.99 HRS, VOLUME= .47 AF

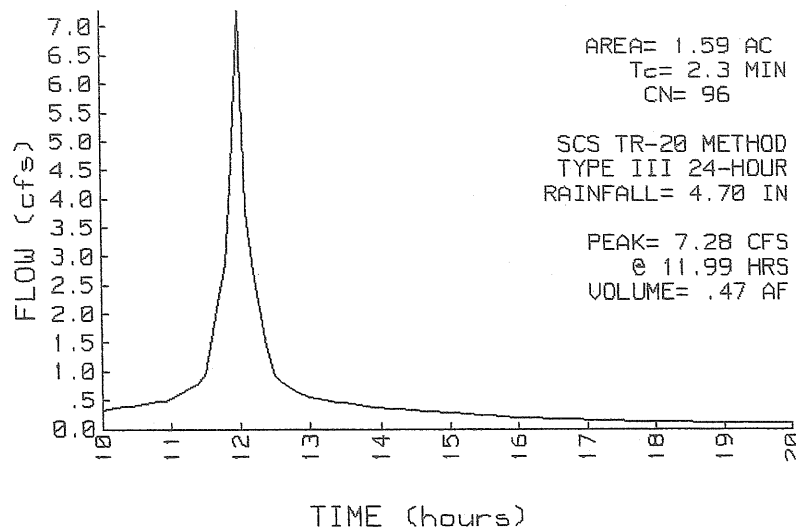
ACRES	CN
.15	74
1.44	98
1.59	96

DENSE GRASS, GOOD CONDITION, "C"
 IMPERVIOUS

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

Method	Comment	Tc (min)
TR-55 SHEET FLOW		1.8
Grass: Dense	n=.24 L=30' P2=3 in s=.3667 '/'	
SHALLOW CONCENTRATED/UPLAND FLOW		.5
Paved	Kv=20.3282 L=120' s=.0321 '/' V=3.64 fps	
Total Length= 150 ft		Total Tc= 2.3

**SUBCATCHMENT 1 RUNOFF
 SOUTHERLY HALF OF SITE**



SUBCATCHMENT 2 SOUTHERLY PORTION OF SITE

PEAK= 1.71 CFS @ 12.00 HRS, VOLUME= .11 AF

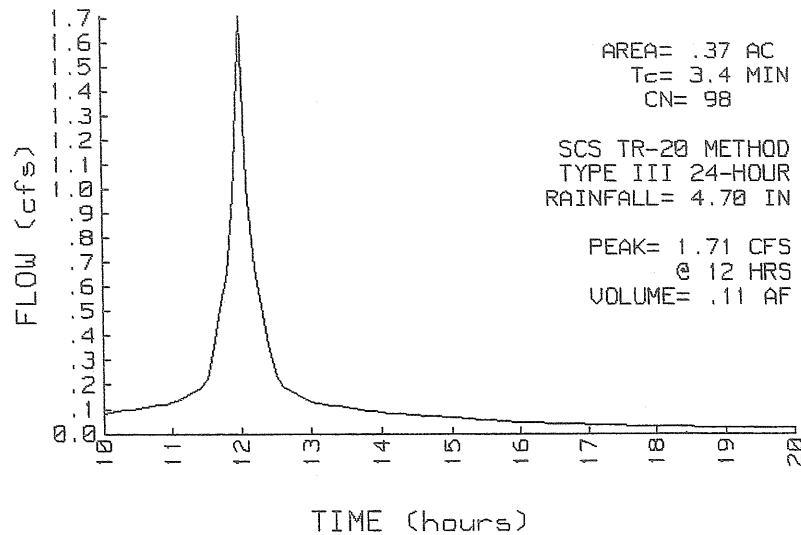
ACRES	CN
.37	98

IMPERVIOUS

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

Method	Comment	Tc (min)
TR-55 SHEET FLOW		2.3
Smooth surfaces	n=.011 L=150' P2=3 in s=.01 '/'	
SHALLOW CONCENTRATED/UPLAND FLOW		1.1
Paved	Kv=20.3282 L=135' s=.01 '/' V=2.03 fps	
Total Length= 285 ft		Total Tc= 3.4

SUBCATCHMENT 2 RUNOFF
 SOUTHERLY PORTION OF SITE



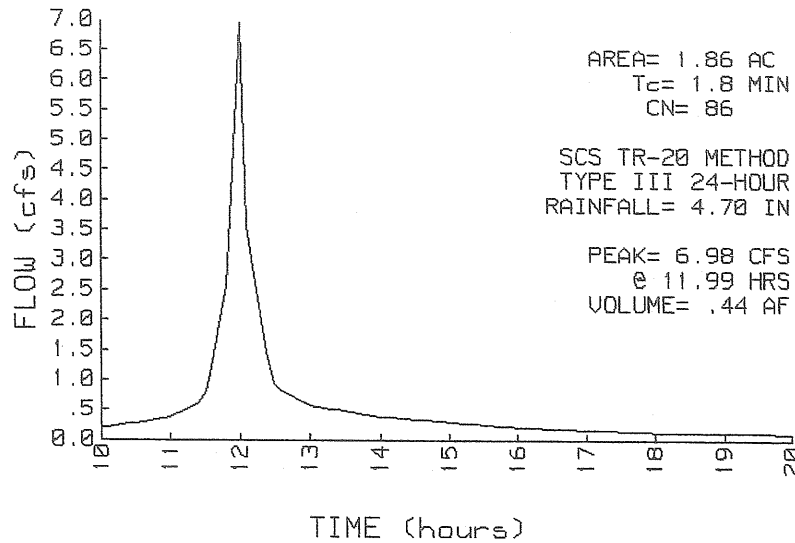
SUBCATCHMENT 3 NORTHERLY HALF OF SITE

PEAK= 6.98 CFS @ 11.99 HRS, VOLUME= .44 AF

ACRES	CN	GRAVEL IMPERVIOUS GRASS, FAIR CONDITION, "C"	SCS TR-20 METHOD TYPE III 24-HOUR RAINFALL= 4.70 IN SPAN= 10-20 HRS, dt=.1 HRS
.80	95		
1.06	79		
1.86	86		

Method	Comment	Tc (min)
TR-55 SHEET FLOW		1.5
Smooth surfaces	n=.011 L=150' P2=3 in s=.0267 '/'	
SHALLOW CONCENTRATED/UPLAND FLOW		.3
Paved	Kv=20.3282 L=40' s=.0125 '/' V=2.27 fps	
Total Length= 190 ft		Total Tc= 1.8

SUBCATCHMENT 3 RUNOFF
 NORTHERLY HALF OF SITE



REACH 1

Not described

Qin = 4.34 CFS @ 12.00 HRS, VOLUME= .47 AF
Qout= 4.34 CFS @ 12.00 HRS, VOLUME= .47 AF, ATTEN= 0%, LAG= 0.0 MIN

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

- METHOD

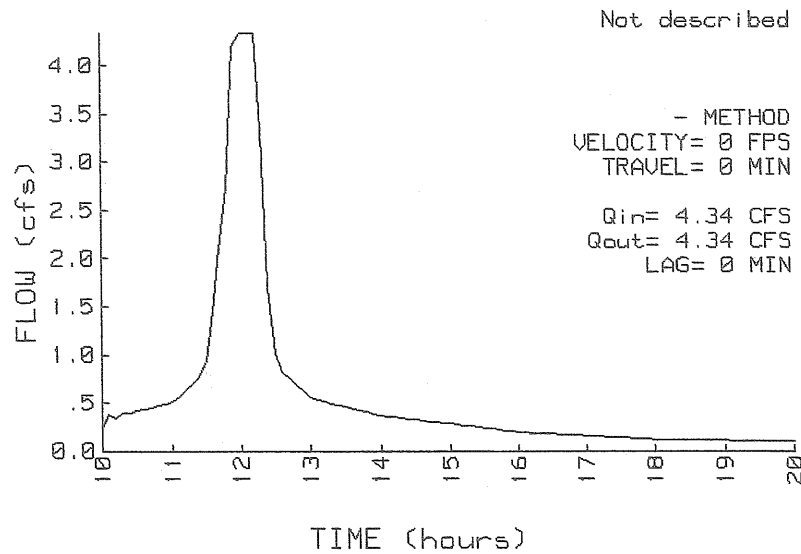
PEAK DEPTH= 0.00 FT

PEAK VELOCITY= 0.0 FPS

TRAVEL TIME = 0.0 MIN

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

REACH 1 INFLOW & OUTFLOW



REACH 2

Not described

Qin = 1.71 CFS @ 12.00 HRS, VOLUME= .11 AF
Qout= 1.71 CFS @ 12.00 HRS, VOLUME= .11 AF, ATTEN= 0%, LAG= 0.0 MIN

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

- METHOD

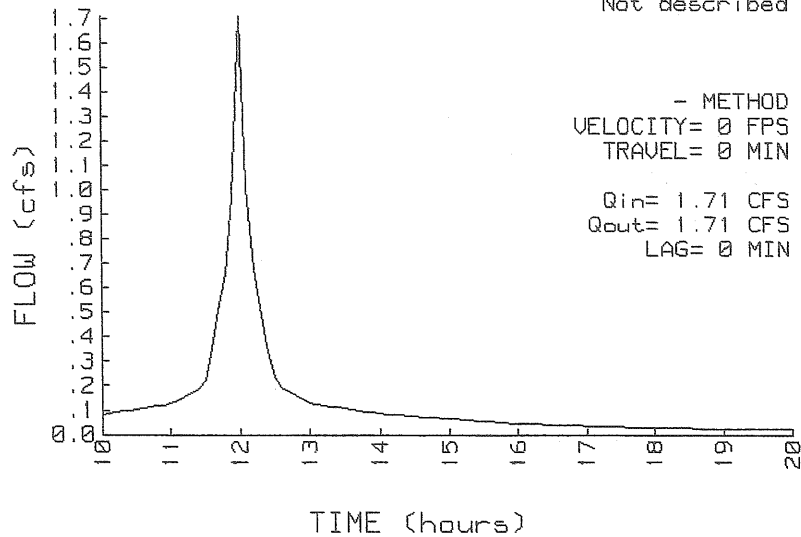
PEAK DEPTH= 0.00 FT

PEAK VELOCITY= 0.0 FPS

TRAVEL TIME = 0.0 MIN

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

REACH 2 INFLOW & OUTFLOW



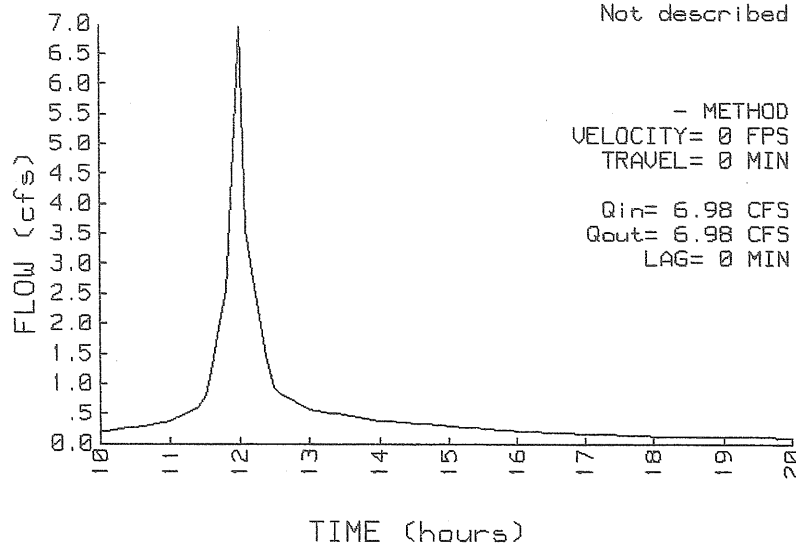
REACH 3

Not described
Qin = 6.98 CFS @ 11.99 HRS, VOLUME= .44 AF
Qout= 6.98 CFS @ 11.99 HRS, VOLUME= .44 AF, ATTEN= 0%, LAG= 0.0 MIN

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

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

REACH 3 INFLOW & OUTFLOW



REACH 4

EXISTING SUBSURFACE STORM DRAIN

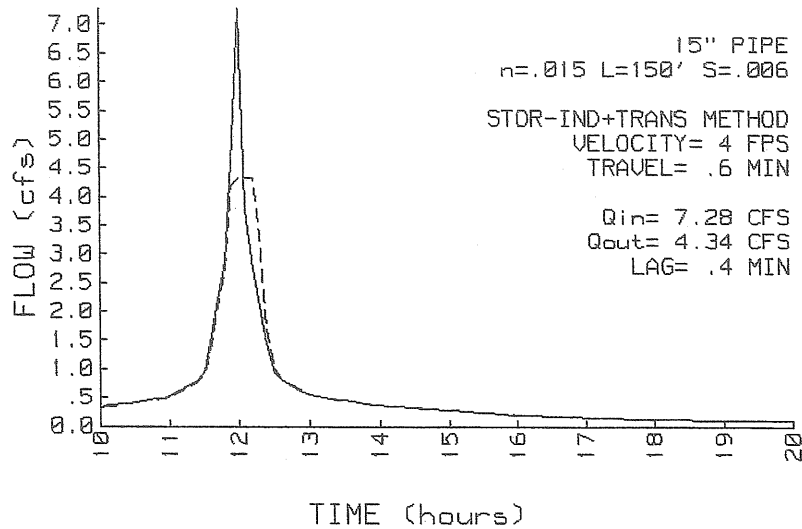
Qin = 7.28 CFS @ 11.99 HRS, VOLUME= .47 AF
 Qout= 4.34 CFS @ 12.00 HRS, VOLUME= .47 AF, ATTEN= 40%, LAG= .4 MIN

DEPTH (FT)	END AREA (SQ-FT)	DISCH (CFS)
0.0	0.0	0.00
.1	.1	.09
.3	.2	.38
.4	.3	.85
.9	.9	3.63
1.0	1.1	4.24
1.1	1.2	4.62
1.2	1.2	4.66
1.2	1.2	4.62
1.3	1.2	4.34

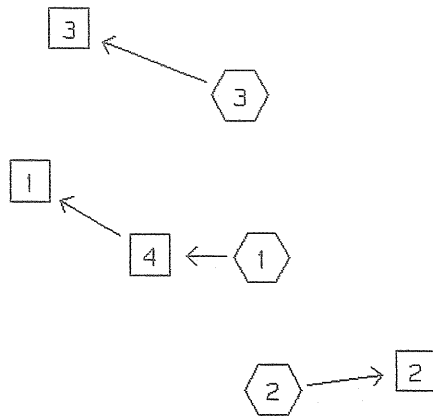
15" PIPE
 n= .015
 LENGTH= 150 FT
 SLOPE= .006 FT/FT

STOR-IND+TRANS METHOD
 PEAK DEPTH= 1.25 FT
 PEAK VELOCITY= 4.0 FPS
 TRAVEL TIME = .6 MIN
 SPAN= 10-20 HRS, dt=.1 HRS

REACH 4 INFLOW & OUTFLOW
 EXISTING SUBSURFACE STORM DRAIN



WATERSHED ROUTING



SUBCATCHMENT 1	= SOUTHERLY HALF OF SITE	-> REACH 4
SUBCATCHMENT 2	= SOUTHERLY PORTION OF SITE	-> REACH 2
SUBCATCHMENT 3	= NORTHERLY HALF OF SITE	-> REACH 3
REACH 1	=	->
REACH 2	=	->
REACH 3	=	->
REACH 4	= EXISTING SUBSURFACE STORM DRAIN	-> REACH 1

SUBCATCHMENT 1 SOUTHERLY HALF OF SITE

PEAK= 8.57 CFS @ 11.99 HRS, VOLUME= .55 AF

ACRES	CN	DENSE GRASS, GOOD CONDITION, "C" IMPERVIOUS	SCS TR-20 METHOD TYPE III 24-HOUR RAINFALL= 5.50 IN SPAN= 10-20 HRS, dt=.1 HRS
.15	74		
1.44	98		
1.59	96		

Method	Comment	Tc (min)
TR-55 SHEET FLOW		1.8
Grass: Dense	n=.24 L=30' P2=3 in s=.3667 '/'	
SHALLOW CONCENTRATED/UPLAND FLOW		.5
Paved	Kv=20.3282 L=120' s=.0321 '/' V=3.64 fps	
Total Length= 150 ft		Total Tc= 2.3

SUBCATCHMENT 2 SOUTHERLY PORTION OF SITE

PEAK= 2.00 CFS @ 12.00 HRS, VOLUME= .13 AF

ACRES	CN	IMPERVIOUS	SCS TR-20 METHOD TYPE III 24-HOUR RAINFALL= 5.50 IN SPAN= 10-20 HRS, dt=.1 HRS
.37	98		

Method	Comment	Tc (min)
TR-55 SHEET FLOW		2.3
Smooth surfaces	n=.011 L=150' P2=3 in s=.01 '/'	
SHALLOW CONCENTRATED/UPLAND FLOW		1.1
Paved	Kv=20.3282 L=135' s=.01 '/' V=2.03 fps	
Total Length= 285 ft		Total Tc= 3.4

SUBCATCHMENT 3 NORTHERLY HALF OF SITE

PEAK= 8.53 CFS @ 11.99 HRS, VOLUME= .54 AF

ACRES	CN	GRAVEL IMPERVIOUS GRASS, FAIR CONDITION, "C"	SCS TR-20 METHOD TYPE III 24-HOUR RAINFALL= 5.50 IN SPAN= 10-20 HRS, dt=.1 HRS
.80	95		
1.06	79		
1.86	86		

Method	Comment	Tc (min)
TR-55 SHEET FLOW		1.5
Smooth surfaces	n=.011 L=150' P2=3 in s=.0267 '/'	
SHALLOW CONCENTRATED/UPLAND FLOW		.3
Paved	Kv=20.3282 L=40' s=.0125 '/' V=2.27 fps	
Total Length= 190 ft		Total Tc= 1.8

REACH 1

Not described
Qin = 4.34 CFS @ 12.00 HRS, VOLUME= .55 AF
Qout= 4.34 CFS @ 12.00 HRS, VOLUME= .55 AF, ATTEN= 0%, LAG= 0.0 MIN

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

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

REACH 2

Not described
Qin = 2.00 CFS @ 12.00 HRS, VOLUME= .13 AF
Qout= 2.00 CFS @ 12.00 HRS, VOLUME= .13 AF, ATTEN= 0%, LAG= 0.0 MIN

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

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

REACH 3

Not described
Qin = 8.53 CFS @ 11.99 HRS, VOLUME= .54 AF
Qout= 8.53 CFS @ 11.99 HRS, VOLUME= .54 AF, ATTEN= 0%, LAG= 0.0 MIN

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

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

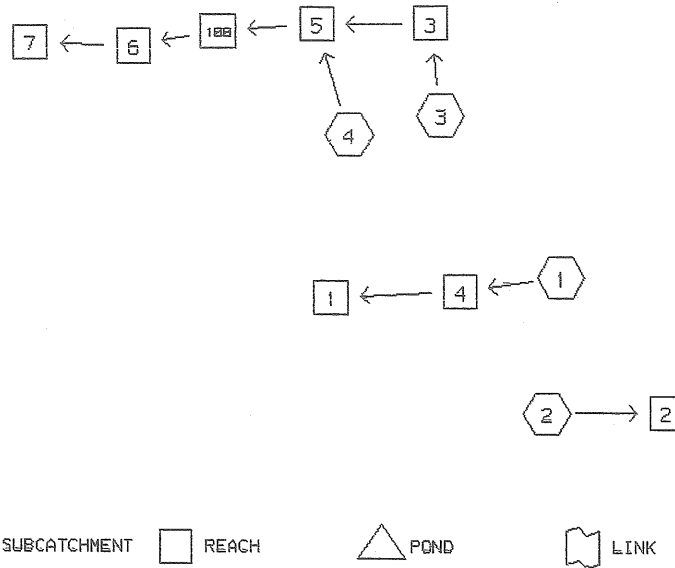
REACH 4

EXISTING SUBSURFACE STORM DRAIN

Qin = 8.57 CFS @ 11.99 HRS, VOLUME= .55 AF
Qout= 4.34 CFS @ 12.00 HRS, VOLUME= .55 AF, ATTEN= 49%, LAG= .4 MIN

DEPTH (FT)	END AREA (SQ-FT)	DISCH (CFS)	15" PIPE	STOR-IND+TRANS METHOD
0.0	0.0	0.00		PEAK DEPTH= 1.25 FT
.1	.1	.09	n= .015	PEAK VELOCITY= 4.0 FPS
.3	.2	.38	LENGTH= 150 FT	TRAVEL TIME = .6 MIN
.4	.3	.85	SLOPE= .006 FT/FT	SPAN= 10-20 HRS, dt=.1 HRS
.9	.9	3.63		
1.0	1.1	4.24		
1.1	1.2	4.62		
1.2	1.2	4.66		
1.2	1.2	4.62		
1.3	1.2	4.34		

WATERSHED ROUTING



SUBCATCHMENT 1	= SOUTHWESTERLY PORTION OF THE SITE	-> REACH 4
SUBCATCHMENT 2	= SOUTHERLY PORTION OF SITE	-> REACH 2
SUBCATCHMENT 3	= NORTHASTERLY PORTION OF SITE	-> REACH 3
SUBCATCHMENT 4	= NORTHWESTERLY PORTION OF SITE	-> REACH 5
REACH 1	=	->
REACH 2	=	->
REACH 3	= PROPOSED SUBSURFACE STORM DRAIN	-> REACH 5
REACH 4	= EXISTING SUBSURFACE STORM DRAIN	-> REACH 1
REACH 5	= PROPOSED SUBSURFACE STORM DRAIN	-> REACH 100
REACH 6	= PROPOSED SUBSURFACE STORM DRAIN	-> REACH 7
REACH 7	=	->
REACH 100	=	-> REACH 6

SUBCATCHMENT 1 SOUTHWESTERLY PORTION OF THE SITE

PEAK= 4.52 CFS @ 11.99 HRS, VOLUME= .29 AF

ACRES	CN		SCS TR-20 METHOD
.12	74	DENSE GRASS, GOOD CONDITION, "C"	TYPE III 24-HOUR
1.47	98	IMPERVIOUS	RAINFALL= 3.00 IN
1.59	96		SPAN= 10-20 HRS, dt=.1 HRS

Method	Comment	Tc (min)
TR-55 SHEET FLOW		1.8
Grass: Dense	n=.24 L=30' P2=3 in s=.3667 '/'	
SHALLOW CONCENTRATED/UPLAND FLOW		.5
Paved	Kv=20.3282 L=120' s=.0321 '/' V=3.64 fps	
Total Length= 150 ft		Total Tc= 2.3

SUBCATCHMENT 2 SOUTHERLY PORTION OF SITE

PEAK= 1.08 CFS @ 12.00 HRS, VOLUME= .07 AF

ACRES	CN		SCS TR-20 METHOD
.37	98	IMPERVIOUS	TYPE III 24-HOUR
			RAINFALL= 3.00 IN
			SPAN= 10-20 HRS, dt=.1 HRS

Method	Comment	Tc (min)
TR-55 SHEET FLOW		2.3
Smooth surfaces	n=.011 L=150' P2=3 in s=.01 '/'	
SHALLOW CONCENTRATED/UPLAND FLOW		1.1
Paved	Kv=20.3282 L=135' s=.01 '/' V=2.03 fps	
Total Length= 285 ft		Total Tc= 3.4

SUBCATCHMENT 3 NORTHEASTERLY PORTION OF SITE

PEAK= 1.93 CFS @ 12.15 HRS, VOLUME= .17 AF

ACRES	CN		SCS TR-20 METHOD
.28	74	DENSE GRASS, GOOD CONDITION, "C"	TYPE III 24-HOUR
.76	98	IMPERVIOUS	RAINFALL= 3.00 IN
1.04	92		SPAN= 10-20 HRS, dt=.1 HRS

Method	Comment	Tc (min)
TR-55 SHEET FLOW		12.1
Grass: Dense	n=.24 L=150' P2=3 in s=.0733 '/'	
SHALLOW CONCENTRATED/UPLAND FLOW		1.4
	Kv=8 L=125' s=.036 '/' V=1.52 fps	
SHALLOW CONCENTRATED/UPLAND FLOW		.9
Paved	Kv=20.3282 L=105' s=.01 '/' V=2.03 fps	
Total Length= 380 ft		Total Tc= 14.4

SUBCATCHMENT 4

NORTHWESTERLY PORTION OF SITE

PEAK= 2.39 CFS @ 11.99 HRS, VOLUME= .15 AF

ACRES CN
.82 98 IMPERVIOUS

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

<u>Method</u>	<u>Comment</u>	<u>Tc (min)</u>
TR-55 SHEET FLOW		1.5
Smooth surfaces	n=.011 L=150' P2=3 in s=.0267 '/'	
SHALLOW CONCENTRATED/UPLAND FLOW		.2
Paved	Kv=20.3282 L=50' s=.03 '/' V=3.52 fps	
	Total Length= 200 ft	Total Tc= 1.7

REACH 1

Not described

Qin = 4.17 CFS @ 12.01 HRS, VOLUME= .29 AF
 Qout= 4.17 CFS @ 12.01 HRS, VOLUME= .29 AF, ATTEN= 0%, LAG= 0.0 MIN

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

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

REACH 2

Not described

Qin = 1.08 CFS @ 12.00 HRS, VOLUME= .07 AF
 Qout= 1.08 CFS @ 12.00 HRS, VOLUME= .07 AF, ATTEN= 0%, LAG= 0.0 MIN

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

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

REACH 3

PROPOSED SUBSURFACE STORM DRAIN

Qin = 1.93 CFS @ 12.15 HRS, VOLUME= .17 AF
 Qout= 1.85 CFS @ 12.20 HRS, VOLUME= .17 AF, ATTEN= 4%, LAG= 3.3 MIN

DEPTH (FT)	END AREA (SQ-FT)	DISCH (CFS)
0.0	0.0	0.00
.1	.1	.08
.3	.2	.35
.4	.3	.78
.9	.9	3.31
1.0	1.1	3.87
1.1	1.2	4.22
1.2	1.2	4.26
1.2	1.2	4.22
1.3	1.2	3.96

15" PIPE
 n= .015
 LENGTH= 285 FT
 SLOPE= .005 FT/FT

STOR-IND+TRANS METHOD
 PEAK DEPTH= .60 FT
 PEAK VELOCITY= 3.3 FPS
 TRAVEL TIME = 1.4 MIN
 SPAN= 10-20 HRS, dt=.1 HRS

REACH 4 EXISTING SUBSURFACE STORM DRAIN

Qin = 4.52 CFS @ 11.99 HRS, VOLUME= .29 AF
 Qout= 4.17 CFS @ 12.01 HRS, VOLUME= .29 AF, ATTEN= 8%, LAG= .8 MIN

DEPTH (FT)	END AREA (SQ-FT)	DISCH (CFS)		STOR-IND+TRANS METHOD
0.0	0.0	0.00	15" PIPE	PEAK DEPTH= 1.03 FT
.1	.1	.09	n= .015	PEAK VELOCITY= 4.0 FPS
.3	.2	.38	LENGTH= 150 FT	TRAVEL TIME = .6 MIN
.4	.3	.85	SLOPE= .006 FT/FT	SPAN= 10-20 HRS, dt=.1 HRS
.9	.9	3.63		
1.0	1.1	4.24		
1.1	1.2	4.62		
1.2	1.2	4.66		
1.2	1.2	4.62		
1.3	1.2	4.34		

REACH 5 PROPOSED SUBSURFACE STORM DRAIN

Qin = 3.39 CFS @ 12.01 HRS, VOLUME= .32 AF
 Qout= 3.34 CFS @ 12.02 HRS, VOLUME= .32 AF, ATTEN= 2%, LAG= .4 MIN

DEPTH (FT)	END AREA (SQ-FT)	DISCH (CFS)		STOR-IND+TRANS METHOD
0.0	0.0	0.00	18" PIPE	PEAK DEPTH= .75 FT
.2	.1	.13	n= .015	PEAK VELOCITY= 3.8 FPS
.3	.3	.56	LENGTH= 50 FT	TRAVEL TIME = .2 MIN
.5	.4	1.26	SLOPE= .005 FT/FT	SPAN= 10-20 HRS, dt=.1 HRS
1.1	1.3	5.39		
1.2	1.5	6.29		
1.4	1.7	6.86		
1.4	1.7	6.92		
1.5	1.8	6.86		
1.5	1.8	6.44		

REACH 6 PROPOSED SUBSURFACE STORM DRAIN

Qin = 3.34 CFS @ 12.02 HRS, VOLUME= .32 AF
 Qout= 3.31 CFS @ 12.02 HRS, VOLUME= .32 AF, ATTEN= 1%, LAG= .2 MIN

DEPTH (FT)	END AREA (SQ-FT)	DISCH (CFS)		STOR-IND+TRANS METHOD
0.0	0.0	0.00	18" PIPE	PEAK DEPTH= .75 FT
.2	.1	.13	n= .015	PEAK VELOCITY= 3.8 FPS
.3	.3	.56	LENGTH= 25 FT	TRAVEL TIME = .1 MIN
.5	.4	1.26	SLOPE= .005 FT/FT	SPAN= 10-20 HRS, dt=.1 HRS
1.1	1.3	5.39		
1.2	1.5	6.29		
1.4	1.7	6.86		
1.4	1.7	6.92		
1.5	1.8	6.86		
1.5	1.8	6.44		

REACH 7

Not described

Qin = 3.31 CFS @ 12.02 HRS, VOLUME= .32 AF
Qout= 3.31 CFS @ 12.02 HRS, VOLUME= .32 AF, ATTEN= 0%, LAG= 0.0 MIN

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

- METHOD

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

REACH 100

Not described

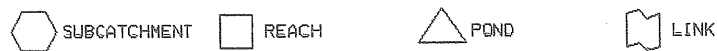
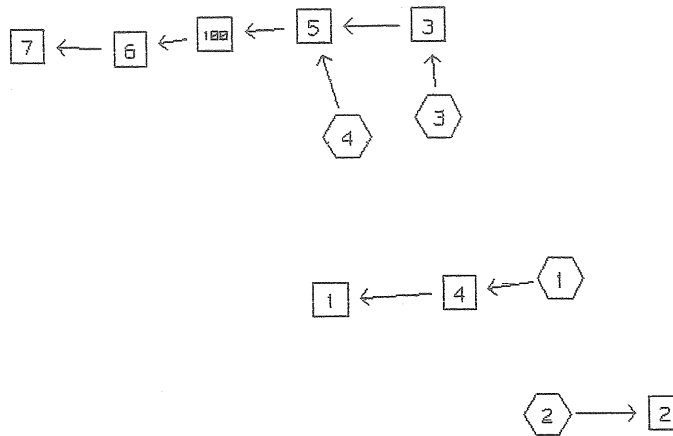
Qin = 3.34 CFS @ 12.02 HRS, VOLUME= .32 AF
Qout= 3.34 CFS @ 12.02 HRS, VOLUME= .32 AF, ATTEN= 0%, LAG= 0.0 MIN

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

- METHOD

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

WATERSHED ROUTING



SUBCATCHMENT 1	= SOUTHWESTERLY PORTION OF THE SITE	-> REACH 4
SUBCATCHMENT 2	= SOUTHERLY PORTION OF SITE	-> REACH 2
SUBCATCHMENT 3	= NORTHASTERLY PORTION OF SITE	-> REACH 3
SUBCATCHMENT 4	= NORTHWESTERLY PORTION OF SITE	-> REACH 5
REACH 1	=	->
REACH 2	=	->
REACH 3	= PROPOSED SUBSURFACE STORM DRAIN	-> REACH 5
REACH 4	= EXISTING SUBSURFACE STORM DRAIN	-> REACH 1
REACH 5	= PROPOSED SUBSURFACE STORM DRAIN	-> REACH 100
REACH 6	= PROPOSED SUBSURFACE STORM DRAIN	-> REACH 7
REACH 7	=	->
REACH 100	=	-> REACH 6

SUBCATCHMENT 1 SOUTHWESTERLY PORTION OF THE SITE

PEAK= 7.28 CFS @ 11.99 HRS, VOLUME= .47 AF

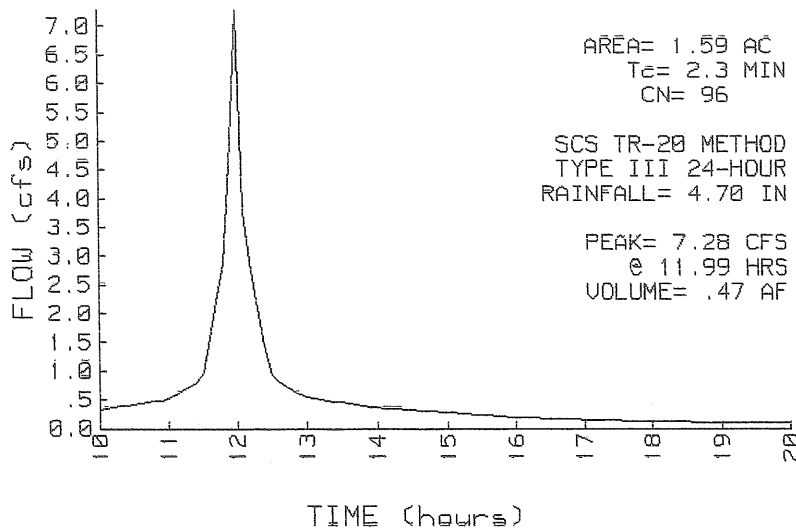
ACRES	CN
.12	74
1.47	98
1.59	96

DENSE GRASS, GOOD CONDITION, "C"
 IMPERVIOUS

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

Method	Comment	Tc (min)
TR-55 SHEET FLOW		1.8
Grass: Dense n=.24 L=30' P2=3 in s=.3667 '/'		
SHALLOW CONCENTRATED/UPLAND FLOW		.5
Paved Kv=20.3282 L=120' s=.0321 '/' V=3.64 fps		
Total Length= 150 ft		Total Tc= 2.3

**SUBCATCHMENT 1 RUNOFF
 SOUTHWESTERLY PORTION OF THE SITE**



SUBCATCHMENT 2 SOUTHERLY PORTION OF SITE

PEAK= 1.71 CFS @ 12.00 HRS, VOLUME= .11 AF

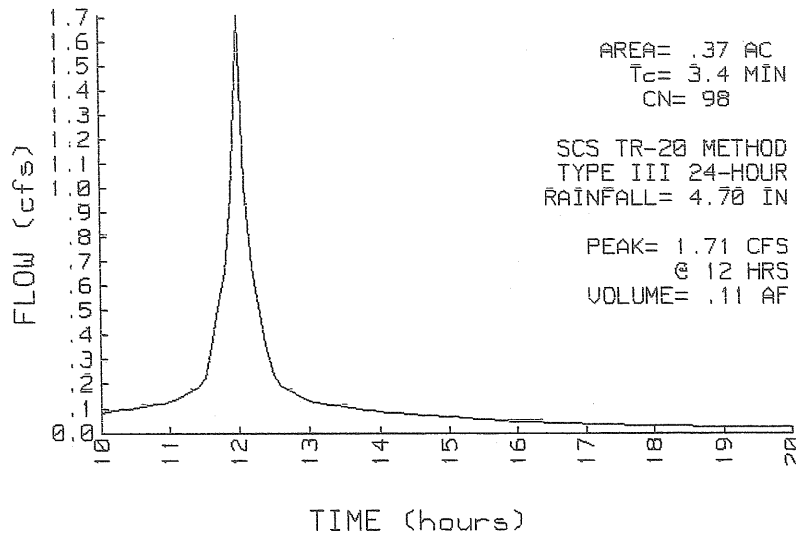
ACRES	CN
.37	98

IMPERVIOUS

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

Method	Comment	Tc (min)
TR-55 SHEET FLOW		2.3
Smooth surfaces	n=.011 L=150' P2=3 in s=.01 '/'	
SHALLOW CONCENTRATED/UPLAND FLOW		1.1
Paved	Kv=20.3282 L=135' s=.01 '/' V=2.03 fps	
Total Length= 285 ft		Total Tc= 3.4

SUBCATCHMENT 2 RUNOFF
 SOUTHERLY PORTION OF SITE



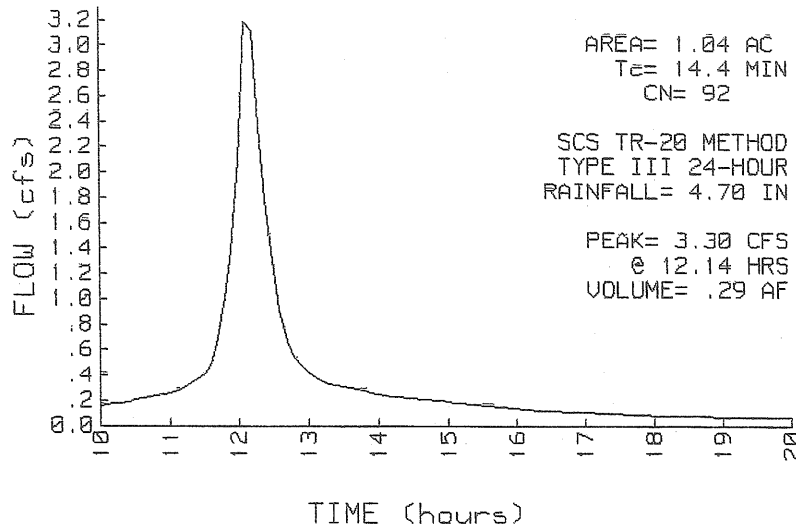
SUBCATCHMENT 3 NORTHASTERLY PORTION OF SITE

PEAK= 3.30 CFS @ 12.14 HRS, VOLUME= .29 AF

ACRES	CN		SCS TR-20 METHOD
.28	74	DENSE GRASS, GOOD CONDITION, "C"	TYPE III 24-HOUR
.76	98	IMPERVIOUS	RAINFALL= 4.70 IN
1.04	92		SPAN= 10-20 HRS, dt=.1 HRS

Method	Comment	Tc (min)
TR-55 SHEET FLOW		12.1
Grass: Dense	n=.24 L=150' P2=3 in s=.0733 '/'	
SHALLOW CONCENTRATED/UPLAND FLOW		1.4
	Kv=8 L=125' s=.036 '/' V=1.52 fps	
SHALLOW CONCENTRATED/UPLAND FLOW		.9
Paved	Kv=20.3282 L=105' s=.01 '/' V=2.03 fps	
Total Length= 380 ft		Total Tc= 14.4

SUBCATCHMENT 3 RUNOFF
 NORTHASTERLY PORTION OF SITE



SUBCATCHMENT 4

NORTHWESTERLY PORTION OF SITE

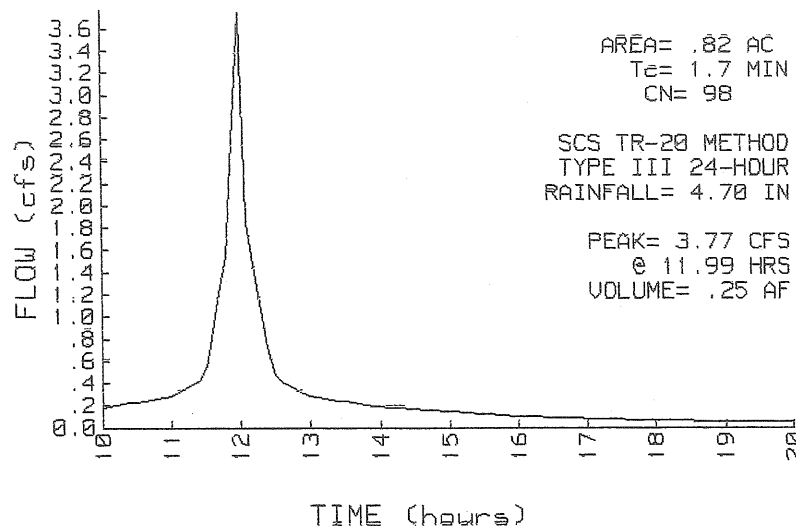
PEAK= 3.77 CFS @ 11.99 HRS, VOLUME= .25 AF

ACRES	CN	
.82	98	IMPERVIOUS

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

Method	Comment	Tc (min)
TR-55 SHEET FLOW		1.5
Smooth surfaces	n=.011 L=150' P2=3 in s=.0267 '/'	
SHALLOW CONCENTRATED/UPLAND FLOW		.2
Paved	Kv=20.3282 L=50' s=.03 '/' V=3.52 fps	
Total Length= 200 ft		Total Tc= 1.7

SUBCATCHMENT 4 RUNOFF
 NORTHWESTERLY PORTION OF SITE



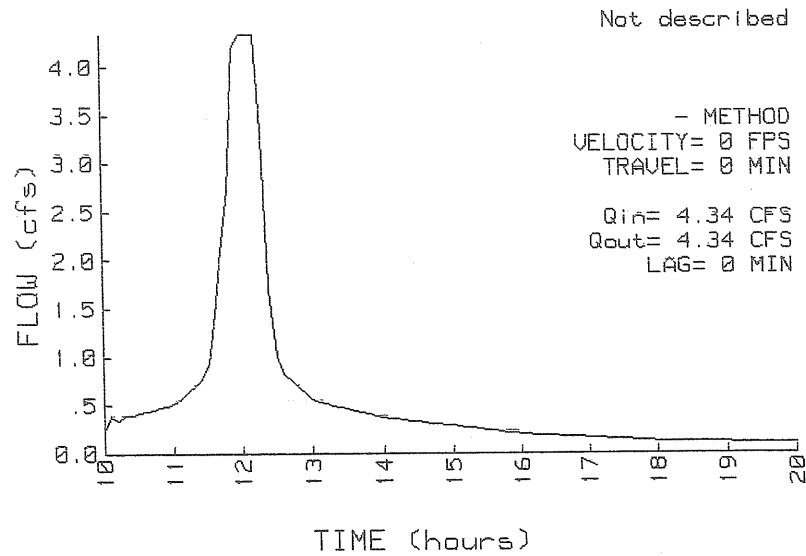
REACH 1

Not described
Qin = 4.34 CFS @ 12.00 HRS, VOLUME= .47 AF
Qout= 4.34 CFS @ 12.00 HRS, VOLUME= .47 AF, ATTEN= 0%, LAG= 0.0 MIN

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

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

REACH 1 INFLOW & OUTFLOW



Data for 00030 E.W. NOYES & SONS (POST)
TYPE III 24-HOUR RAINFALL= 4.70 IN

1 May 00

Prepared by SEBAGO TECHNICS
HydroCAD 5.01 000643 (c) 1986-1998 Applied Microcomputer Systems

REACH 2

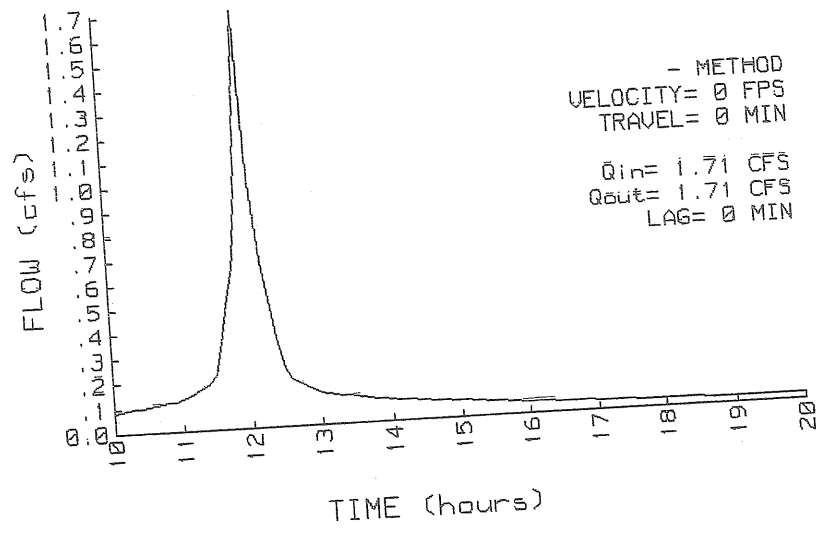
Not described
Qin = 1.71 CFS @ 12.00 HRS, VOLUME= .11 AF
Qout= 1.71 CFS @ 12.00 HRS, VOLUME= .11 AF, ATTEN= 0%, LAG= 0.0 MIN

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

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

REACH 2 INFLOW & OUTFLOW

Not described



Data for 00030 E.W. NOYES & SONS (POST)
 TYPE III 24-HOUR RAINFALL= 4.70 IN
 Prepared by SEBAGO TECHNICS
 HydroCAD 5.01 000643 (c) 1986-1998 Applied Microcomputer Systems

REACH 3

PROPOSED SUBSURFACE STORM DRAIN

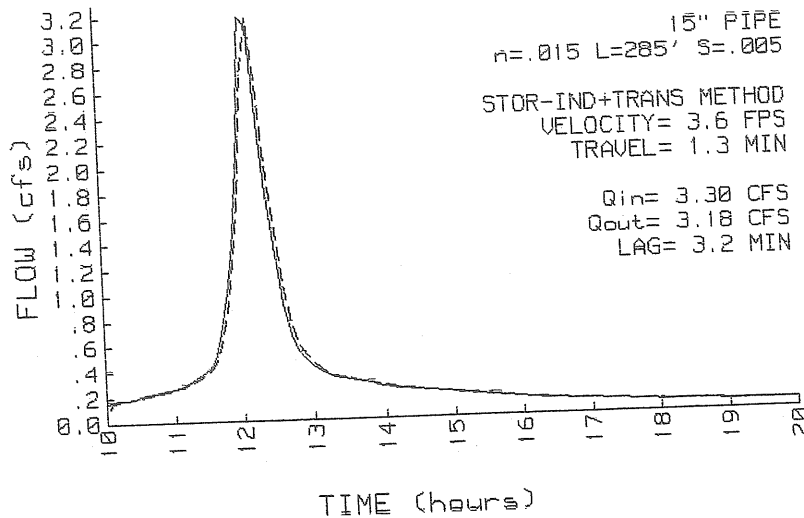
Qin = 3.30 CFS @ 12.14 HRS, VOLUME= .29 AF
 Qout= 3.18 CFS @ 12.20 HRS, VOLUME= .29 AF, ATTEN= 4%, LAG= 3.2 MIN

DEPTH (FT)	END AREA (SQ-FT)	DISCH (CFS)
0.0	0.0	0.00
.1	.1	.08
.3	.2	.35
.4	.3	.78
.9	.9	3.31
1.0	1.1	3.87
1.1	1.2	4.22
1.2	1.2	4.26
1.2	1.2	4.22
1.3	1.2	3.96

15" PIPE
 n= .015
 LENGTH= 285 FT
 SLOPE= .005 FT/FT

STOR-IND+TRANS METHOD
 PEAK DEPTH= .86 FT
 PEAK VELOCITY= 3.6 FPS
 TRAVEL TIME = 1.3 MIN
 SPAN= 10-20 HRS, dt=.1 HRS

REACH 3 INFLOW & OUTFLOW
 PROPOSED SUBSURFACE STORM DRAIN



REACH 4

EXISTING SUBSURFACE STORM DRAIN

Qin = 7.28 CFS @ 11.99 HRS, VOLUME= .47 AF
 Qout= 4.34 CFS @ 12.00 HRS, VOLUME= .47 AF, ATTEN= 40%, LAG= .4 MIN

DEPTH (FT)	END AREA (SQ-FT)	DISCH (CFS)
0.0	0.0	0.00
.1	.1	.09
.3	.2	.38
.4	.3	.85
.9	.9	3.63
1.0	1.1	4.24
1.1	1.2	4.62
1.2	1.2	4.66
1.2	1.2	4.62
1.3	1.2	4.34

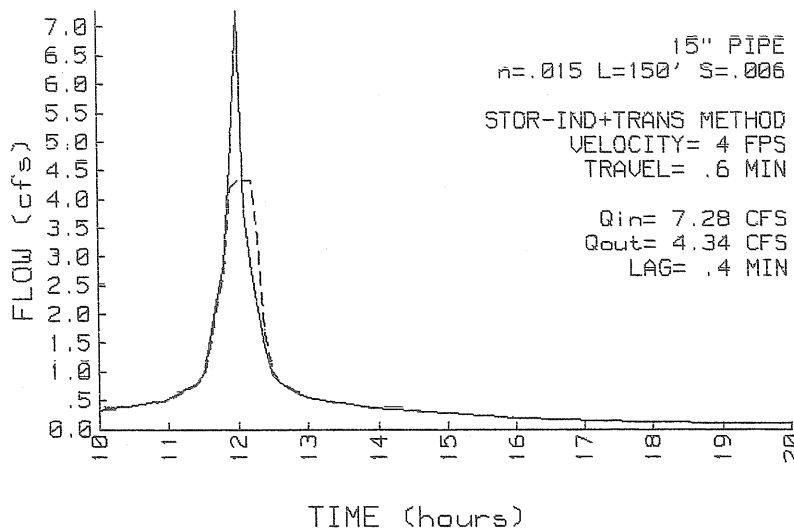
15" PIPE

n= .015
 LENGTH= 150 FT
 SLOPE= .006 FT/FT

STOR-IND+TRANS METHOD

PEAK DEPTH= 1.25 FT
 PEAK VELOCITY= 4.0 FPS
 TRAVEL TIME = .6 MIN
 SPAN= 10-20 HRS, dt=.1 HRS

REACH 4 INFLOW & OUTFLOW
 EXISTING SUBSURFACE STORM DRAIN



REACH 5

PROPOSED SUBSURFACE STORM DRAIN

Qin = 5.57 CFS @ 12.01 HRS, VOLUME= .53 AF
 Qout= 5.49 CFS @ 12.02 HRS, VOLUME= .53 AF, ATTEN= 1%, LAG= .4 MIN

DEPTH (FT)	END AREA (SQ-FT)	DISCH (CFS)
0.0	0.0	0.00
.2	.1	.13
.3	.3	.56
.5	.4	1.26
1.1	1.3	5.39
1.2	1.5	6.29
1.4	1.7	6.86
1.4	1.7	6.92
1.5	1.8	6.86
1.5	1.8	6.44

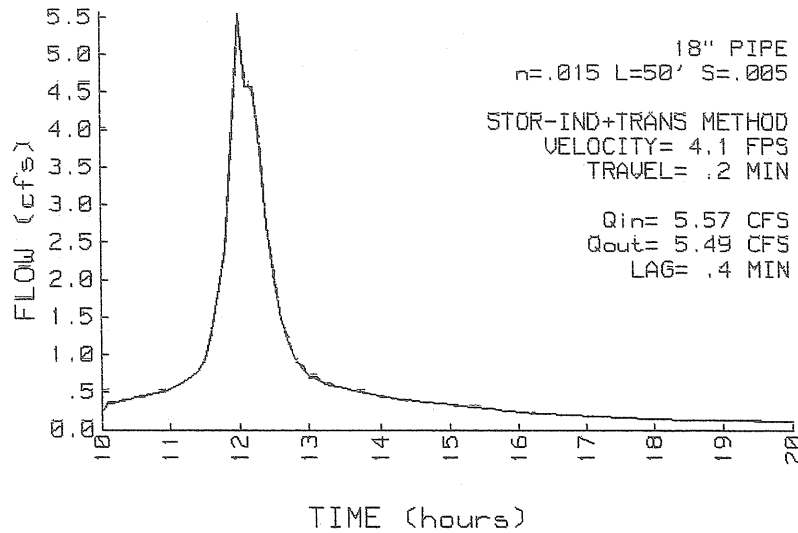
18" PIPE

n= .015
 LENGTH= 50 FT
 SLOPE= .005 FT/FT

STOR-IND+TRANS METHOD

PEAK DEPTH= 1.07 FT
 PEAK VELOCITY= 4.1 FPS
 TRAVEL TIME = .2 MIN
 SPAN= 10-20 HRS, dt=.1 HRS

REACH 5 INFLOW & OUTFLOW
 PROPOSED SUBSURFACE STORM DRAIN



REACH 6

PROPOSED SUBSURFACE STORM DRAIN

Qin = 5.49 CFS @ 12.02 HRS, VOLUME= .53 AF
 Qout= 5.45 CFS @ 12.02 HRS, VOLUME= .53 AF, ATTEN= 1%, LAG= .2 MIN

DEPTH (FT)	END AREA (SQ-FT)	DISCH (CFS)
0.0	0.0	0.00
.2	.1	.13
.3	.3	.56
.5	.4	1.26
1.1	1.3	5.39
1.2	1.5	6.29
1.4	1.7	6.86
1.4	1.7	6.92
1.5	1.8	6.86
1.5	1.8	6.44

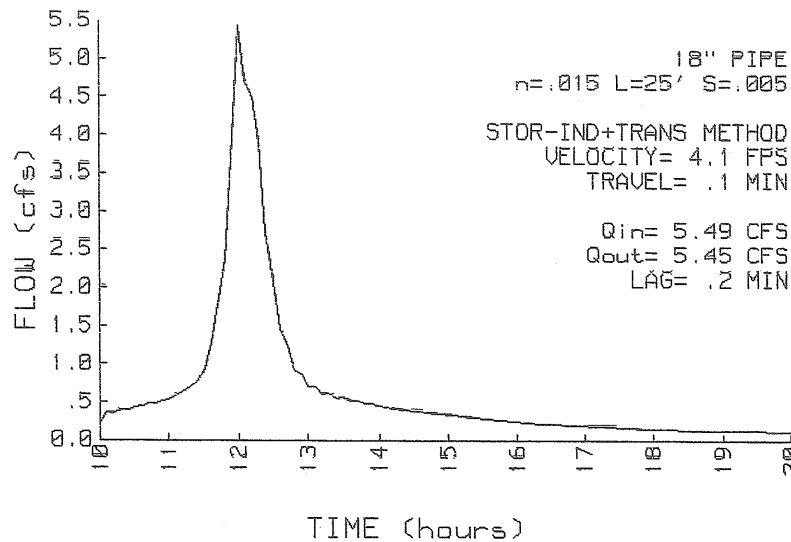
18" PIPE

n= .015
 LENGTH= 25 FT
 SLOPE= .005 FT/FT

STOR-IND+TRANS METHOD

PEAK DEPTH= 1.05 FT
 PEAK VELOCITY= 4.1 FPS
 TRAVEL TIME = .1 MIN
 SPAN= 10-20 HRS, dt=.1 HRS

REACH 6 INFLOW & OUTFLOW
 PROPOSED SUBSURFACE STORM DRAIN



REACH 7

Not described

Qin = 5.45 CFS @ 12.02 HRS, VOLUME= .53 AF
Qout= 5.45 CFS @ 12.02 HRS, VOLUME= .53 AF, ATTEN= 0%, LAG= 0.0 MIN

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

- METHOD

PEAK DEPTH= 0.00 FT

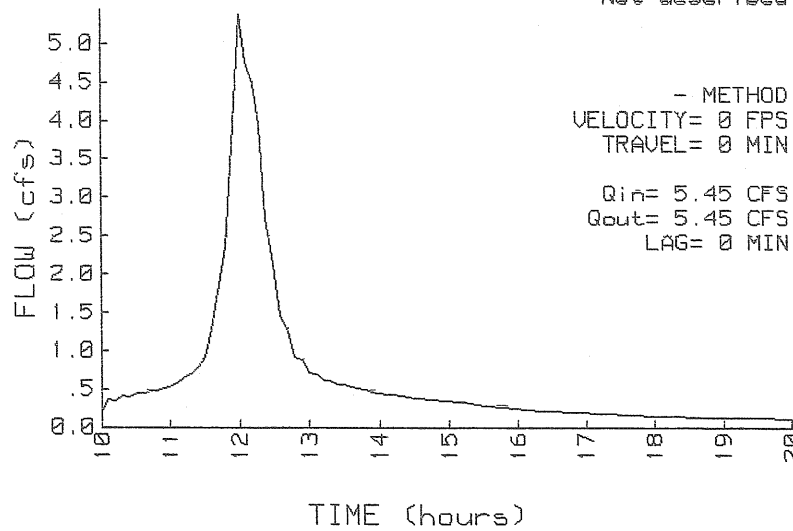
PEAK VELOCITY= 0.0 FPS

TRAVEL TIME = 0.0 MIN

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

REACH 7 INFLOW & OUTFLOW

Not described



REACH 100

Not described

Qin = 5.49 CFS @ 12.02 HRS, VOLUME= .53 AF
Qout= 5.49 CFS @ 12.02 HRS, VOLUME= .53 AF, ATTEN= 0%, LAG= 0.0 MIN

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

- METHOD

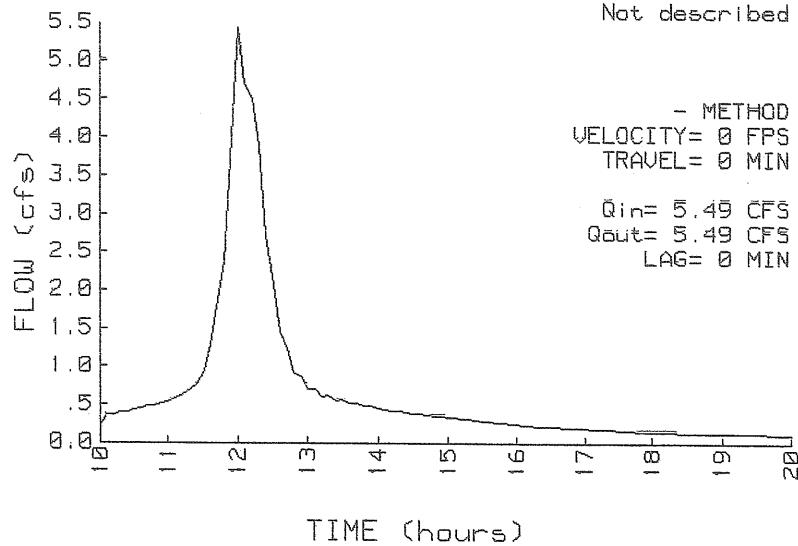
PEAK DEPTH= 0.00 FT

PEAK VELOCITY= 0.0 FPS

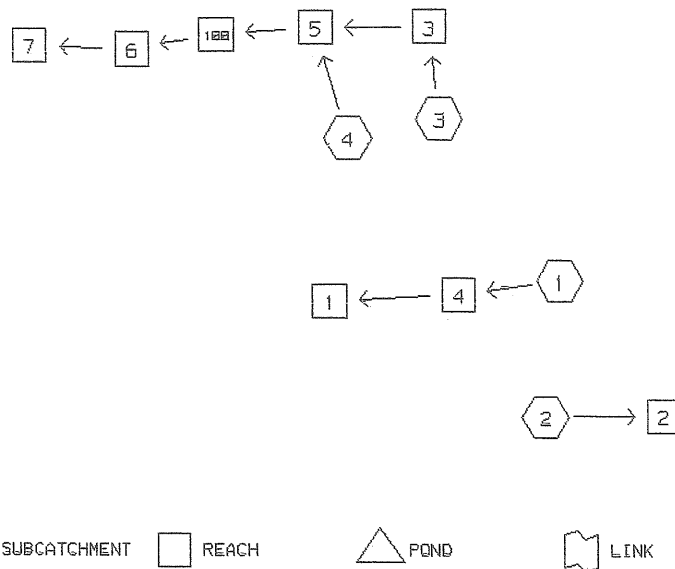
TRAVEL TIME = 0.0 MIN

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

REACH 100 INFLOW & OUTFLOW



WATERSHED ROUTING



SUBCATCHMENT 1	= SOUTHWESTERLY PORTION OF THE SITE	-> REACH 4
SUBCATCHMENT 2	= SOUTHERLY PORTION OF SITE	-> REACH 2
SUBCATCHMENT 3	= NORTHASTERLY PORTION OF SITE	-> REACH 3
SUBCATCHMENT 4	= NORTHWESTERLY PORTION OF SITE	-> REACH 5
REACH 1	=	->
REACH 2	=	->
REACH 3	= PROPOSED SUBSURFACE STORM DRAIN	-> REACH 5
REACH 4	= EXISTING SUBSURFACE STORM DRAIN	-> REACH 1
REACH 5	= PROPOSED SUBSURFACE STORM DRAIN	-> REACH 100
REACH 6	= PROPOSED SUBSURFACE STORM DRAIN	-> REACH 7
REACH 7	=	->
REACH 100	=	-> REACH 6

SUBCATCHMENT 1 SOUTHWESTERLY PORTION OF THE SITE

PEAK= 8.57 CFS @ 11.99 HRS, VOLUME= .55 AF

ACRES	CN	DENSE GRASS, GOOD CONDITION, "C" IMPERVIOUS	SCS TR-20 METHOD TYPE III 24-HOUR RAINFALL= 5.50 IN SPAN= 10-20 HRS, dt=.1 HRS
.12	74		
1.47	98		
1.59	96		

Method	Comment	Tc (min)
TR-55 SHEET FLOW		1.8
Grass: Dense	n=.24 L=30' P2=3 in s=.3667 '/'	
SHALLOW CONCENTRATED/UPLAND FLOW		.5
Paved	Kv=20.3282 L=120' s=.0321 '/' V=3.64 fps	
Total Length= 150 ft		2.3

SUBCATCHMENT 2 SOUTHERLY PORTION OF SITE

PEAK= 2.00 CFS @ 12.00 HRS, VOLUME= .13 AF

ACRES	CN	IMPERVIOUS	SCS TR-20 METHOD TYPE III 24-HOUR RAINFALL= 5.50 IN SPAN= 10-20 HRS, dt=.1 HRS
.37	98		

Method	Comment	Tc (min)
TR-55 SHEET FLOW		2.3
Smooth surfaces	n=.011 L=150' P2=3 in s=.01 '/'	
SHALLOW CONCENTRATED/UPLAND FLOW		1.1
Paved	Kv=20.3282 L=135' s=.01 '/' V=2.03 fps	
Total Length= 285 ft		3.4

SUBCATCHMENT 3 NORTHASTERLY PORTION OF SITE

PEAK= 3.94 CFS @ 12.14 HRS, VOLUME= .34 AF

ACRES	CN	DENSE GRASS, GOOD CONDITION, "C" IMPERVIOUS	SCS TR-20 METHOD TYPE III 24-HOUR RAINFALL= 5.50 IN SPAN= 10-20 HRS, dt=.1 HRS
.28	74		
.76	98		
1.04	92		

Method	Comment	Tc (min)
TR-55 SHEET FLOW		12.1
Grass: Dense	n=.24 L=150' P2=3 in s=.0733 '/'	
SHALLOW CONCENTRATED/UPLAND FLOW		1.4
	Kv=8 L=125' s=.036 '/' V=1.52 fps	
SHALLOW CONCENTRATED/UPLAND FLOW		.9
Paved	Kv=20.3282 L=105' s=.01 '/' V=2.03 fps	
Total Length= 380 ft		14.4

SUBCATCHMENT 4

NORTHWESTERLY PORTION OF SITE

PEAK= 4.42 CFS @ 11.99 HRS, VOLUME= .29 AF

<u>ACRES</u>	<u>CN</u>	
.82	98	IMPERVIOUS

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

Method	Comment	Tc (min)
TR-55 SHEET FLOW		1.5
Smooth surfaces	n=.011 L=150' P2=3 in s=.0267 '/'	
SHALLOW CONCENTRATED/UPLAND FLOW		.2
Paved	Kv=20.3282 L=50' s=.03 '/' V=3.52 fps	
Total Length= 200 ft		----- Total Tc= 1.7

REACH 1

Not described

Qin = 4.34 CFS @ 12.00 HRS, VOLUME= .55 AF
Qout= 4.34 CFS @ 12.00 HRS, VOLUME= .55 AF, ATTEN= 0%, LAG= 0.0 MIN

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

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

REACH 2

Not described

Qin = 2.00 CFS @ 12.00 HRS, VOLUME= .13 AF
Qout= 2.00 CFS @ 12.00 HRS, VOLUME= .13 AF, ATTEN= 0%, LAG= 0.0 MIN

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

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

REACH 3

PROPOSED SUBSURFACE STORM DRAIN

Qin = 3.94 CFS @ 12.14 HRS, VOLUME= .34 AF
Qout= 3.79 CFS @ 12.20 HRS, VOLUME= .34 AF, ATTEN= 4%, LAG= 3.1 MIN

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

0.0	0.0	0.00
.1	.1	.08
.3	.2	.35
.4	.3	.78
.9	.9	3.31
1.0	1.1	3.87
1.1	1.2	4.22
1.2	1.2	4.26
1.2	1.2	4.22
1.3	1.2	3.96

15" PIPE
n= .015
LENGTH= 285 FT
SLOPE= .005 FT/FT

STOR-IND+TRANS METHOD
PEAK DEPTH= 1.00 FT
PEAK VELOCITY= 3.7 FPS
TRAVEL TIME = 1.3 MIN
SPAN= 10-20 HRS, dt=.1 HRS

REACH 7

Not described
Qin = 6.45 CFS @ 12.02 HRS, VOLUME= .63 AF
Qout= 6.45 CFS @ 12.02 HRS, VOLUME= .63 AF, ATTEN= 0%, LAG= 0.0 MIN

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

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

REACH 100

Not described
Qin = 6.49 CFS @ 12.02 HRS, VOLUME= .63 AF
Qout= 6.49 CFS @ 12.02 HRS, VOLUME= .63 AF, ATTEN= 0%, LAG= 0.0 MIN

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

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

MAINE TEST BORINGS, INC. BREWER, MAINE 04412
 CLIENT: HALEY & ALDRICH, INC.
 SHEET 1 OF 1
 HOLE NO. B-1

DRILLER: GREG LIDSTONE
 PROJECT NAME: EARL W. NOYES
 LINE & STATION

M.T.B. JOB NUMBER: 00-055
 LOCATION: PORTLAND, MAINE
 OFFSET

GROUND WATER OBSERVATIONS
 AT FT. AFTER HOURS
 TYPE: HSA 2 1/2"
 SAMPLER: SS 1 3/8"
 CORE BARREL
 DATE START: 03/22/00
 DATE FINISH: 03/22/00
 SURFACE ELEVATION

CASING BLOWS PER FOOT	SAMPLE				BLOWS PER 6" ON SAMPLER			VANE READING	DEPTH	STRATUM DESCRIPTION
	NO.	O.D.	PEN.	REC.	DEPTH @ BOT.	0-6	6-12			
	1D	2"	24"		2.0	9	8	9	13	BROWN SILTY F-C SAND W/GRAVEL, COBBLES, BRICK (FILL)
										4.0
	2D	2"	24"		7.0	7	13	5	5	BROWN SILTY F-C SAND W/GRAVEL - FILL -
										9.0
	3D	2"	24"		12.0	12	14	5	3	GRAY SILTY F-M SAND W/SHELLS
										11.0
	2" X 7" VANE				15.6				28/5	
	2" X 7" VANE				16.2				30/5	GRAY SILTY CLAY SHEAR STRENGTH 2100 psf
	4D	2"	24"		17.0	WOR	WOH	WOH	WOH	
										21.0
	5D	2"	24"		22.0	WOR	WOR	WOH	WOH	GRAY SILTY CLAY W/SAND LAYERS
										26.5
	2" X 7" VANE				26.4				17/2	SHEAR STRENGTH = 630 psf
	2" X 7" VANE				26.8				-	
	6D	2"	24"		27.8	WOR	WOR	WOR	WOH	GRAY SILTY FINE SAND W/CLAY LAYERS
										27.8
										ROD PROBES (300 LB HAMMER W/16" FALL)
										27.8-28 WOR 33-34 1 39-40 15
										28-29 WOR 34-35 1 40-41 16
										29-30 WOH 35-36 9 41-42 16
										30-31 WOH 36-37 4 42-43 17
										31-32 WOH 37-38 4 43-44 17
										32-33 WOH 38-39 10
										BOTTOM OF BORING @ 44.0'

SAMPLES: D = SPLIT SPOON, C = 2" SHELBY TUBE, S = 3" SHELBY TUBE, P = 3 1/2" SHELBY TUBE
 SOIL CLASSIFIED BY: DRILLER-VISUALLY, SOIL TECHNICIAN-VISUALLY, LABORATORY TESTS
 REMARKS: WATER @ 18.0' W/25.0' AUGERS, WATER @ 6.8' W/NO AUGERS
 COMMENTS BY: HALEY & ALDRICH, INC.
 HOLE NO. B-1

MAINE TEST BORINGS, INC.
BREWER, MAINE 04412

CLIENT
HALEY & ALDRICH, INC.

SHEET 1 OF 1
HOLE NO. B-2

DRILLER
GREG LIDSTONE

PROJECT NAME
EARL W. NOYES

LINE & STATION

M.T.B. JOB NUMBER
00-055

LOCATION
PORTLAND, MAINE

OFFSET

GROUND WATER OBSERVATIONS

AT	FT.	AFTER	HOURS
AT	FT.	AFTER	HOURS

TYPE
SIZE I.D.
HAMMER WT.
HAMMER FALL

CASING
HSA
2 1/2"

SAMPLER
SS
1 3/8"
140
30"

CORE BARREL

DATE START
03/22/00

DATE FINISH
03/22/00

SURFACE ELEVATION

CASING BLOWS PER FOOT	SAMPLE				DEPTH @ BOT.	BLOWS PER 6" ON SAMPLER			VANE READING	DEPTH	STRATUM DESCRIPTION
	NO.	O.D.	PEN.	REC.		0-6	6-12	12-18			
	1D	2"	20"		1.7	3	8	7	25		BROWN SILTY F-C SAND W/GRAVEL, COBBLES, GLASS (FILL)
										4.0	
										6.5	BROWN SILTY F-C SAND - FILL -
	2D	2"	24"		7.0	10	6	4	4		GRAY SILTY FINE SAND W/SHELLS
										11.7	
	3D	2"	24"		12.0	7	7	6	2		GRAY SILTY CLAY
										17.0	
	4D	2"	24"		17.0	WOR	WOH	WOH	WOH		ROD PROBE (300 LB HAMMER W/16" FALL)
											17-18 WOH 28-29 3 39-40 5
											18-19 WOH 29-30 3 40-41 5
											19-20 WOH 30-31 2 41-42 5
											20-21 WOH 31-32 3 42-43 6
											21-22 WOH 32-33 2 43-44 8
											22-23 WOH 33-34 3 44-45 8
											23-24 WOH 34-35 4 45-46 12
											24-25 3 35-36 3 46-47 24
											25-26 3 36-37 4 47-48 27
											26-27 2 37-38 4 48-49 30
											27-28 2 38-39 4
											BOTTOM OF BORING @ 49.0'

SAMPLES
D = SPLIT SPOON
C = 2" SHELBY TUBE
S = 3" SHELBY TUBE
P = 3 1/2" SHELBY TUBE

SOIL CLASSIFIED BY:
 DRILLER-VISUALLY
 SOIL TECHNICIAN-VISUALLY
 LABORATORY TESTS

REMARKS:
WATER @ 17.2' W/15' CASING
WATER @ 5.8' W/NO AUGERS
COMMENTS BY
HALEY & ALDRICH, INC.

HOLE NO. B-2

MAINE TEST BORINGS, INC.
BREWER, MAINE 04412

CLIENT
HALEY & ALDRICH, INC.

SHEET 1 OF 1

HOLE NO. B-3

DRILLER
GREG LIDSTONE

PROJECT NAME
EARL W. NOYES

LINE & STATION

M.T.B. JOB NUMBER
00-055

LOCATION
PORTLAND, MAINE

OFFSET

GROUND WATER OBSERVATIONS

AT FT. AFTER HOURS
AT FT. AFTER HOURS

TYPE
SIZE I.D.
HAMMER WT.
HAMMER FALL

CASING
HSA
2 1/2"

SAMPLER
SS
1 3/8"
140
30"

CORE
BARREL

DATE START
03/23/00

DATE FINISH
03/23/00

SURFACE ELEVATION

CASING BLOWS PER FOOT	SAMPLE				BLOWS PER 6" ON SAMPLER			VANE READING	DEPTH	STRATUM DESCRIPTION
	NO.	O.D.	PEN.	REC.	DEPTH @ BOT.	0-6	6-12			
	1D	2"	24"		2.0	4	6	11	6	1.5 BROWN SILTY F-C SAND W/GRAVEL, COBBLES, BRICK (FILL)
										3.0 BROWN SANDY SILT
	2D	2"	24"		7.0	8	11	7	3	BROWN SILTY F-C SAND W/GRAVEL - FILL -
										8.0 BROWN M-C SAND W/GRAVEL
	3D	2"	24"		12.0	5	13	17	14	11.5 GRAY SILTY FINE SAND
										14.0
	4D	2"	24"		17.0	1	1	0	0	GRAY SILTY CLAY W/BLACK STREAKS
	2" X 7" VANE				21.1				22/5	
	2" X 7" VANE				21.7				13/2	
	5D	2"	24"		22.0	WOH				20.0 GRAY SILTY CLAY W/BLACK STREAKS, SOME FINE SAND SHEAR STRENGTH = 2820 psf
	2" X 7" VANE				25.6				12/0	
	2" X 7" VANE				26.2				12/0	
	6D	2"	24"		27.0	WOR	WOR	WOR	WOH	27.0 SHEAR STRENGTH = 440 psf
										ROD PROBES (300 LB HAMMER W/16" FALL)
										27-28 WOR 35-36 WOH 43-44 15
										28-29 WOH 36-37 2
										29-30 WOH 37-38 2
										30-31 WOH 38-39 2
										31-32 WOH 39-40 3
										32-33 WOH 40-41 3
										33-34 WOH 41-42 4
										34-35 WOH 42-43 8

BOTTOM OF BORING @ 44.0'

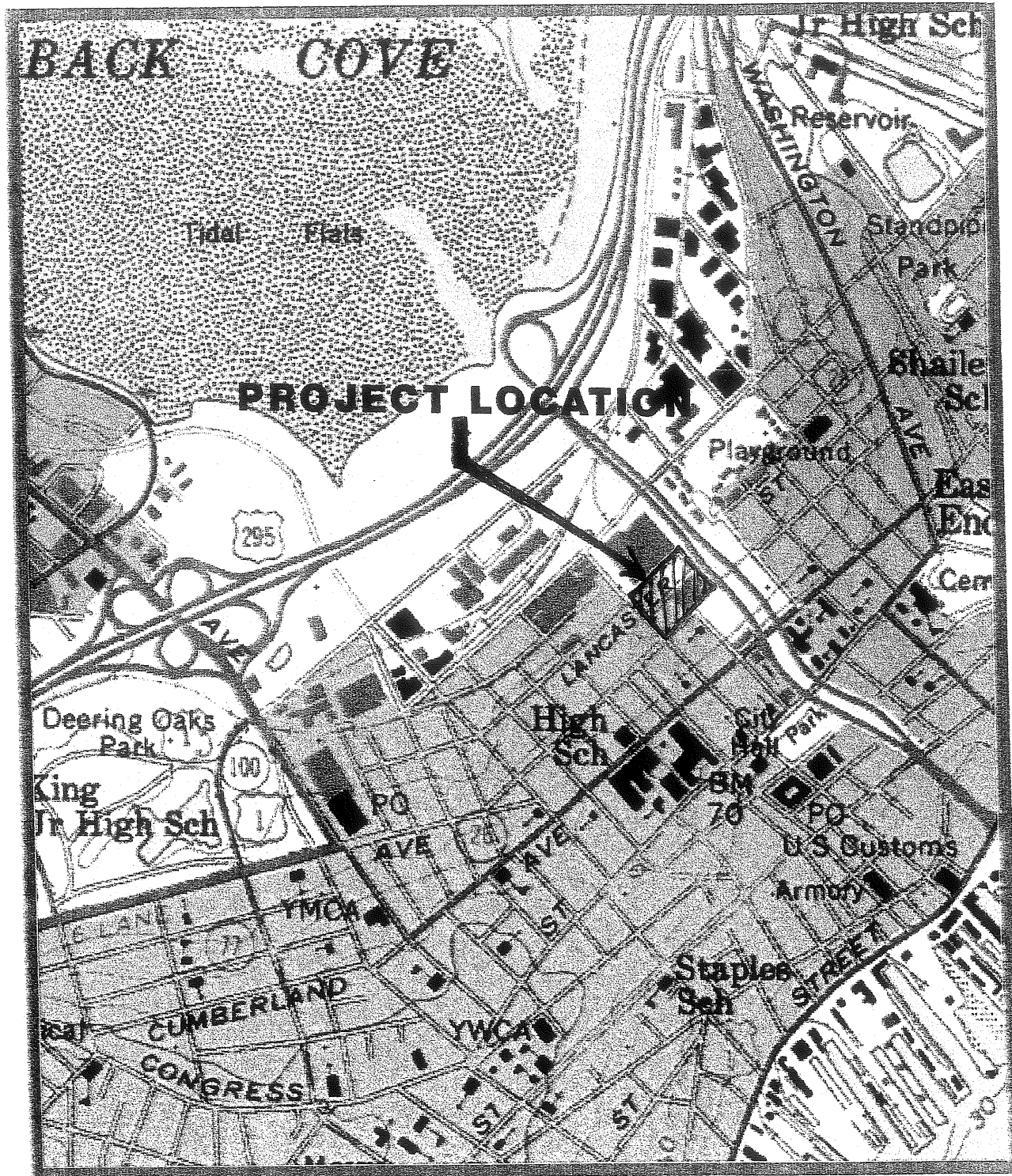
SAMPLES
D = SPLIT SPOON
C = 2" SHELBY TUBE
S = 3" SHELBY TUBE
P = 3 1/2" SHELBY TUBE

SOIL CLASSIFIED BY:
 DRILLER-VISUALLY
 SOIL TECHNICIAN-VISUALLY
 LABORATORY TESTS

REMARKS:
WATER @ 17.8' W/25' CASING
WATER @ 8.4' W/NO AUGERS
COMMENTS BY
HALEY & ALDRICH, INC.

HOLE NO. B-3

FIGURE 1



SITE LOCATION MAP

USGS TOPOGRAPHIC

7.5 MIN. QUADRANGLE

PORTLAND WEST

SCALE: 1"=1000'



Sebago Technics
 Engineering & Planning for the Future

**STORMWATER MANAGEMENT PLAN
E.W. Noyes & Sons
Pearl Street
Portland, Maine**

General

This Stormwater Management Plan has been prepared to evaluate the pre and post-developed conditions associated with the proposed warehouse facility for E.W. Noyes & Sons off Pearl Street in Portland, Maine.

The total development proposal consists of constructing two buildings that will have a total of approximately 38,500 square feet of footprint with associated parking areas, landscape areas, sidewalks, and stormwater management facilities. The stormwater from the impervious areas will generally sheet flow to two proposed catch basins where the runoff will be transported via subsurface storm drains to a Vortech unit prior to outletting to the existing catch basin in Pearl Street.

Site Characteristics

The project site currently consists of the existing facility, a gravel area, and an area of scrub grass. The terrain consists of flat slopes that fall from a centrally located ridge to the outer boundaries of the site. The proposed grading of the impervious areas will allow for sheet flow towards the catch basins so that all the runoff from these areas will be intercepted and treated prior to outletting to the municipal system.

Soils

Soils information was obtained from a subsurface and foundation investigation done by Haley and Aldrich in April of 2000. A copy of the soil borings and project location is contained within the other sections of this application. The soil tests show a fill including sandy gravel with cobbles and brick. The HydroCAD calculations were done using a hydrologic soil group of "C" according to these borings.

Methodology

The pre and post-developed watershed analyses were conducted using the "HydroCAD" computer-modeling program, which incorporates the TR-55 and TR-20 methodologies as provided by the Soil Conservation Service of the U.S. Department of Agriculture.

Existing Watersheds

The existing site consists of three distinct watersheds with a total of approximately 3.82 acres. Watershed 1 (WS-1) consists of the developed area of the site and drains toward the existing catch basin within the pavement. The subsurface storm drains outlet the runoff in a westerly direction to an existing manhole in Pearl Street. Watershed 2 (WS-2) consists of the most southerly strip of the site and drains to an existing catch basin within the parking area. Watershed 3 (WS-3) consists of the undeveloped portion of the site and drains to an existing catch basin in Pearl Street.

Proposed Watersheds

The total post-developed contributing areas contain approximately 3.82 acres of land. The impervious and developed areas of the site were divided into four watersheds (WS 1-4). Watersheds 1 and 2 will remain the same as they were in the pre-developed condition. The only change will be in the newly developed area. This area will be broken into two separate watersheds that will each flow to their respective catch basins. These catch basins will intercept the runoff from the impervious areas and then the runoff will be transported via subsurface storm drains to the Vortechincs unit to be treated prior to outletting to the municipal system along Pearl Street.

Stormwater Management

The following table summarizes the results of stormwater calculations for the design storm events for the project areas. Calculations and computer modeling data sheets are provided with this report.

Stormwater Runoff Summary Table										
Study Point	Total Watershed Area		Avg. Weighted Curve No. (Cn)		Peak Rates of Runoff (cfs)					
	Pre	Post	Pre	Post	2-Year		10-Year		25-Year	
					Pre	Post	Pre	Post	Pre	Post
1	1.59	1.59	96	96	4.17	4.17	4.34	4.34	4.34	4.34
2	.37	.37	98	98	1.08	1.08	1.71	1.71	2.00	2.00
3	1.86	1.86	86	95	3.70	3.31	6.98	5.45	8.53	6.45

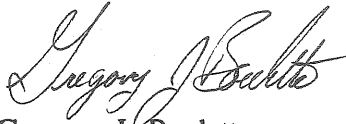
Summary

The proposed development of the warehouse facility complex for E.W. Noyes & Sons will include the installation of two catch basins to which the runoff from the majority of the impervious areas will be directed. The subsurface storm drains will transport the runoff to the Vortechincs unit for treatment prior to outletting to the municipal system.

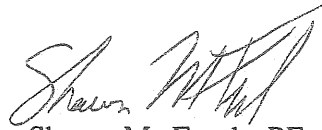
Other drainage provisions will include a specific grading plan and erosion and sedimentation control plan to be implemented throughout the construction cycle. The incorporation of these measures and the drainage provisions is expected to adequately address stormwater runoff from the developed site such that no downstream property will be adversely impacted.

Prepared by,

SEBAGO TECHNICS, INC.



Gregory J. Boulette
Project Engineer



Shawn M. Frank, PE
Project Manager

GJB:gjb/jc
April 27, 2000

EROSION AND SEDIMENT CONTROL PLAN

**E. W. Noyes & Sons
Pearl Street
Portland, Maine**

General

This plan has been developed to provide a strategy for dealing with soil erosion and sedimentation during and after the construction of the proposed warehouse facility in Portland, Maine. This plan is based on the Standards and Specifications for Erosion Prevention as contained in the Maine Erosion and Sediment Control Handbook for Construction: Best Management Practices (dated March 1991).

The proposed project site will entail construction of two buildings with a combined footprint of 38,500 square feet. The project site is on the east side of Pearl Street. The topography throughout the site consists of flat slopes that fall from a centrally located ridge to the outer boundaries of the site.

Construction Phase

In order to protect the soil, water, wetland, and wildlife resources of this development and adjacent lands, only those areas necessary to construct the roadway, utilities, and stormwater management structures will be disturbed.

Equipment anticipated to be used for construction includes backhoe(s), truck(s), loader(s), bulldozer(s), cement trucks, asphalt paver, and roller. The following actions will be taken:

1. Areas undergoing actual construction that will be left in an untreated or unvegetated condition for a maximum of 14 days will be protected with temporary erosion control. Areas within 100 feet of drainage courses and wetlands will be stabilized within 7 days of disturbance. Temporary erosion control will include erosion control mesh, netting or mulch as directed by owner or inspecting engineer.
2. All topsoil will be stockpiled at least 100 feet upgradient of existing wetlands for future use and protected from any erosion. Silt fencing will be placed down gradient from the topsoil stockpile. The location of topsoil stockpiles will be determined by the contractor at the time of construction.
3. Prior to clearing and grubbing the site, erosion control mesh will be installed and staked across/along points of concentration and at the inlets of all existing culverts.

4. Prior to clearing and grubbing, siltation fencing will be staked across the slope(s), on the contour, at or just below the limits of clearing or grubbing, and/or just above any adjacent property line or wetland to protect against construction related erosion
5. All silt fencing will be inspected, replaced and/or repaired weekly, as well as immediately following any significant rainfall or snow melt. Sediment will be removed and returned to the site when it reaches 1/3 the fence height.
6. Any fill used on the site will meet DOT Standard 703.18 for common borrow and DOT Standard 703.06(b) for subbase aggregate.
7. If final seeding of the disturbed areas is not completed by September 15th of the year of the construction, then on that date these areas will be graded and smoothed, then prepared to be seeded to a winter cover crop of Rye at the rate of 112 lbs./acre or 3 lbs./1000 sq. ft. The Rye seeding will be preceded by an application of 3 tons of lime and 1,000 lbs. of 10-10-10 fertilizer or its equivalent. If the Rye seeding cannot be completed by October 1st, then on that date, hay mulch will be applied at the rate of 2 tons per acre to provide winter protection. If Rye does not make adequate growth by December 1st, then on that date, hay mulch will be applied at the rates specified under Vegetation Plan #4.
8. During the construction phase, intercepted sediment will be returned to the site and regraded onto open areas. Post seeding sediment, if any, will be hauled to a disposal area approved by the Town Engineer.

Vegetation Plan

Revegetation measures will commence immediately upon completion of construction except as noted under paragraph 6 above. All disturbed areas not otherwise stabilized will be graded, smoothed, and prepared for final seeding as follows:

1. Four inches of loam will be spread over disturbed areas and smoothed to a uniform surface.
2. In lieu of soil tests, agricultural limestone will be spread at the rate of three tons per acre. 10-20-20 fertilizer will follow at the rate of 800 lbs. per acre. These two soil amendments will be incorporated into the soil prior to seeding.
3. Following seed bed preparation, any sediment-stormwater detention structures, swale areas, fill areas, and back slopes will be seeded to a mixture of 35% Creeping Red Fescue, 6% Red Top, 24% Kentucky Bluegrass, 10% Perennial Ryegrass, 20% Annual Ryegrass, and 5% White Dutch Clover. The lawn areas will be seeded to a premium turf mixture of bluegrass and/or Fescue with a seeding rate of 2-3 lbs. per 1,000 square feet.

* Lawn quality sod may be substituted for seed only.


4. Hay mulch at the rate of 100 lbs. per 1,000 square feet or a hydro-application of asphalt, wood, or paper fiber will be applied following seeding. A suitable binder, such as Curasol or Terratack, will be used on hay mulch for wind control. At a minimum, the soil must be covered.
5. All erosion control measures will remain in place until seedings have become 90% established and then removed within 10 days.

Monitoring

Maintenance measures will be applied as needed during the entire construction cycle. Weekly and after each rainfall, a visual inspection will be made of all installed erosion control measures and repairs will be made as needed to insure their continuing function as designed. Following the final seedings, the site will be inspected every fifteen days until the seedings have been established. Established means a minimum of 90% of area vegetated with vigorous growth. Reseeding will be carried out, with follow-up inspections, in the event of any failures. All erosion control measures will be removed within 10 days when vegetation is adequately established.

Prepared by:

SEBAGO TECHNICS, INC.



Gregory J. Boulette
Project Engineer



Shawn M. Frank., P.E.
Project Manager

GJB:jc
April 26, 2000

May 30, 2000

Ms. Kellie Dunn
Guilford Transportation
Iron Horse Park
North Billerica, MA 01862-1681

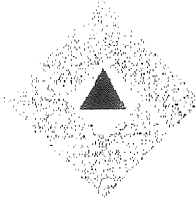
Dear Ms. Dunn,

Please find enclosed Planning Board information regarding 127 Oxford Street, in Portland, Maine. The Planning office is waiting for additional information on the railroad easement shown on the site plan.

The Planning Board Public Hearing is scheduled for June 17, 2000. Please call with any questions.

Sincerely,

William Needelman, Planner/HP



**ARCHITECTURAL
LANDSCAPE
LIGHTING**

2930 South Fairview Street
Santa Ana, CA 92704
Phone: 714 668 3660
Fax: 714 668 1107

BL-01

Wall Pack

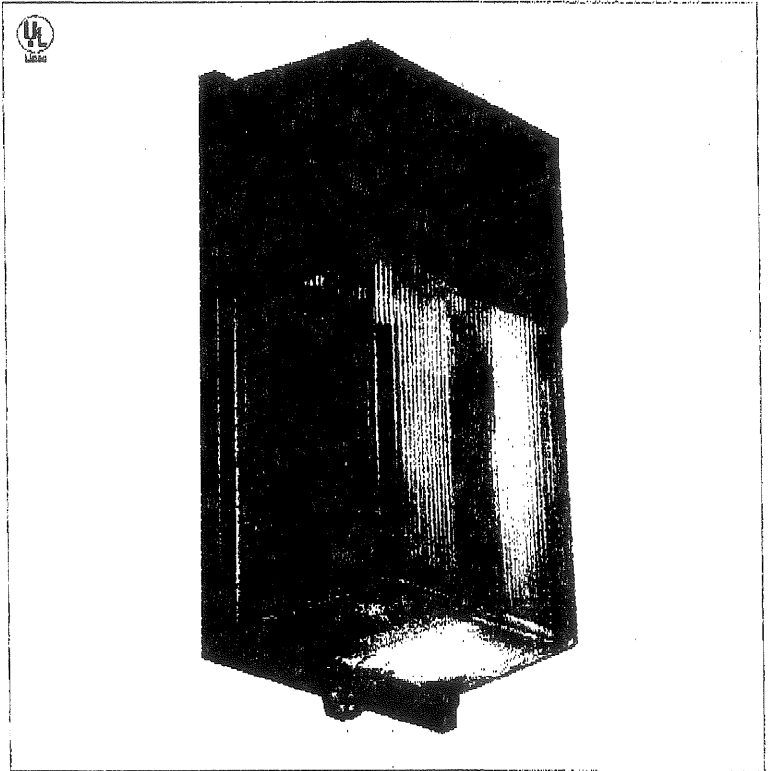
Building entrances

Alleys

Parking areas

Service areas

Loading docks



Specification

- Housing Backplate** Backplate shall be die cast aluminum with heat dissipating vertical fins.
- Lens** Refractor lens shall be clear polycarbonate with internal prisms to provide smooth exterior surface to resist dirt accumulation for more efficient lighting.
- Reflector** Shall be computer matched with lens to produce high efficient rectangular isolux pattern for uniform lighting allowing 6:1 spacing to mounting height ratio.
- Electrical** BL-01 shall be factory pre-wired and tested. Fixture is UL listed, suitable for wet location. Normal power factor ballast is standard.
- Mounting** Mounting bracket supplied by factory to allow installation without opening fixture.

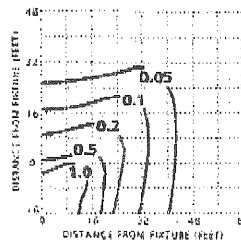
BL-01

Product Order Guide

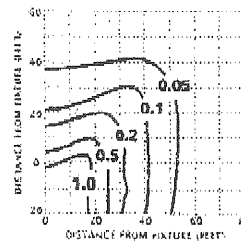
Series	Lamp Watts	Lamp Type	Voltage	Finish	Options
BL-01	35	HPS	120	BZ Bronze	PCB Photo Control Button
	50	HPS		CC Custom Color	F Single Fusing
	70	HPS		TP Tamperproof Screw	
	100	HPS			
	18	LPS			
	13 PLC	PL			
	18 PLC	PL			
	22 PLC	PL			
	28 PLC	PL			

EX: BL-01-100HPS-120-BZ-PCB

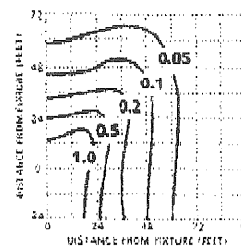
Photometric Data



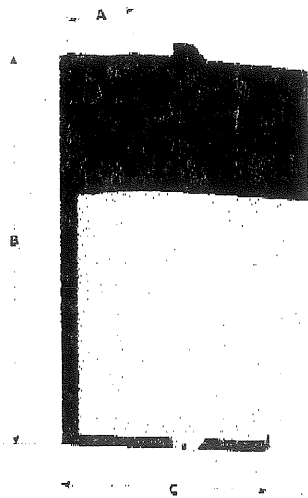
BL-01-70HPS
 Clear Lamp
 5,800 Lumens
 8' Mounting Height
 ISOLUX Curves—value in initial footcandles



BL-01-70HPS
 Clear Lamp
 5,800 Lumens
 10' Mounting Height
 ISOLUX Curves—value in initial footcandles



BL-01-70HPS
 Clear Lamp
 5,800 Lumens
 12' Mounting Height
 ISOLUX Curves—value in initial footcandles



Luminaire Dimensions

Luminaire	A	B	C
BL-01	5-1/4"	11-1/2"	7"



ARCHITECTURAL LANDSCAPE LIGHTING

2930 South Fairview Street
 Santa Ana, CA 92704
 Phone: 714 668 3660
 Fax: 714 668 1107