272-A-3

1997-0082

1601 Danforth St.

Stockpile Pad Paving

Merrill Industries

logged on Spreadsheet

19970082
I. D. Number

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

Merrill Industries
Applicant

604A Danforth St, Portland, ME 04102
Applicant's Mailing Address

P.D. Merrill
Consultant/Agent

772-3254 **761-3782**
Applicant or Agent Daytime Telephone, Fax

10/9/97
Application Date

Merrill Industries
Project Name/Description

601 Danforth St
Address of Proposed Site

272-A-003
Assessor's Reference: Chart-Block-Lot

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

Proposed Building square Feet or # of Units | Acreage of Site | Zoning

Check Review Required:

☒ Site Plan (major/minor) ☐ Subdivision # of lots ☐ PAD Review ☐ 14-403 Streets Review
☐ Flood Hazard ☐ Shoreland ☐ HistoricPreservation ☐ DEP Local Certification
☐ Zoning Conditional Use (ZBA/PB) ☐ Zoning Variance ☐ Other

Fees Paid: Site Plan **$300.00** Subdivision ____ Engineer Review ____ Date **10/9/97**

Planning Approval Status: Reviewer **Kandi Talbot**

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

Approval Date **10/31/97** Approval Expiration **10/31/98** Extension to ____

☒ OK to Issue Building Permit **Kandice Talbot** (signature) **11/6/97** (date) ☐ Additional Sheets Attached

Performance Guarantee ☐ **Required*** ☒ **Not Required**

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

☐ Performance Guarantee Accepted	date	amount	expiration date
☐ Inspection Fee Paid	date	amount	
☐ Building Permit Issued	date		
☐ Performance Guarantee Reduced	date	remaining balance	signature
☐ Temporary Certificate of Occupancy	date	☐ Conditions (See Attached)	
☐ Final Inspection	date	signature	
☐ Certificate Of Occupancy	date		
☐ Performance Guarantee Released	date	signature	
☐ Defect Guarantee Submitted	submitted date	amount	expiration date
☐ Defect Guarantee Released			

SebagoTechnics
Engineering & Planning for the Future

October 30, 1997
97282

Mr. Jim Wendel, P.E. (DRC)
City of Portland
389 Congress Street
Portland, ME 04101

Merrill Industries, Inc. - Drainage Plan (Review - Response)

Dear Jim:

Due to the fast-pace nature of this project and the closing of the paving season, we would like to finalize your review as soon as possible. To expedite both your concerns and Mr. Merrill's, we have revised the drainage and grading plan to "accurately" collect on-site runoff and direct it to the proposed paved ponding area and stormwater treatment system.

I understand your concern regarding the change of a 12" storm drain to an 18" pipe, but this change was per the recommendation of the stormwater treatment tank manufacturer. Based on their experience, the 18" pipe provides a better flow character in terms of velocity and generating an initial swirl within the grit chamber of the treatment tank. The increase of the storm drain, in fact, will not increase the flow from the site because the tank baffles and orifice outlet within the tank will actually restrict the flow rate to nearly the same as the 12" pipe.

In addition, we believe the emphasis should not be on runoff peak rates with the Fore River being so close where no downstream impacts can occur. However, we have taken a great effort to contain possible contaminants from reaching these nearby waters. Our objective is to treat all of the smaller "first flushing storms" where documented evidence has proven that the majority of pollutants and contaminants are transported across impervious surfaces. The peak rates of larger storms in excess of the 10-year occurrence (or 4.7 inches/24 hours), we believe, can be bypassed since the initial runoff will have already flushed the pollutants from the surface and the peak runoff at the 12th hour of the average storm will be significantly cleaner and much less threatening to the environment.

Per our suggestion and that of Vortechnics, we feel very comfortable with this approach and, if overflow from the ponding area occurs, it will only flow over a riprap embankment to the beach. Neither erosion nor quality at this point of the storm will be a significant concern.

Mr. Merrill is very concerned about this construction work and has prepared to address all of the permitting issues through DEP at the City up front and wishes closure to the review process prior to final construction. It is in his and everyone's best interest to make the necessary revisions now rather than later following an as-built survey.

We have attached a revised site plan correcting drainage collection to the treatment area and included a copy of the treatment tank drawing as produced by Vortechnics. We believe these revisions have addressed your concerns and provide the necessary treatment to assure water quality entering Portland Harbor and the Fore River.

If you have any other concerns or do not feel your comments have been addressed, please contact us immediately so we can agree to a solution prior to final construction.

Sincerely,

SEBAGO TECHNICS, INC.

James R. Seymour

James R. Seymour
Project Engineer

JRS:jc
Enc.

cc: P. D. Merrill
Kandice Talbot, Planner

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

I. D. Number

Address:

Merrill Industries Inx 772-3254
Applicant

11
12/13/96
Application Date

601 A Danforth St- Ptld ME 04102
Applicant's Mailing Address

Project Name/Description

P D Merrill 772-3254
Consultant/Agent

601 A Danforth St
Address of Proposed Site

Applicant or Agent Daytime Telephone, Fax

Assessor's Reference: Chart-Block-Lot

Proposed Development (check all that apply): ___ New Building __x__ Building Addition ___ Change of Use ___ Residential
___ Office ___ Retail ___ Manufacturing ___ Warehouse/Distribution ___ Other (specify) _____

~~MM~~ 25'x60'
Proposed Building Square Feet or # of Units

appx 16 acres
Acreage of Site

Zoning

Check Review Required:

- [x] Site Plan (major/minor)
- [ ] Subdivision # of lots _____
- [ ] PAD Review
- [ ] 14-403 Streets Review
- [ ] Flood Hazard
- [ ] Shoreland
- [ ] Historic Preservation
- [ ] DEP Local Certification
- [ ] Zoning Conditional Use (ZBA/PB)
- [ ] Zoning Variance
- [ ] Single-Family Minor
- [ ] Other _____

Fees paid: site plan 300 subdivision _____

Approval Status: Reviewer Steve Bushey PRC

- [X] **Approved**
- [ ] **Approved w/Conditions** listed below
- [ ] **Denied**

1. _____
2. _____
3. _____
4. _____

Approval Date 11/27/96 Approval Expiration _____ date Extension to _____ date [ ] Additional Sheets Attached

[ ] Condition Compliance _____ signature 11/27/96 date

Performance Guarantee [ ] Required* [ ] Not Required

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

[ ] Performance Guarantee Accepted	date	amount	expiration date
[ ] Inspection Fee Paid	date	amount	
Performance Guarantee Reduced	date	remaining balance	signature
Performance Guarantee Released	date	signature	
Defect Guarantee Submitted	submitted date	amount	expiration date
Defect Guarantee Released	date	signature	

Pink - Building Inspections Blue - Development Review Coordinator Green - Fire Yellow - Planning 2/9/95 Rev5 KT.DPUD

NOTE: The applicant shall use this form or one containing identical information to notify abutters, municipal officals, and local newspapers.

NOTICE

Please take notice that Merrill Industries Inc.
Name of Applicant

601 Danforth Street, Portland, ME 04102
Address of Applicant

is filing for a Site Location of Development permit with the Maine Department of Environmental Protection pursuant to the provisions of*

This modification involves:
Modifications ot berthing facilities to add (1) New breasting
(State specifically what is to be done)

dolphin (24' X 18'),(1) new deadman mooring (7' X 7') and

modifiy existing breasting dolphin to accept moorings

at the following address:

601 Danforth Street Portland ME 04102

The application will be filed for public inspection at one of the department's Regional Offices (So. Portland, Augusta or Bangor) and at the municipal offices on 2/27/96.
Date

Written comments from interested persons may be sent to the Department of Environmental Protection, Bureau of Land and Water Quality, State House Station #17, Augusta, Maine 04333.

*NOTE: Please insert appropriate statute name and section number into the above paragraph.

Site Location of Development, Title 38, M.R.S.A. Sections 481 to 489
Great Ponds, Title 38, M.R.S.A. Sections 391 to 396
Coastal Wetlands Alteration or Sand Dune, Title 38, M.R.S.A. Section 474
Alteration of River, Stream or Brook, Title 38, M.R.S.A. Sections 425 to 430
Freshwater Wetlands, Title 38, M.R.S.A. Sections 405 to 410
Maine Waterways, Title 38, M.R.S.A. Sections 630 to 636
Septage Land Disposal, Title 38, M.R.S.A. Section 1301

1/94
MOD

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

I. D. Number

Address:

Merrill Industries Inc
Applicant

3/1/96
Application Date

601 Danforth St- Ptld, ME 04102
Applicant's Mailing Address

Project Name/Description

Mark Hampton 856-0277
Consultant/Agent

601 Danforth St
Address of Proposed Site

Applicant or Agent Daytime Telephone, 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) _____

Proposed Building Square Feet or # of Units | appx 3 acres Acreage of Site | Zoning

* to modify existing docking facilities & build new docking facilities

Check Review Required:

[X] Site Plan (major/minor)	[ ] Subdivision # of lots _____	[ ] PAD Review	[ ] 14-403 Streets Review
[ ] Flood Hazard	[X] Shoreland	[ ] Historic Preservation	[ ] DEP Local Certification
[ ] Zoning Conditional Use (ZBA/PB)	[ ] Zoning Variance	[ ] Single-Family Minor	[ ] Other _____

Fees paid: site plan 300 subdivision _____

Approval Status: Reviewer Alex Jaegerman

[X] **Approved** [ ] **Approved w/Conditions** listed below [ ] **Denied**

1. _____
2. _____
3. _____
4. _____

Approval Date 3/29/96 Approval Expiration 9/29/97 (date) Extension to _____ (date) [ ] Additional Sheets Attached

[ ] Condition Compliance _____ (signature) _____ (date)

Performance Guarantee [ ] Required* [X] Not Required

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[ ] Inspection Fee Paid _____ (date) _____ (amount)

Performance Guarantee Reduced _____ (date) _____ (remaining balance) _____ (signature)

Performance Guarantee Released _____ (date) _____ (signature)

Defect Guarantee Submitted _____ (submitted date) _____ (amount) _____ (expiration date)

Defect Guarantee Released _____ (date) _____ (signature)

Pink - Building Inspections Blue - Development Review Coordinator Green - Fire Yellow - Planning 2/9/95 Rev5 KT.DPUD

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

I. D. Number

Address:

Merrill Industries Inc
Applicant

3/1/96
Application Date

501 Danforth St- Ptld, ME 04102
Applicant's Mailing Address

Project Name/Description

Mark Hampton 856-9277
Consultant/Agent

501 Danforth St
Address of Proposed Site

Applicant or Agent Daytime Telephone, 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) _____

Proposed Building Square Feet or # of Units | appx 3 acres Acreage of Site | Zoning

to modify existing docking facilities & build new docking facilities

Check Review Required:

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[ ] Zoning Conditional Use (ZBA/PB)	[ ] Zoning Variance	[ ] Single-Family Minor	[ ] Other _____

Fees paid: site plan 300 subdivision _____

Approval Status: Reviewer Alex Jaegerman

[X] **Approved** [ ] **Approved w/Conditions** listed below [ ] **Denied**

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2. _____
3. _____
4. _____

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Defect Guarantee Submitted _____ (submitted date) _____ (amount) _____ (expiration date)

Defect Guarantee Released _____ (date) _____ (signature)

Pink - Building Inspections Blue - Development Review Coordinator Green - Fire Yellow - Planning 2/9/95 Rev5 KT.DPUD

DEPT. OF BUILDING INSPECTION
CITY OF PORTLAND, ME
OCT - 9 1997
RECEIVED

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

DEPARTMENT ORDER

IN THE MATTER OF

MERRILL INDUSTRIES INC.	) SITE LOCATION OF DEVELOPMENT
Portland, Cumberland County	) NATURAL RESOURCE PROTECTION
MERRILL MARINE TERMINAL PAVING	) WATER QUALITY CERTIFICATION
L-006592-26-J-M	) MODIFICATION
L-006592-4D-K-M (APPROVAL)	) FINDINGS OF FACT AND ORDER

Pursuant to the provisions of Title 38 M.R.S.A. Sections 481 et seq., 480-A et seq., and Section 401 of the Federal Water Pollution Control Act, the Department of Environmental Protection has considered the application of MERRILL INDUSTRIES INC. with its supportive data, agency review comments, and other related materials on file and FINDS THE FOLLOWING FACTS:

1. In Board Order #03/44-6592-05170, dated February 11, 1981, the Department approved the construction of a multi-purpose marine terminal on the Fore River in Portland. Subsequent Department Orders have approved various modifications to the original marine terminal. The terminal is located on Danforth Street in the City of Portland.

2. The applicant proposes to pave the existing metal recycling storage pad area. The area to be paved is approximately 2 acres in size and is currently compacted soil. Currently runoff from the site runs unabated into the Fore River via sheet and shallow flows. Paving the site will provide a more stable work area, discourage erosion and sedimentation, decrease the runoff rate, and enhance the quality of stormwater leaving the project site. The applicant has applied for a Natural Resource Protection Act permit because a portion of the project is within 25 feet of a coastal wetland.

3. The site will be graded to direct the on-site surface water into a channel. The channel will divert the runoff to a catchbasin and a stormwater quality treatment system. Treatment will be provided by vortex flow technology. The treated stormwater will discharge to the Fore River through a pipe and riprap outlet apron. Off-site stormwater will be diverted into a constructed drainage swale. This swale will be a combination of vegetation with erosion control mesh at the upper end and stone riprap at the outlet end. All swales and stabilization construction will be completed prior to October 1st to provide an adequate period to establish vegetation. The project has been reviewed by the Division of Watershed Management of the Bureau of Land and Water Quality which has determined that it meets Department standards for stormwater quality.

4. Based on its review of the application the Department finds the requested modification to be in accordance with all relevant Departmental standards. All other findings of fact, conclusions and conditions remain as approved in Board Order #03/44-6592-05170, and subsequent orders.

BASED on the above findings of fact, and subject to the Conditions listed below, the Department makes the following conclusions pursuant to 38 M.R.S.A. Section 480-A et seq. and Section 401 of the Federal Water Pollution Control Act:

A. The proposed activity will not unreasonably interfere with existing scenic, aesthetic, recreational or navigational uses.

B. The proposed activity will not cause unreasonable erosion of soil or sediment.

C. The proposed activity will not unreasonably inhibit the natural transfer of soil from the terrestrial to the marine or freshwater environment.

D. The proposed activity will not unreasonably harm any significant wildlife habitat, freshwater wetland plant habitat, threatened or endangered plant habitat; aquatic habitat, travel corridor, freshwater, estuarine or marine fisheries or other aquatic life.

E. The proposed activity will not unreasonably interfere with the natural flow of any surface or subsurface waters.

F. The proposed activity will not violate any state water quality law, including those governing the classifications of the State's waters.

G. The proposed activity will not unreasonably cause or increase the flooding of the alteration area or adjacent properties.

H. The proposed activity is not within a sand dune system.

I. The activity is not on an outstanding river segment as noted in Title 38 M.R.S.A. Section 480-P.

BASED on the above findings of fact, and subject to the Conditions listed below, the Department makes the following conclusions in relation to the proposed modification pursuant to 38 M.R.S.A. Section 481 et seq.:

A. The applicant has provided adequate evidence of financial capacity and technical ability to develop the project in a manner consistent with state environmental standards.

B. The applicant has made adequate provision for traffic movement of all types into, out of or within the development area and any traffic increase attributable to the proposed development will not result in unreasonable congestion or unsafe conditions on a road in the vicinity of the proposed development.

C. The applicant has made adequate provision for fitting the development harmoniously into the existing natural environment and the development will not adversely affect existing uses, scenic character, air quality, water quality or other natural resources in the municipality or in neighboring municipalities.

D. The proposed development will be built on soil types which are suitable to the nature of the undertaking and will not cause unreasonable erosion of soil or sediment nor inhibit the natural transfer of soil.

E. The proposed development will not pose an unreasonable risk that a discharge to a significant groundwater aquifer will occur.

F. The applicant has made adequate provision of utilities, including water supplies, sewerage facilities, solid waste disposal and roadways required for the development and the development will not have an unreasonable adverse effect on the existing or proposed utilities and roadways in the municipality or area served by those services.

G. The activity will not unreasonably cause or increase the flooding of the alteration area or adjacent properties nor create an unreasonable flood hazard to any structure.

THEREFORE, the Department APPROVES the application of MERRILL INDUSTRIES INC. to pave the existing metal recycling storage pad area, SUBJECT TO THE FOLLOWING CONDITIONS and all applicable standards and regulations:

1. The Standard Conditions of Approval, a copy attached.

2. In addition to any specific erosion control measures described in this or previous orders, the applicant shall take all necessary actions to ensure that its activities or those of its agents do not result in noticeable erosion of soils or fugitive dust emissions on the site during the construction and operation of the project covered by this approval.

3. All other Findings of Fact, Conclusions, and Conditions remain as approved in Board Order #03/44-6592-05170, and subsequent orders, and are incorporated herein.

DONE AND DATED AT AUGUSTA, MAINE, THIS 4th DAY OF September 1997.

DEPARTMENT OF ENVIRONMENTAL PROTECTION

BY: _____
EDWARD O. SULLIVAN, COMMISSIONER

PLEASE NOTE ATTACHED SHEET FOR GUIDANCE ON APPEAL PROCEDURES

Date of initial receipt of application 06/13/97
Date application accepted for processing 06/13/97

Date filed with Board of Environmental Protection
DV/L6592JM

FILED
SEP - 5 1997
BOARD OF ENVIRONMENTAL PROT.
STATE OF MAINE

Planning & Urban Development

Joseph E. Gray Jr.
Director

CITY OF PORTLAND

January 7, 1997

P.D. Merrill
Merrill Industries, Inc.
601A Danforth Street
Portland, ME 04102

Re: Building Addition, 601A Danforth Street

Dear Mr. Merrill:

On November 27, 1996 the Portland Planning Authority granted minor site plan approval for a building addition at 601A Danforth Street.

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

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

1. The site plan approval will be deemed to have expired unless work in the development has commenced within one (1) year of the approval or within a time period agreed upon in writing by the City and the applicant. A one year extension may be granted by this department if requested by the applicant in writing prior to the expiration date of the site plan.

2. A performance guarantee in a form acceptable to the City of Portland and an inspection fee equal to 1.7% of the performance guarantee will have to be posted before beginning any site construction or issuance of a building permit.

3. A defect guarantee, consisting of 10% of the performance guarantee, must be posted before the performance guarantee will be released.

4. Prior to construction, a preconstruction meeting shall be held at the project site with the contractor, development review coordinator, Public Work's representative and owner to review the construction schedule and critical aspects of the site work. At that time, the site/building contractor shall provide three (3) copies of a detailed construction schedule to the attending City representatives. It shall be the contractor's responsibility to arrange a mutually agreeable time for the preconstruction meeting.

O:\PLAN\CORRESP\KANDI\LETTERS\601DANFR.WPD

5. If work will occur within the public right-of-way such as utilities, curb, sidewalk and driveway construction, a street opening permit(s) is required for your site. Please contact Carol Merritt at 874-8300, ext. 8828. (Only excavators licensed by the City of Portland are eligible.)

6. The Development Review Coordinator (874-8300 ext. 8722) must be notified five (5) working days prior to date required for final site inspection. Please make allowances for completion of site plan requirements determined to be incomplete or defective during the inspection. This essential as all site plan requirements must be completed and approved by the Development Review Coordinator prior to issuance of a Certificate of Occupancy. Please schedule any property closing with these requirements in mind.

If there are any questions, please contact the Planning Staff.

Sincerely,

Joseph E. Gray, Jr.
Director of Planning and Urban Development

cc: Alexander Jaegerman, Chief Planner
Kandice Talbot, Planner
P. Samuel Hoffses, Chief of Building Inspections
Marge Schmuckal, Zoning Administrator
Kathi Staples PE, City Engineer
Development Review Coordinator
William Bray, Deputy Director/City Traffic Engineer
Jeff Tarling, City Arborist
Natalie Burns, Associate Corporation Counsel
Lt. Gaylen McDougall, Fire Prevention
Mary Gresik, Building Permit Secretary
Kathleen Brown, Assistant Director of Economic Development
Susan Doughty, Assessor's Office
Approval Letter File

SebagoTechnics
Engineering & Planning for the Future

February 26, 1996
95653

Richard Knowland, Planner
City of Portland
389 Congress Street
Portland, ME 04101

Merrill Industries, Inc. - Proposed Berthing Modifications

Dear Rick:

On behalf of our client, Merrill Industries, Inc., we are submitting for staff review and approval a site plan for the installation and modification for berthing structures for this site. This project is located at 601 Danforth Street in Portland and is owned by Merrill Industries, Inc. The estimated cost of the proposed development is $300,000.00. The purpose of the proposed project is to provide improved mooring capacity to allow for two large vessels, end to end, to be berthed at our client's facility.

The proposed work to be performed on site includes the construction of a new breasting dolphin, modification to an existing breasting dolphin, and installation of a new dead-man mooring. The new breasting dolphin will be 5 feet thick by 24 feet wide by 18 feet long, concrete slab poured on top of twenty-one 18" diameter steel pipes filled with concrete and driven to bearing strength. This new breasting dolphin would have a surface area of 435 square feet. The new dead-man mooring will be a concrete slab 7' square by 4' in thickness supported by two 10" diameter steel pipes filled with concrete and two 18" diameter steel pipes filled with concrete pile driven to bearing strength. This structure has a surface area of 49 square feet.

There are no current or proposed easements or other burdens now existing or to be placed on this property. There will be no solid waste generated from the proposed development and the proposed development will not increase the burden on public services, including sewer, water and streets. There will be no increase in surface drainage or stormwater management as a result of the proposed facilities. This project would occur sometime within the next 12-13 months.

The following is a list of State and Federal regulatory approvals which are subject to this proposed project, their status of pending application, and anticipated time frame for obtaining such permits, or a determination of no jurisdiction from the agency:

Other Regulatory Approvals	Status of Application	Anticipated Timeframe for Approval	Jurisdiction Required
U. S. Army Corps of Engineers Section 10 - Rivers & Harbors	Pending	60 days	
Maine Department of Environmental Protection Site Location Modification	Pending	45 days	
Maine Department of Environmental Protection Natural Resources Protection Act	Pending	14 days	Permit-by-Rule
Portland Harbor Commission	Pending	30 days	

Due to the size of the project and the ability of our client, no financial or technical capacity to undertake and complete the development is included. There are no unusual natural areas, wildlife or fisheries habitats, or archaeological sites located on or near the project site; consequently, no methods of protection are proposed.

We have included for your review the following items:

A. A 30" x 40" overall site plan showing the entire parcel with the project area highlighted.

B. 11" x 17" blow-up of the project area showing specific details in plan view of the work to be performed.

C. A set of 8½" x 11" drawings detailing the site location in a plan view and cross-sectional views. This information is the basis of the submission made to the U. S. Army Corps of Engineers. We have included a copy of the portion of the navigational charts relative to the location of our project detailing the location of the federal channel with respect to proposed activities.

If you have any questions or need further information, please do not hesitate to contact me.

Sincerely,

SEBAGO TECHNICS, INC.

Mark J. Hampton, C.S.S., L.S.E.
Director of Soil Science

MJH:jc
Enc.

cc: P. D. Merrill, Merrill Industries, Inc.

SebagoTechnics
Engineering & Planning for the Future

February 26, 1996
95653

Richard Knowland, Planner
City of Portland
389 Congress Street
Portland, ME 04101

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Maine Department of Environmental Protection Site Location Modification	Pending	45 days	
Maine Department of Environmental Protection Natural Resources Protection Act	Pending	14 days	Permit-by-Rule
Portland Harbor Commission	Pending	30 days	

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If you have any questions or need further information, please do not hesitate to contact me.

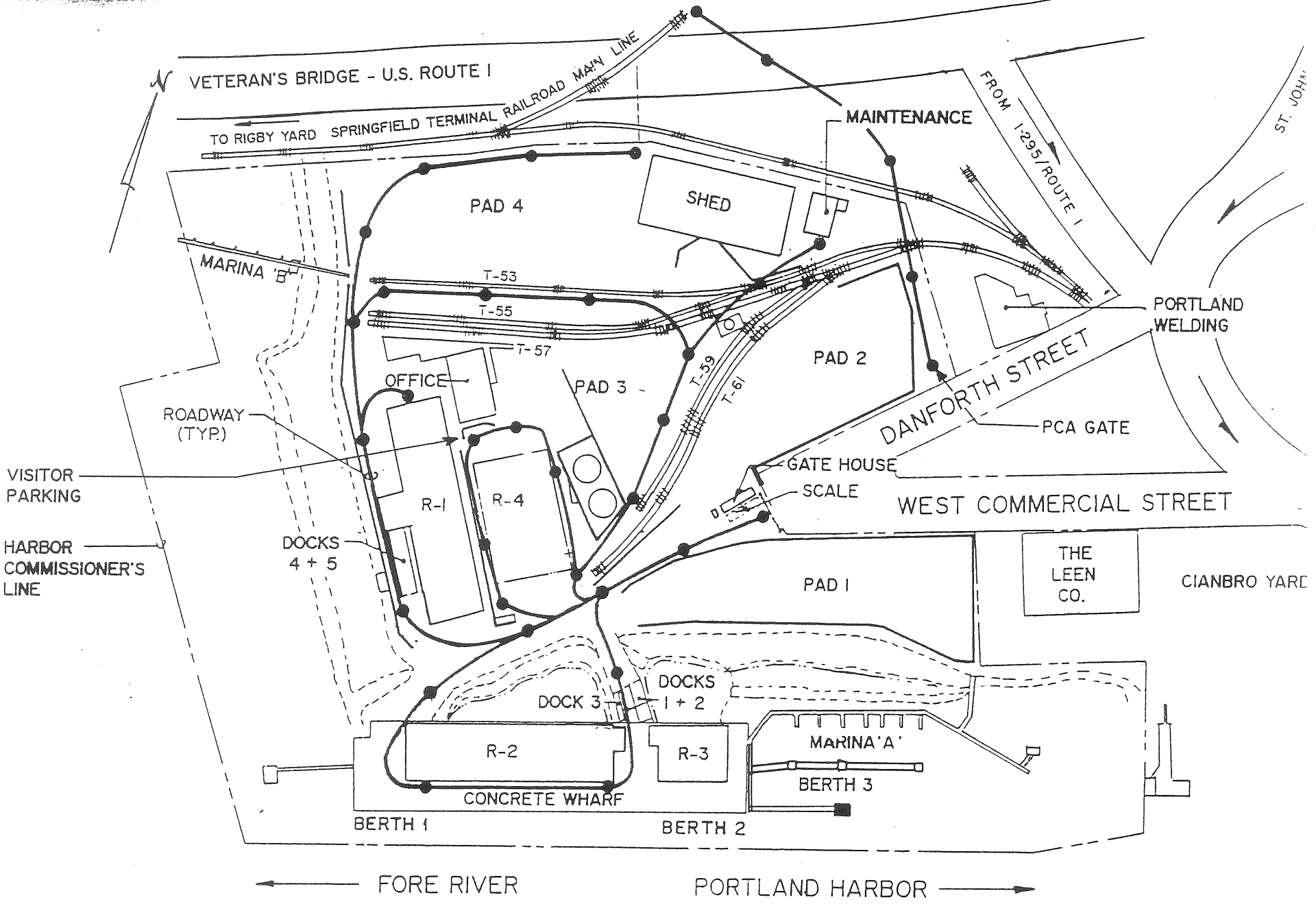
Sincerely,

SEBAGO TECHNICS, INC.

Mark J. Hampton, C.S.S., L.S.E.
Director of Soil Science

MJH:jc
Enc.

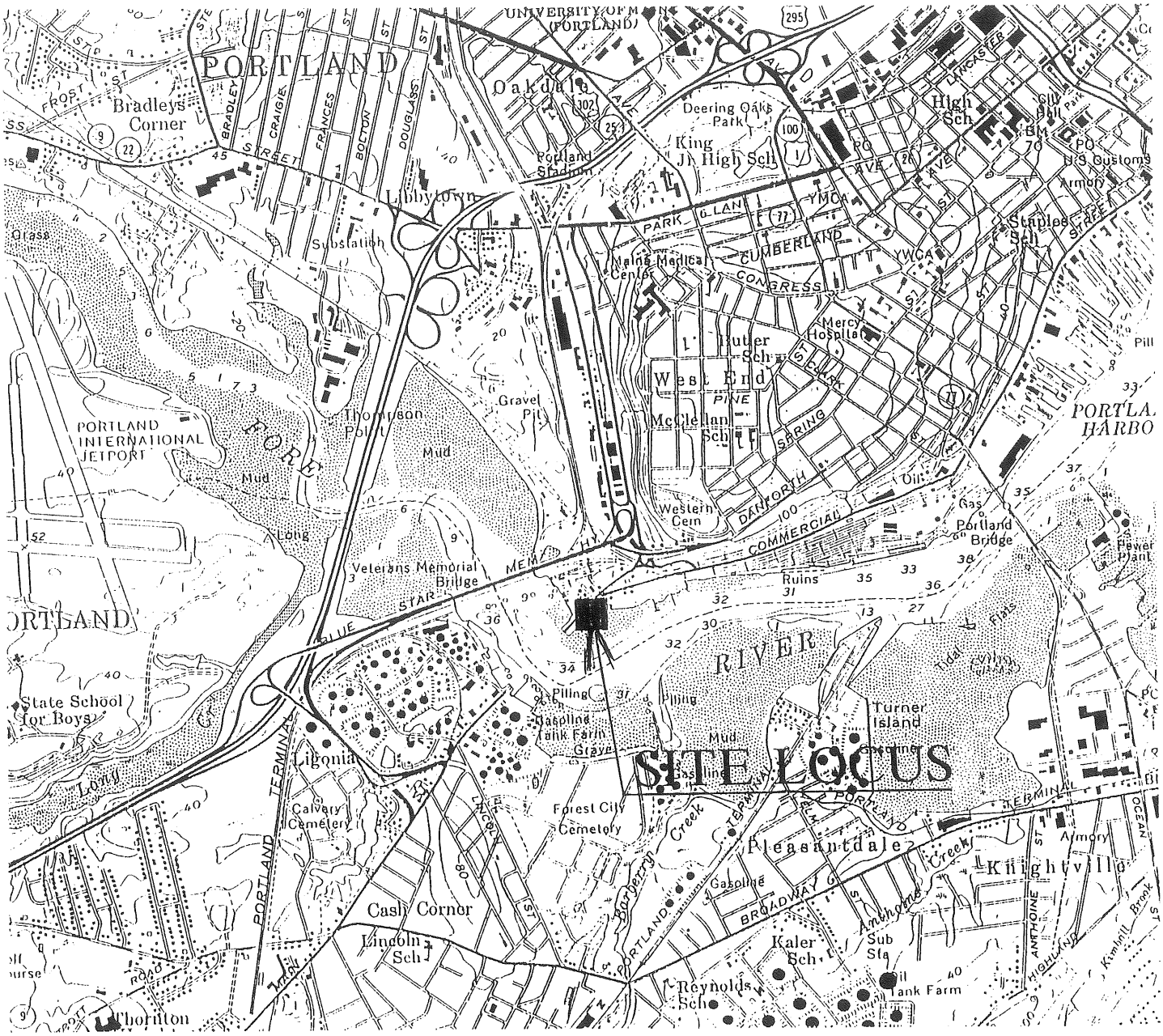
cc: P. D. Merrill, Merrill Industries, Inc.



MERRILL'S MARINE TERMINAL

95653

JANUARY 1996

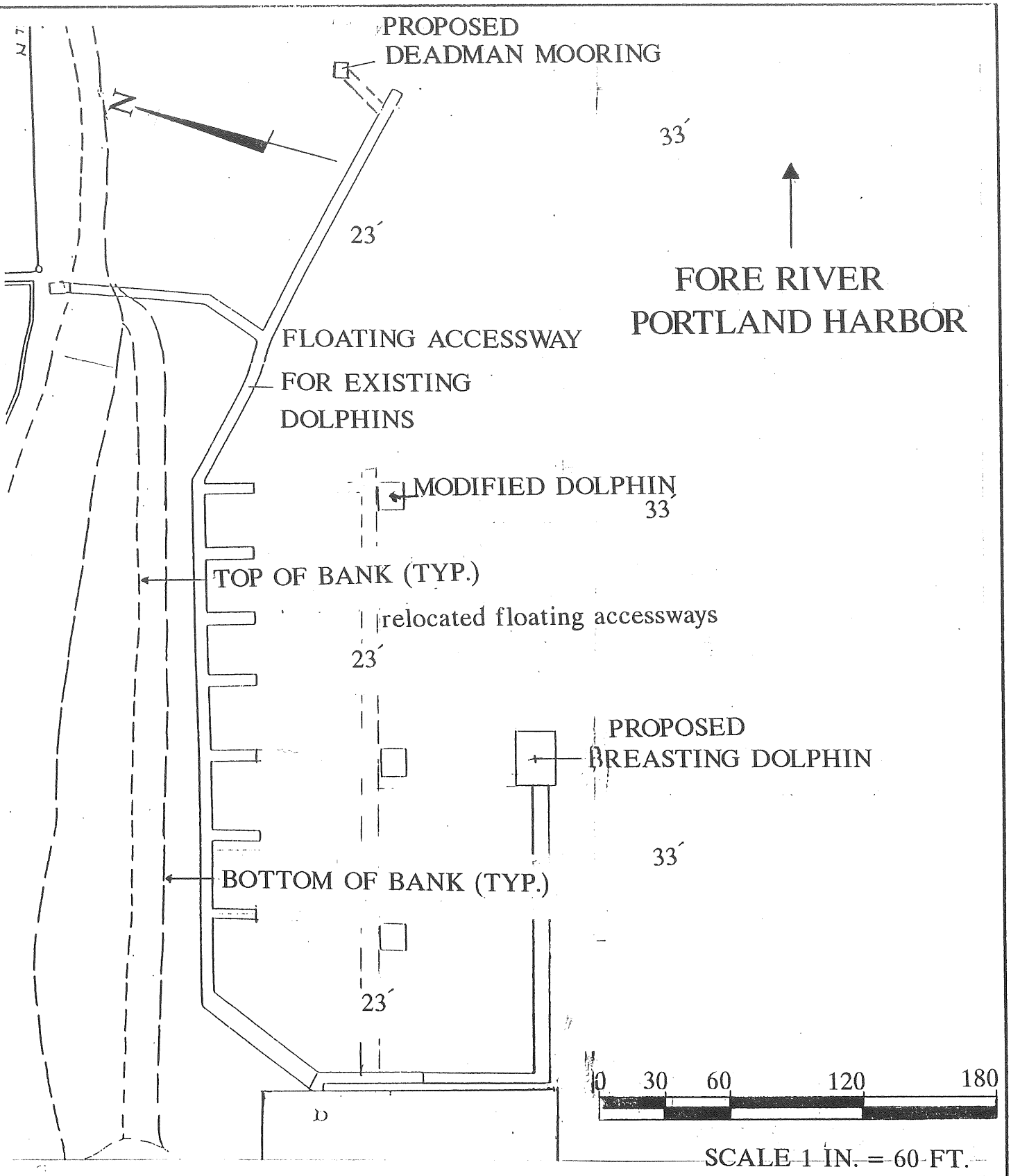


U.S.G.S. QUADRANGLE "PORTLAND-WEST" 1:24,000

LATITUDE: 43° 38' 30"

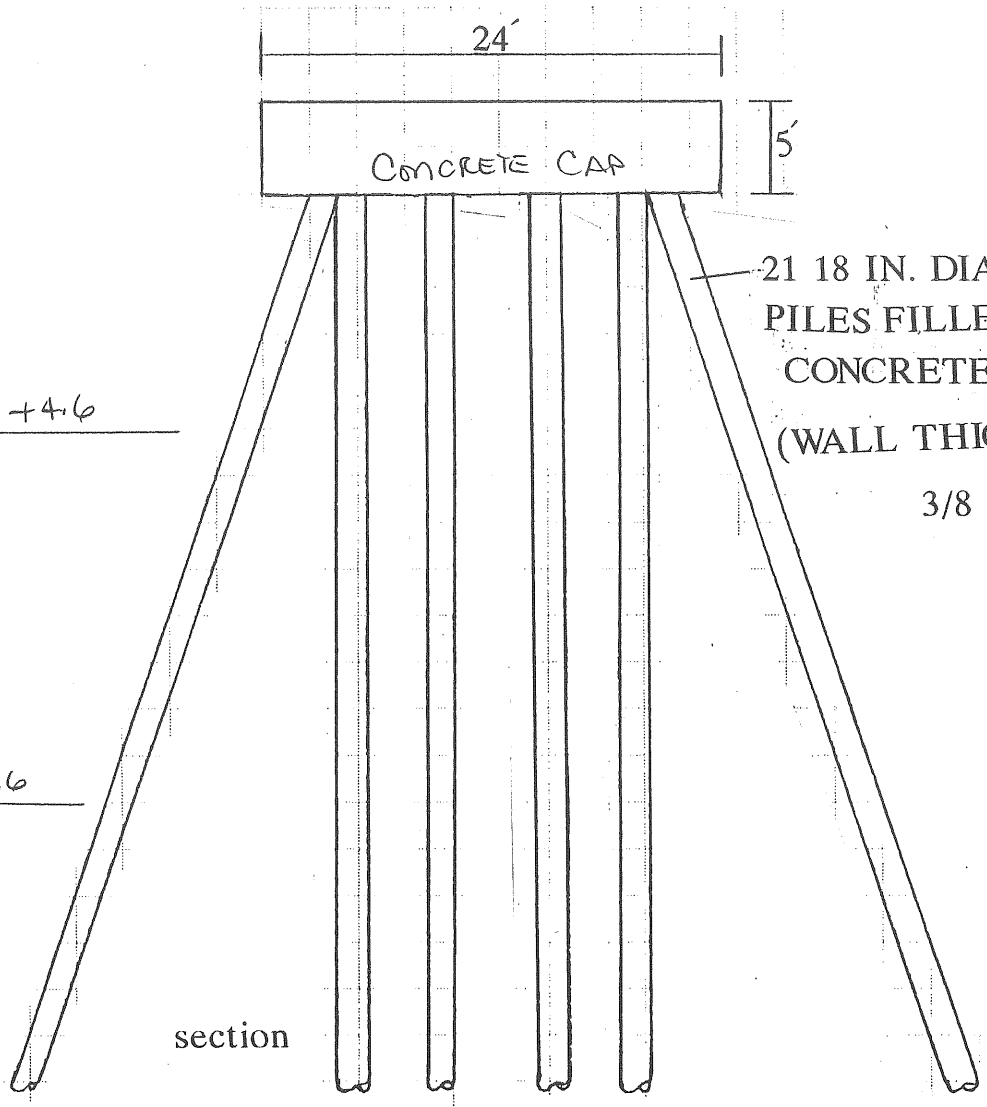
LONGITUDE: 70° 17' 08"

Sebago Technics Engineering & Planning for the Future 12 WESTBROOK COMMON WESTBROOK, ME 04092-1330 TEL (207) 856-0277	MERRILL'S MARINE TERMINAL		DATE FEB 96
	LOCATION PORTLAND	APPLICATION BY: MERRILL IND. INC.	SHEET OF 1 4



Sebago Technics Engineering & Planning for the Future 12 WESTBROOK COMMON WESTBROOK, ME 04092-1336 TEL. (207) 856-0277	MERRILL'S MARINE TERMINAL		DATE FEB 96
	LOCATION PORTLAND	APPLICATION BY: MERRILL IND. INC	SHEET OF 2 4

A - A



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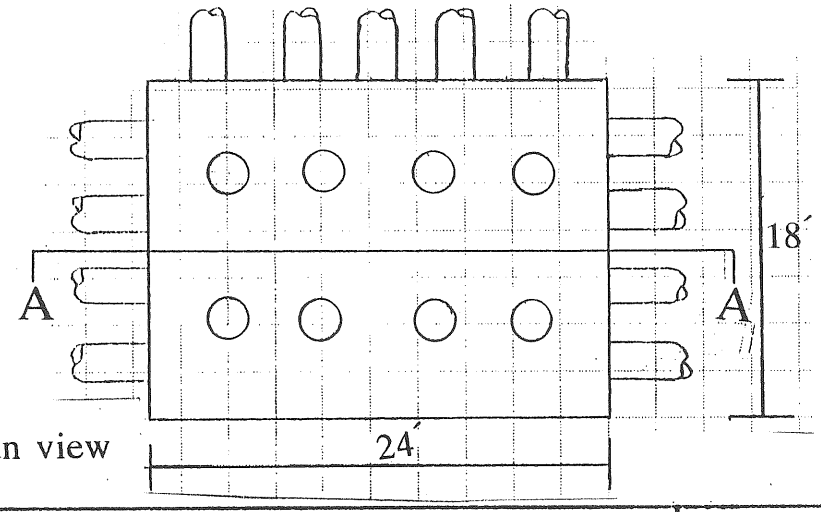


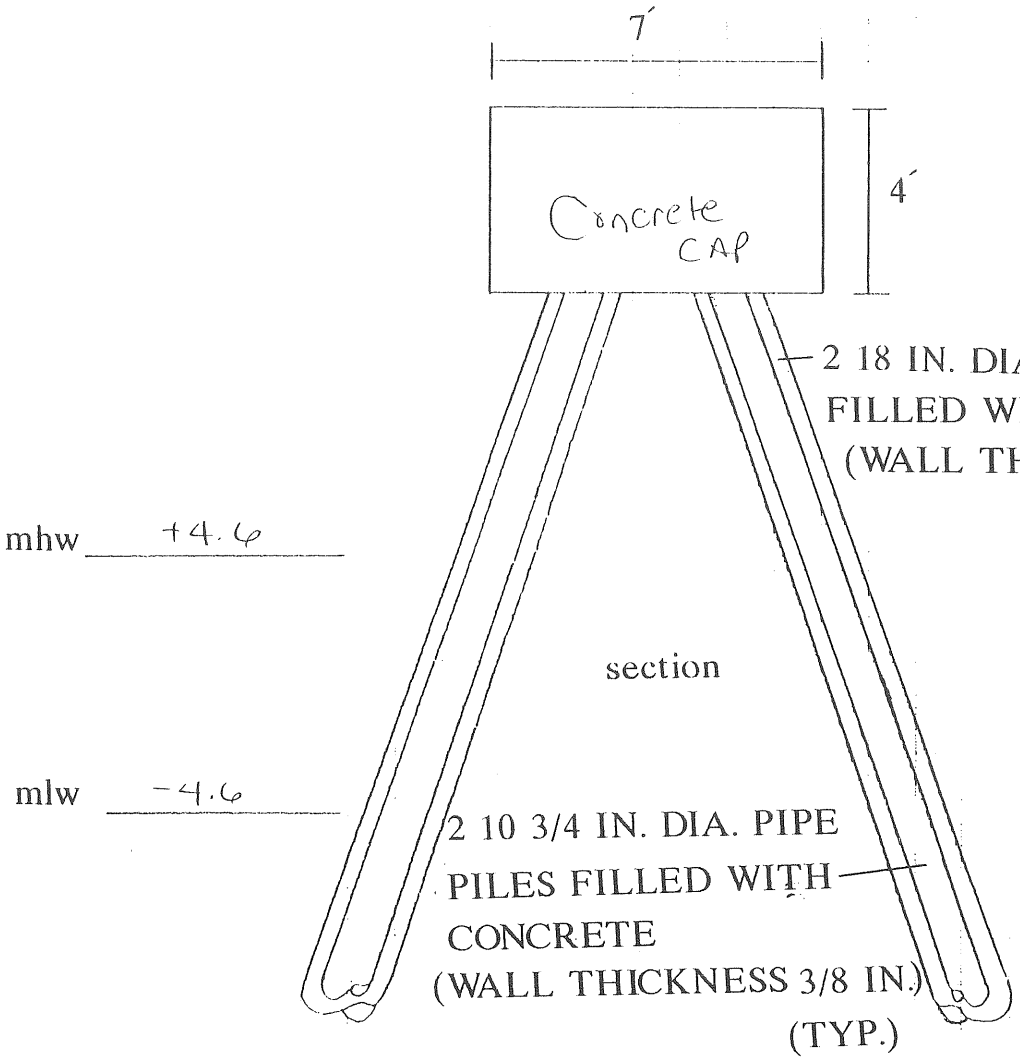
plan view

N 294644.29
E 868528.52
NAD 83
MÁINE WEST ZONE

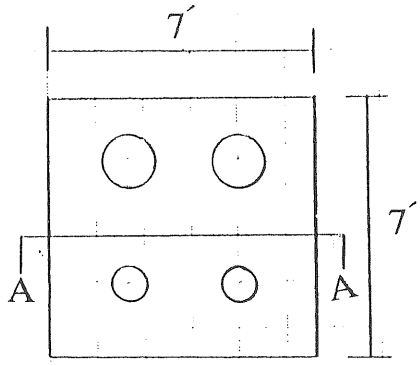
SCALE 1 IN. = 10 FT.

Sebago Technics Engineering & Planning for the Future 12 WESTBROOK COMMON WESTBROOK, ME 04092-1338 TEL (207) 856-0277	BREASTING DOLPHIN DETAILS		DATE FEB 96
	LOCATION PORTLAND	APPLICATION BY: MERRILL IND. INC.	SHEET 3 OF 4

A - A SCALE 1 IN. = 4 FT.



section

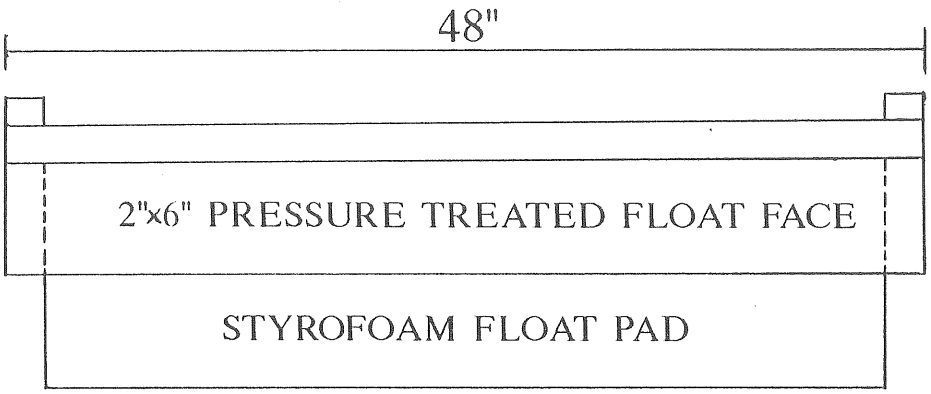


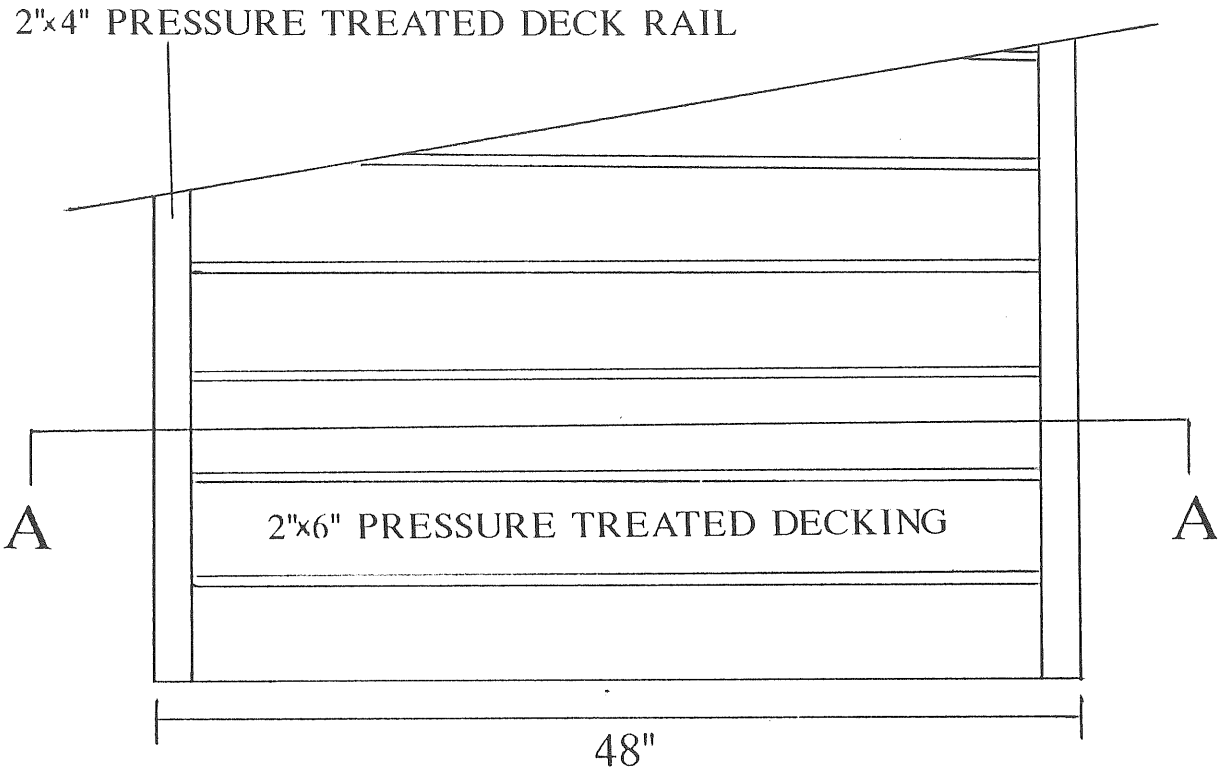
plan view

SCALE 1 IN. = 5 FT.

Sebago Technics Engineering & Planning for the Future 11 WESTBROOK COMMON WESTBROOK, ME 04092-1336 TEL (207) 856-0277	DEADMAN MOORING DETAILS		DATE FEB 96
	LOCATION PORTLAND	APPLICATION BY: MERRILL IND. INC.	SHEET 4 OF 4

A - A





SCALE: 1"=10"

Sebago Technics Engineering & Planning for the Future 12 WESTBROOK COMMON WESTBROOK, ME 04092-1330 TEL (207) 856-0277	FLOAT RAMP DETAILS		DATE FEB 96
	LOCATION PORTLAND	APPLICATION BY: MERRILL IND. INC.	SHEET OF

GEI Consultants, Inc.

Client	Project 95090	Page —	
	Date 6/95	By M. Yako	
Subject	Checked	By	
	Approved	By	

Analysis and Design Calculations

Merrill's Marine Terminal

Dolphin Project

- New Breasting Dolphin
- New Mooring Deadman
- Modification of Dolphin 3

STATE OF MAINE
WILLIAM P. KONICKI 6134
REGISTERED PROFESSIONAL ENGINEER

6/15/95

REVISION	DATE	DESCRIPTION	BY

DEPARTMENT OF THE ARMY
NEW ENGLAND DIVISION
CORPS OF ENGINEERS
WALTHAM, MASS.

DES. BY	DR. BY	CK. BY
V.G.	E.J.K.	

SUBMITTED: _____ PROJECT MANAGER

REVIEWED: _____ CHIEF, COAST. ENG/SUR. BR.

APPROVAL RECOMMENDED: _____ CHIEF, DESIGN DIVISION

PORTLAND HARBOR
PORTLAND MAINE
CONDITION SURVEY
35 FOOT CHANNEL

PROJECT NO. 46.0

APPROVED _____ DIRECTOR OF ENGINEERING

DATE JUNE 1992

SCALE: 1" = 200' | SPEC. NO. DACW 33

DRAWING NUMBER
2370

SHEET 5 OF 5

SEE NOAA CHART 13292

NOTE: The applicant shall use this form or one containing identical information to notify abutters, municipal officials, and for publication in a local newspapers. A copy of this form shall also be submitted with the application.

NOTICE OF INTENT TO FILE

Please take notice that Merrill Industries
(*Name, Address and Phone of Applicant*)

601A Danforth Street Portland ME 04102-3903

is intending to file a *(Site Location of Development/Natural Resources Protection Act)* permit application with the Maine Department of Environmental Protection pursuant to the provisions of *[(Site, 38 M.R.S.A. §§ 481-489)(NRPA, 38 M.R.S.A. §§ 480-A - 480-Y)]* on or about June 12, 1997
(*anticipated filing date*)

The application is for Paving existing Metal Recycling Handling and
(*summary of project*)

Storage Area Paving

at the following location:
601A Danforth Street Portland ME 04102-3903
(*project location*)

A request for a public hearing or a request that the Board of Environmental Protection assume jurisdiction over this application must be received by the Department, in writing, no later than 20 days after the application is found by the Department to be complete and is accepted for processing. Public comment on the application will be accepted throughout the processing of the application.

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

Portland, Maine.
(*town*)

Written public comments may be sent to the Department of Environmental Protection, Bureau of Land and Water Quality, 17 State House Station, Augusta, Maine 04333.

Planning & Urban Development

Joseph E. Gray Jr.
Director

CITY OF PORTLAND

November 12, 1997

P.D. Merrill
Merrill Industries
604A Danforth Street
Portland, ME 04102

Re: 601 Danforth Street, Stockpile Pad Paving

Dear Mr. Merrill:

On October 31, 1997 the Portland Planning Authority granted minor site plan approval for a stockpile pad paving area at 601 Danforth Street.

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

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

1. The site plan approval will be deemed to have expired unless work in the development has commenced within one (1) year of the approval or within a time period agreed upon in writing by the City and the applicant. A one year extension may be granted by this department if requested by the applicant in writing prior to the expiration date of the site plan.

2. A performance guarantee in a form acceptable to the City of Portland and an inspection fee equal to 1.7% of the performance guarantee will have to be posted before beginning any site construction or issuance of a building permit.

3. A defect guarantee, consisting of 10% of the performance guarantee, must be posted before the performance guarantee will be released.

4. Prior to construction, a preconstruction meeting shall be held at the project site with the contractor, development review coordinator, Public Work's representative and owner to review the construction schedule and critical aspects of the site work. At that time, the site/building contractor shall provide three (3) copies of a detailed construction schedule to the attending City representatives. It shall be the contractor's responsibility to arrange a mutually agreeable time for the preconstruction meeting.

O:\PLAN\CORRESP\KANDI\DANF601.WPD

5. If work will occur within the public right-of-way such as utilities, curb, sidewalk and driveway construction, a street opening permit(s) is required for your site. Please contact Carol Merritt at 874-8300, ext. 8828. (Only excavators licensed by the City of Portland are eligible.)

6. The Development Review Coordinator (874-8300 ext. 8722) must be notified five (5) working days prior to date required for final site inspection. Please make allowances for completion of site plan requirements determined to be incomplete or defective during the inspection. This essential as all site plan requirements must be completed and approved by the Development Review Coordinator prior to issuance of a Certificate of Occupancy. Please schedule any property closing with these requirements in mind.

If there are any questions, please contact the Planning Staff.

Sincerely,

Joseph E. Gray, Jr.
Director of Planning and Urban Development

cc: Alexander Jaegerman, Chief Planner
Kandice Talbot, Planner
P. Samuel Hoffses, Building Inspector
Marge Schmuckal, Zoning Administrator
Kathi Staples PE, City Engineer
Development Review Coordinator
William Bray, Deputy Director/City Traffic Engineer
Jeff Tarling, City Arborist
Natalie Burns, Associate Corporation Counsel
Lt. Gaylen McDougall, Fire Prevention
Mary Gresik, Building Permit Secretary
Kathleen Brown, Director of Economic Development
Susan Doughty, Assessor's Office
Approval Letter File

Inspection Services
P. Samuel Hoffses
Chief

Planning and Urban Development
Joseph E. Gray Jr.
Director

CITY OF PORTLAND

December 6, 1996

Merrill Industries Inc.
601 A Danforth St.
Portland, Maine 04102

RE: 601 A Danforth St.

Dear Sir ,

Your application to construct a 25'x 60' addition been reviewed and a permit is herewith issued subject to the following requirements. This permit does not excuse the applicant from meeting applicable State and Federal laws.

NO CERTIFICATE OF OCCUPANCY WILL BE ISSUED UNTIL ALL REQUIREMENTS OF THIS LETTER ARE MET.

Site Plan Review Requirements

Building Inspection : There shall be no outside storage of material related to this building. 2. All other performance standards of the WPDZ shall also be met. M. Schmuckal
Development Review Coordinator : Approved S Bushey
Planning Div. : Approved K. Talbot.
Fire Dept.: Approved , Lt. Mc Dougall

Building and Fire Code Requirements

1. Please read and implement items 1,2,14,15,16, 18,22 of the attached Building Permit Report.

Sincerely,

P. Samuel Hoffses
Chief of Inspection Services

cc: M. Schmuckal , S.Busheyl, Lt. Mc Dougall, K. Talbot

19970082
I. D. Number

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

Merrill Industries
Applicant

604A Danforth St, Portland, ME 04102
Applicant's Mailing Address

P.D. Merrill
Consultant/Agent

772-3254 **761-3782**
Applicant or Agent Daytime Telephone, Fax

10/9/97
Application Date

Merrill Industries
Project Name/Description

601 Danforth St
Address of Proposed Site

272-A-003
Assessor's Reference: Chart-Block-Lot

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

Proposed Building square Feet or # of Units | Acreage of Site | Zoning

Check Review Required:

☒ Site Plan (major/minor) ☐ Subdivision # of lots ☐ PAD Review ☐ 14-403 Streets Review
☐ Flood Hazard ☐ Shoreland ☐ HistoricPreservation ☐ DEP Local Certification
☐ Zoning Conditional Use (ZBA/PB) ☐ Zoning Variance ☐ Other

Fees Paid: Site Plan **$300.00** Subdivision ____ Engineer Review ____ Date: **10/9/97**

DRC Approval Status: Reviewer **Jim Wendel**

☒ **Approved** ☐ **Approved w/Conditions** see attache ☐ **Denied**

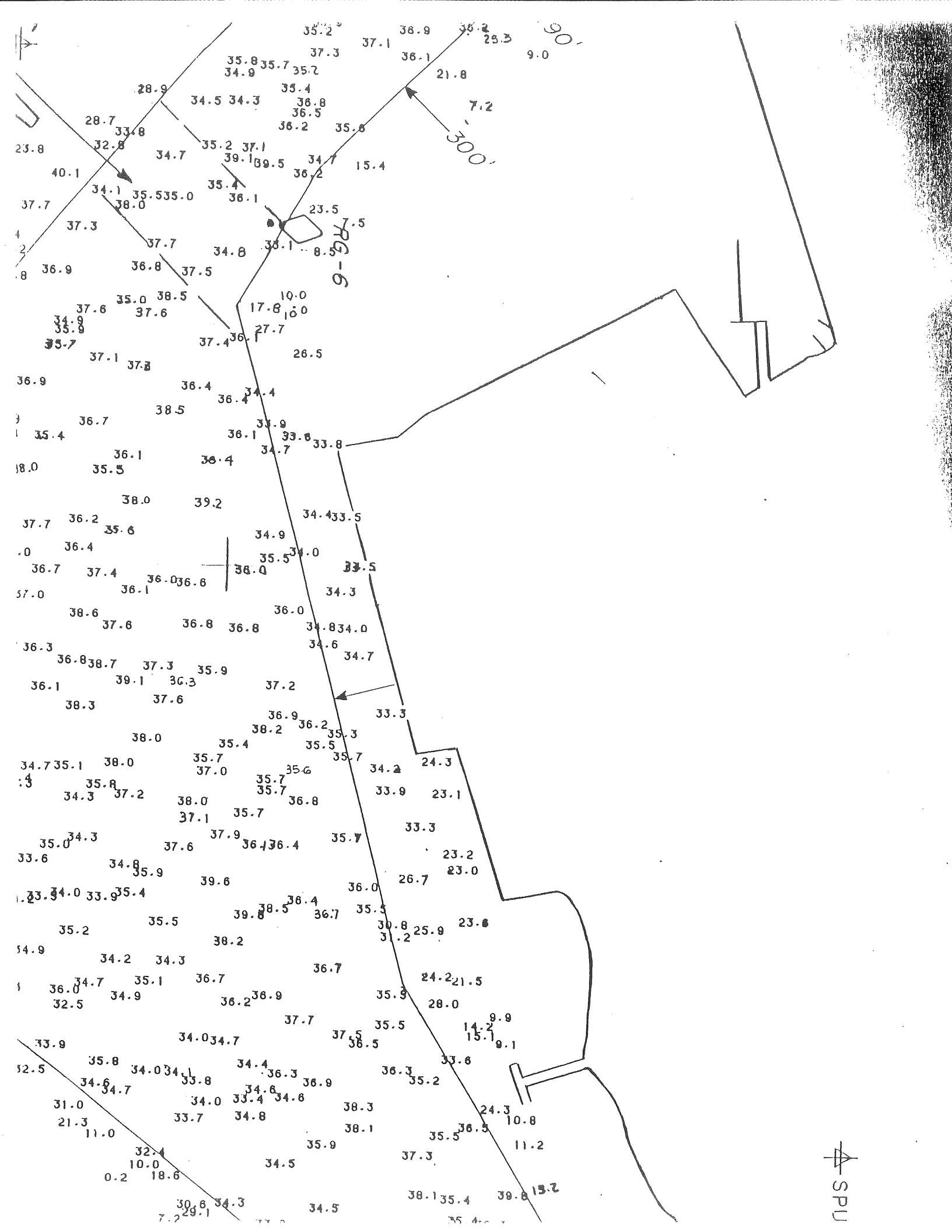
Approval Date 10/31/97 Approval Expiration 10/31/98 Extension to ____ ☐ Additional Sheets Attached

☒ Condition Compliance **Jim Wendel** signature **11/6/97** date

Performance Guarantee ☐ **Required*** ☒ **Not Required**

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

☐ Performance Guarantee Accepted ____ date ____ amount ____ expiration date
☐ Inspection Fee Paid ____ date ____ amount
☐ Building Permit ____ date
☐ Performance Guarantee Reduced ____ date ____ remaining balance ____ signature
☐ Temporary Certificate Of Occupancy ____ date ☐ Conditions (See Attached)
☐ Final Inspection ____ date ____ signature
☐ Certificate Of Occupancy ____ date
☐ Performance Guarantee Released ____ date ____ signature
☐ Defect Guarantee Submitted ____ submitted date ____ amount ____ expiration date
☐ Defect Guarantee Released


300'
90'
SPL

NOTE: The applicant shall use this form or one containing identical information to notify abutters, municipal officals, and local newspapers.

NOTICE

Please take notice that Merrill Industries Inc.
Name of Applicant

601 Danforth Street, Portland, ME 04102
Address of Applicant

is filing for a Site Location of Development permit with the Maine Department of Environmental Protection pursuant to the provisions of*

This modification involves:
Modifications ot berthing facilities to add (1) New breasting
(State specifically what is to be done)

dolphin (24' X 18'),(1) new deadman mooring (7' X 7') and

modifiy existing breasting dolphin to accept moorings

at the following address:

601 Danforth Street Portland ME 04102

The application will be filed for public inspection at one of the department's Regional Offices (So. Portland, Augusta or Bangor) and at the municipal offices on 2/27/96.
Date

Written comments from interested persons may be sent to the Department of Environmental Protection, Bureau of Land and Water Quality, State House Station #17, Augusta, Maine 04333.

*NOTE: Please insert appropriate statute name and section number into the above paragraph.

Site Location of Development, Title 38, M.R.S.A. Sections 481 to 489
Great Ponds, Title 38, M.R.S.A. Sections 391 to 396
Coastal Wetlands Alteration or Sand Dune, Title 38, M.R.S.A. Section 474
Alteration of River, Stream or Brook, Title 38, M.R.S.A. Sections 425 to 430
Freshwater Wetlands, Title 38, M.R.S.A. Sections 405 to 410
Maine Waterways, Title 38, M.R.S.A. Sections 630 to 636
Septage Land Disposal, Title 38, M.R.S.A. Section 1301

1/94
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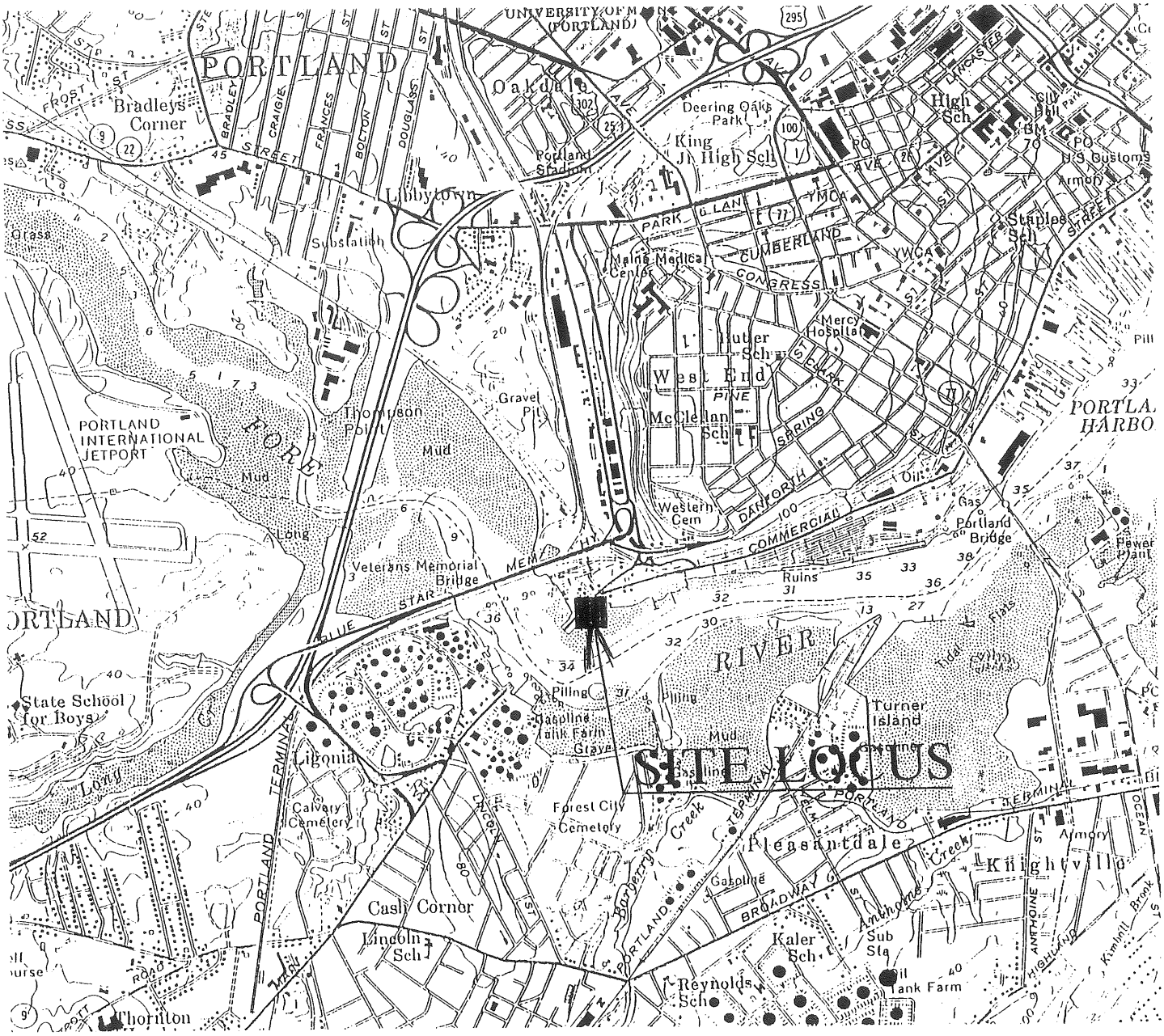
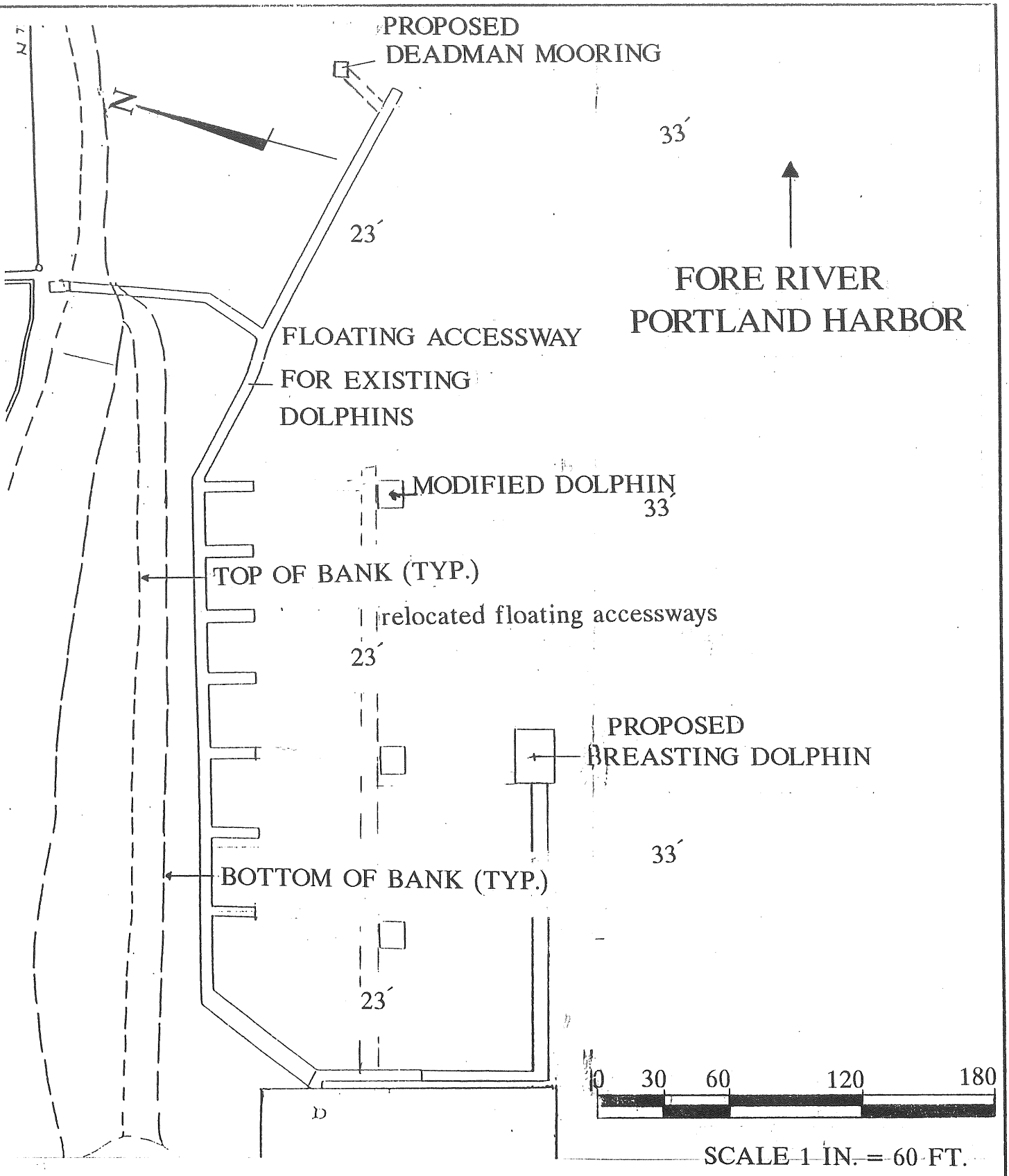


U.S.G.S. QUADRANGLE "PORTLAND-WEST" 1:24,000

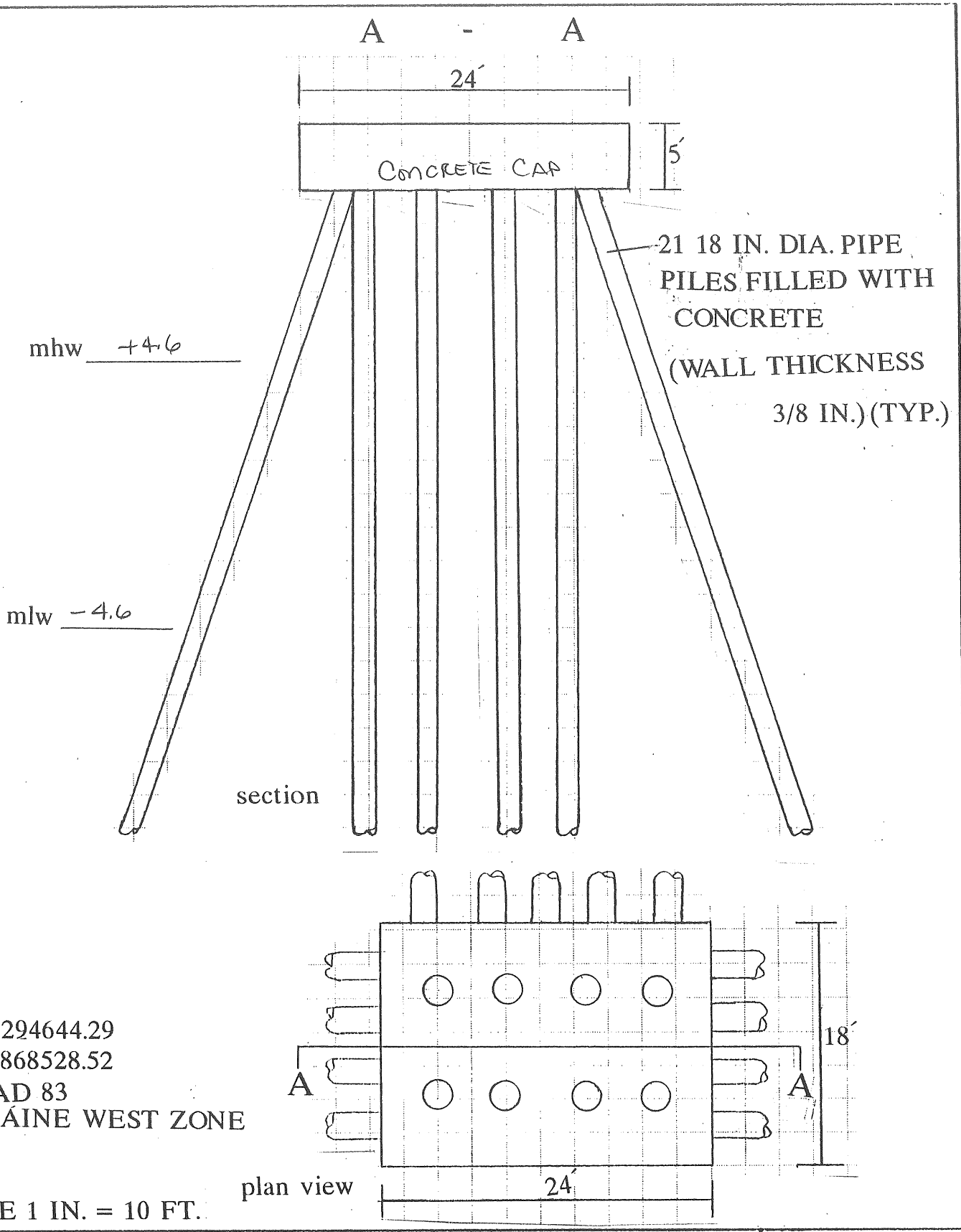
LATITUDE: 43° 38' 30"

LONGITUDE: 70°17' 08"

Sebago Technics *Engineering & Planning for the Future* 12 WESTBROOK COMMON WESTBROOK, ME 04092-1330 TEL (207) 856-0277	MERRILL'S MARINE TERMINAL		DATE FEB 96
	LOCATION PORTLAND	APPLICATION BY: MERRILL IND. INC.	SHEET 1 OF 4



Sebago Technics Engineering & Planning for the Future 12 WESTBROOK COMMON WESTBROOK, ME 04092-1336 TEL. (207) 856-0277	MERRILL'S MARINE TERMINAL		DATE FEB 96
	LOCATION PORTLAND	APPLICATION BY: MERRILL IND. INC	SHEET OF 2 4



N 294644.29
E 868528.52
NAD 83
MAINE WEST ZONE

SCALE 1 IN. = 10 FT.

Sebago Technics
Engineering & Planning for the Future
12 WESTBROOK COMMON
WESTBROOK, ME 04092-1338
TEL (207) 856-0277

BREASTING DOLPHIN DETAILS

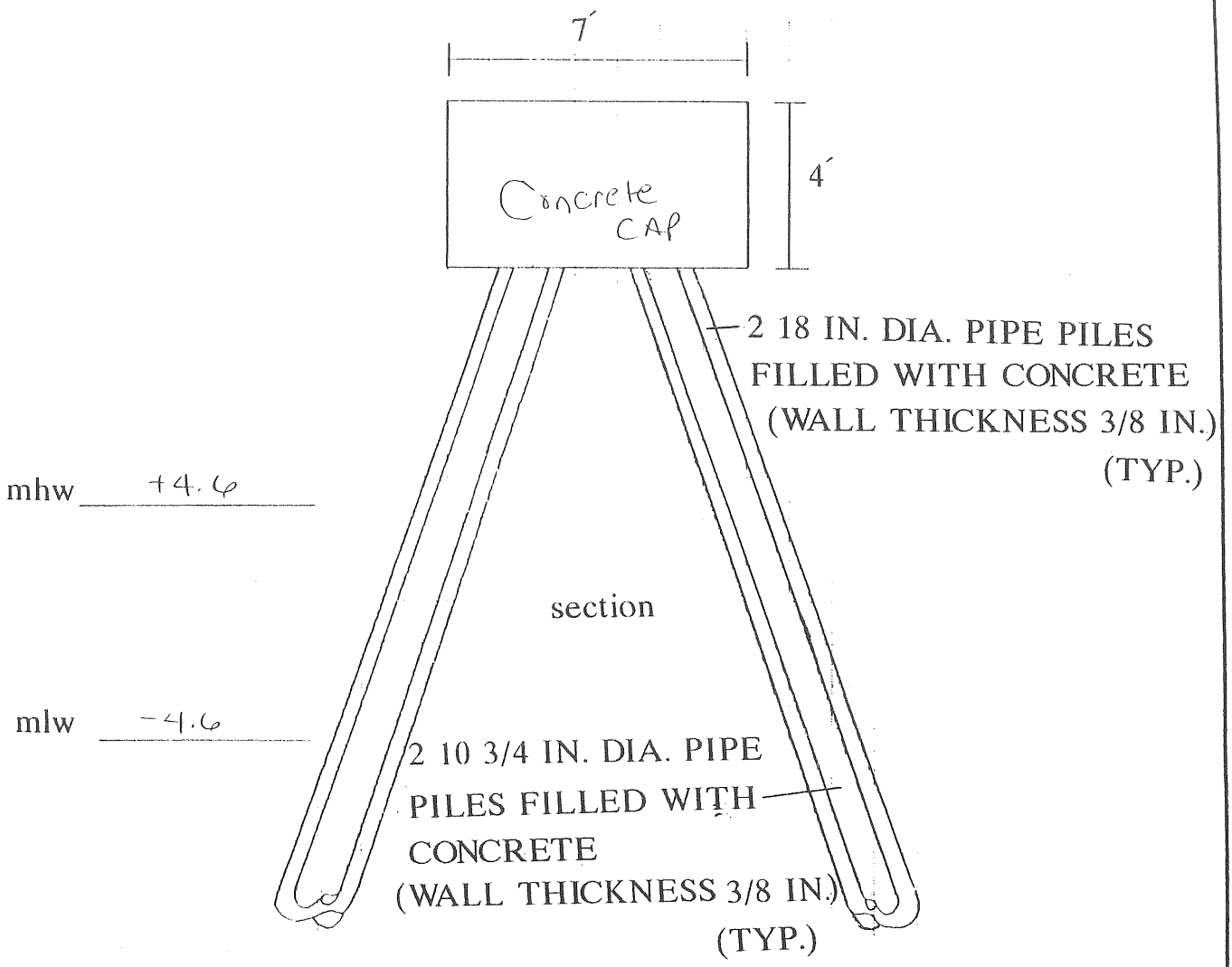
DATE: FEB 96

LOCATION: PORTLAND

APPLICATION BY: MERRILL IND. INC.

SHEET 3 OF 4

A - A SCALE 1 IN. = 4 FT.



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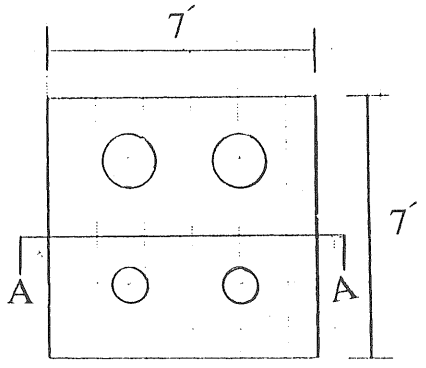
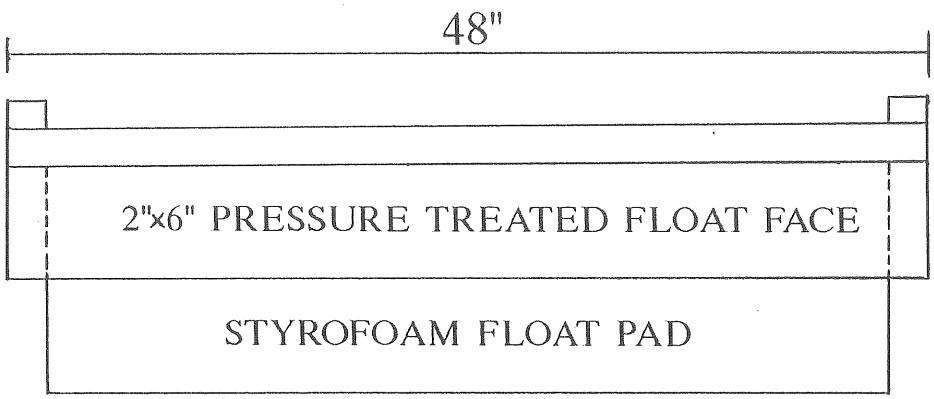


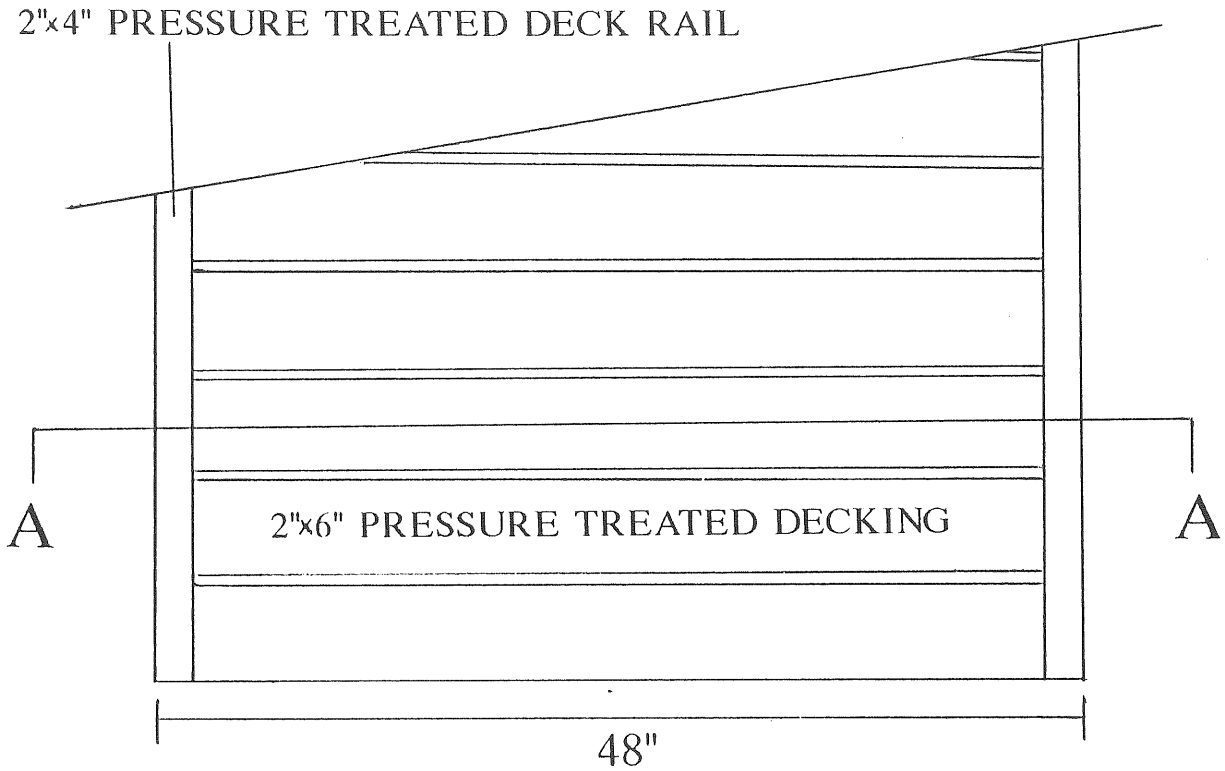
plan view

SCALE 1 IN. = 5 FT.

Sebago Technics Engineering & Planning for the Future 11 WESTBROOK COMMON WESTBROOK, ME 04092-1339 TEL (207) 856-0277	DEADMAN MOORING DETAILS		DATE FEB 96
	LOCATION PORTLAND	APPLICATION BY: MERRILL IND. INC.	SHEET 4 OF 4

A - A





SCALE: 1"=10"

Sebago Technics Engineering & Planning for the Future 12 WESTBROOK COMMON WESTBROOK, ME 04092-1530 TEL (207) 856-0277	FLOAT RAMP DETAILS	DATE FEB 96
	LOCATION PORTLAND	APPLICATION BY: MERRILL IND. INC.
		SHEET OF

GEI Consultants, Inc.

Client	Project 95090	Page —	
	Date 6/95	By M. Yako	
Subject	Checked	By	
	Approved	By	

Analysis and Design Calculations

Merrill's Marine Terminal

Dolphin Project

- New Breasting Dolphin
- New Mooring Deadman
- Modification of Dolphin 3

STATE OF MAINE
WILLIAM P. KONICKI 6134
REGISTERED PROFESSIONAL ENGINEER

6/15/95

REVISION	DATE	DESCRIPTION	BY

DEPARTMENT OF THE ARMY
NEW ENGLAND DIVISION
CORPS OF ENGINEERS
WALTHAM, MASS.

DES. BY	DR. BY	CK. BY
V. G.	E. J. K.	

SUBMITTED: _____ PROJECT MANAGER

REVIEWED: _____ CHIEF, COAST. ENG/SUR. BR.

APPROVAL RECOMMENDED: _____ CHIEF, DESIGN DIVISION

PORTLAND HARBOR
PORTLAND MAINE
CONDITION SURVEY
35 FOOT CHANNEL

PROJECT NO. 46.0

APPROVED _____ DIRECTOR OF ENGINEERING

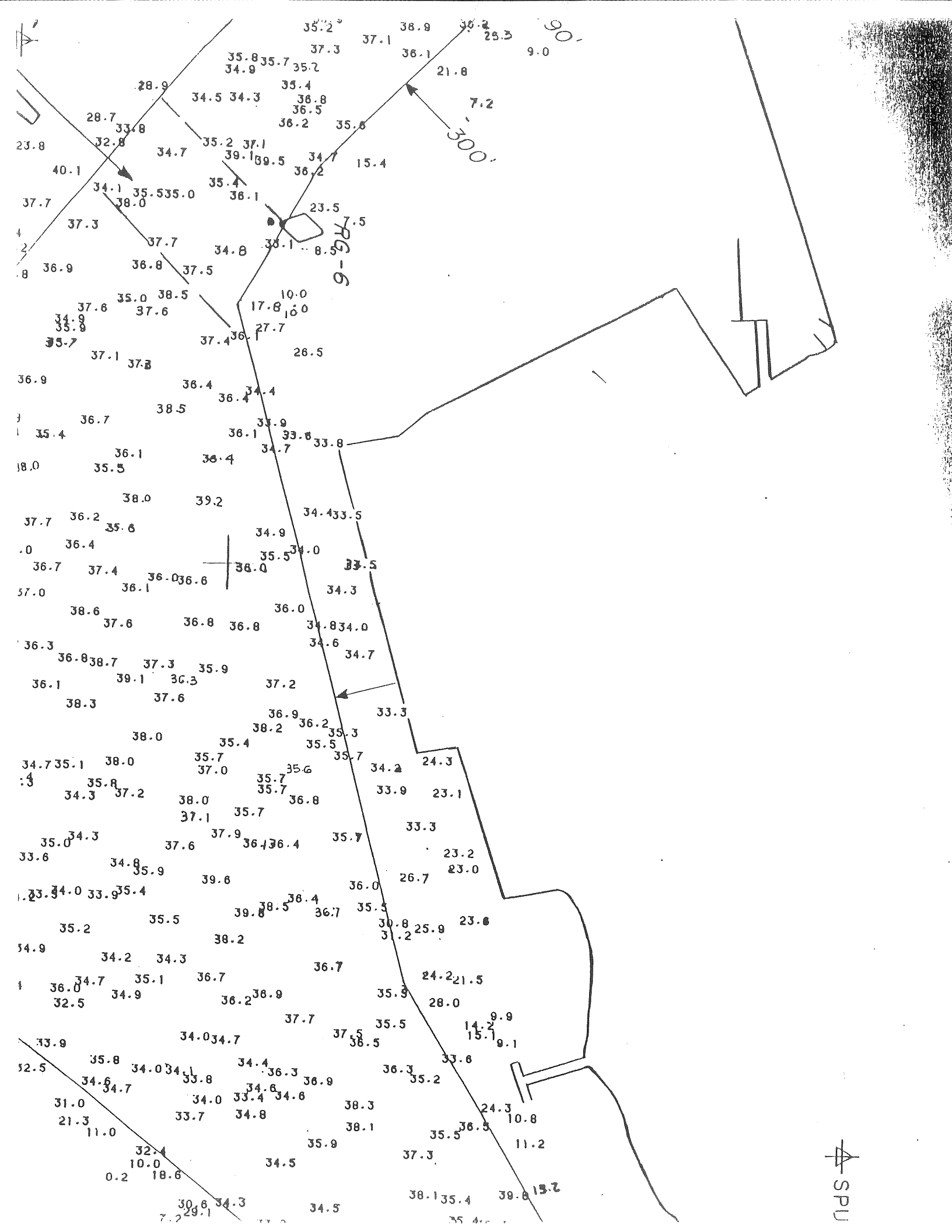
DATE JUNE 1992

SCALE: 1" = 200' | SPEC. NO. DACW 33

DRAWING NUMBER
2370

SHEET 5 OF 5

SEE NOAA CHART 13292


90'
300'
SPU

Alex

SebagoTechnics
Engineering & Planning for the Future

February 26, 1996
95653

Richard Knowland, Planner
City of Portland
389 Congress Street
Portland, ME 04101

Merrill Industries, Inc. - Proposed Berthing Modifications

Dear Rick:

On behalf of our client, Merrill Industries, Inc., we are submitting for staff review and approval a site plan for the installation and modification for berthing structures for this site. This project is located at 601 Danforth Street in Portland and is owned by Merrill Industries, Inc. The estimated cost of the proposed development is $300,000.00. The purpose of the proposed project is to provide improved mooring capacity to allow for two large vessels, end to end, to be berthed at our client's facility.

The proposed work to be performed on site includes the construction of a new breasting dolphin, modification to an existing breasting dolphin, and installation of a new dead-man mooring. The new breasting dolphin will be 5 feet thick by 24 feet wide by 18 feet long, concrete slab poured on top of twenty-one 18" diameter steel pipes filled with concrete and driven to bearing strength. This new breasting dolphin would have a surface area of 435 square feet. The new dead-man mooring will be a concrete slab 7' square by 4' in thickness supported by two 10" diameter steel pipes filled with concrete and two 18" diameter steel pipes filled with concrete pile driven to bearing strength. This structure has a surface area of 49 square feet.

There are no current or proposed easements or other burdens now existing or to be placed on this property. There will be no solid waste generated from the proposed development and the proposed development will not increase the burden on public services, including sewer, water and streets. There will be no increase in surface drainage or stormwater management as a result of the proposed facilities. This project would occur sometime within the next 12-13 months.

The following is a list of State and Federal regulatory approvals which are subject to this proposed project, their status of pending application, and anticipated time frame for obtaining such permits, or a determination of no jurisdiction from the agency:

12 Westbrook Common P.O. Box 1339 Westbrook, Maine 04098-1339 207-856-0277 Fax 207-856-2206

Other Regulatory Approvals	Status of Application	Anticipated Timeframe for Approval	Jurisdiction Required
U. S. Army Corps of Engineers Section 10 - Rivers & Harbors	Pending	60 days	
Maine Department of Environmental Protection Site Location Modification	Pending	45 days	
Maine Department of Environmental Protection Natural Resources Protection Act	Pending	14 days	Permit-by-Rule
Portland Harbor Commission	Pending	30 days	

Due to the size of the project and the ability of our client, no financial or technical capacity to undertake and complete the development is included. There are no unusual natural areas, wildlife or fisheries habitats, or archaeological sites located on or near the project site; consequently, no methods of protection are proposed.

We have included for your review the following items:

A. A 30" x 40" overall site plan showing the entire parcel with the project area highlighted.

B. 11" x 17" blow-up of the project area showing specific details in plan view of the work to be performed.

C. A set of 8½" x 11" drawings detailing the site location in a plan view and cross-sectional views. This information is the basis of the submission made to the U. S. Army Corps of Engineers. We have included a copy of the portion of the navigational charts relative to the location of our project detailing the location of the federal channel with respect to proposed activities.

If you have any questions or need further information, please do not hesitate to contact me.

Sincerely,

SEBAGO TECHNICS, INC.

Mark J. Hampton, C.S.S., L.S.E.
Director of Soil Science

MJH:jc
Enc.

cc: P. D. Merrill, Merrill Industries, Inc.

NOTE: The applicant shall use this form or one containing identical information to notify abutters, municipal officals, and local newspapers.

NOTICE

Please take notice that Merrill Industries Inc.
Name of Applicant

601 Danforth Street, Portland, ME 04102
Address of Applicant

is filing for a Site Location of Development permit with the Maine Department of Environmental Protection pursuant to the provisions of*

This modification involves:
Modifications ot berthing facilities to add (1) New breasting
(State specifically what is to be done)

dolphin (24' X 18'),(1) new deadman mooring (7' X 7') and

modifiy existing breasting dolphin to accept moorings

at the following address:

601 Danforth Street Portland ME 04102

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Written comments from interested persons may be sent to the Department of Environmental Protection, Bureau of Land and Water Quality, State House Station #17, Augusta, Maine 04333.

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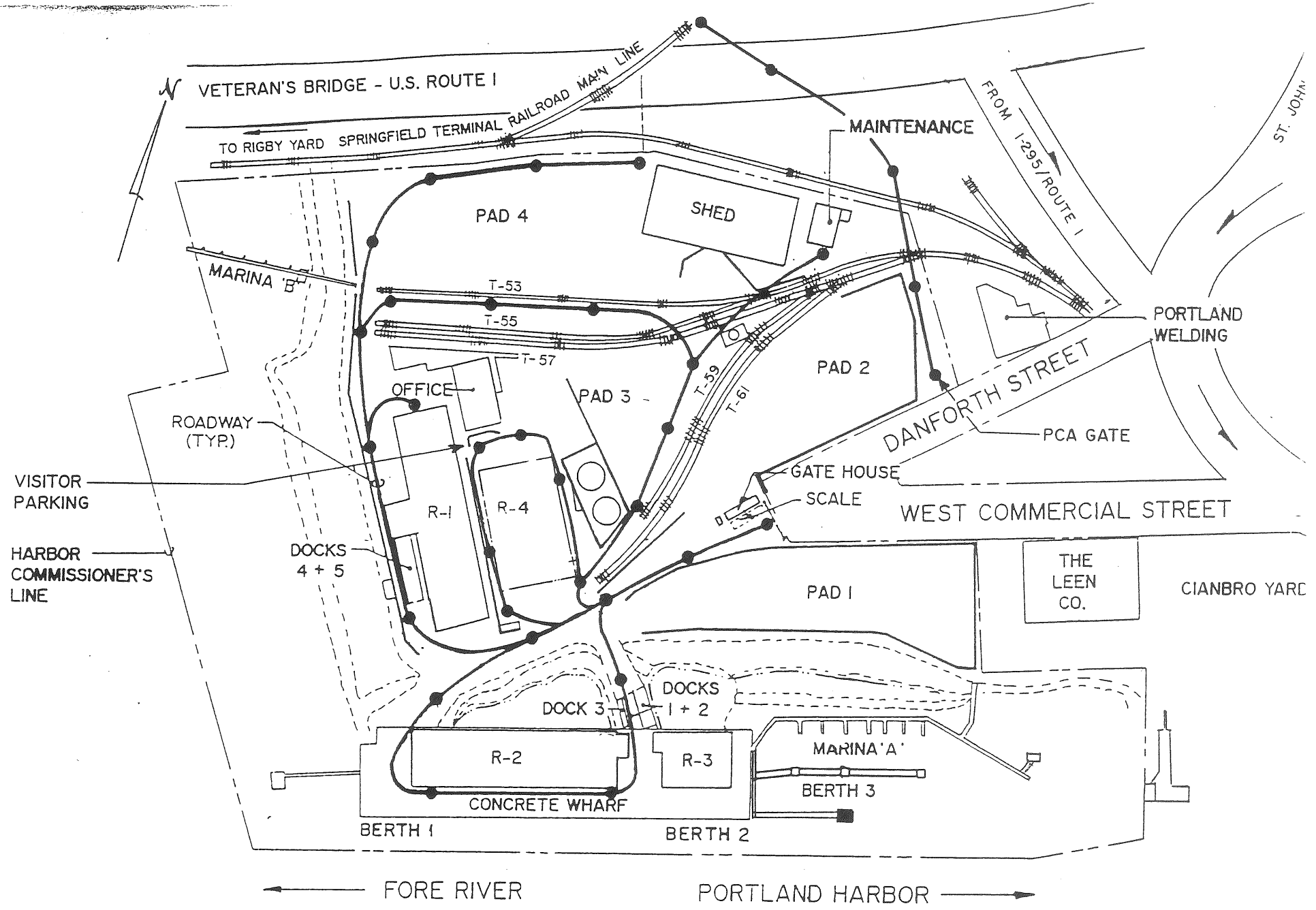
Great Ponds, Title 38, M.R.S.A. Sections 391 to 396
Coastal Wetlands Alteration or Sand Dune, Title 38, M.R.S.A. Section 474
Alteration of River, Stream or Brook, Title 38, M.R.S.A. Sections 425 to 430
Freshwater Wetlands, Title 38, M.R.S.A. Sections 405 to 410
Maine Waterways, Title 38, M.R.S.A. Sections 630 to 636
Septage Land Disposal, Title 38, M.R.S.A. Section 1301

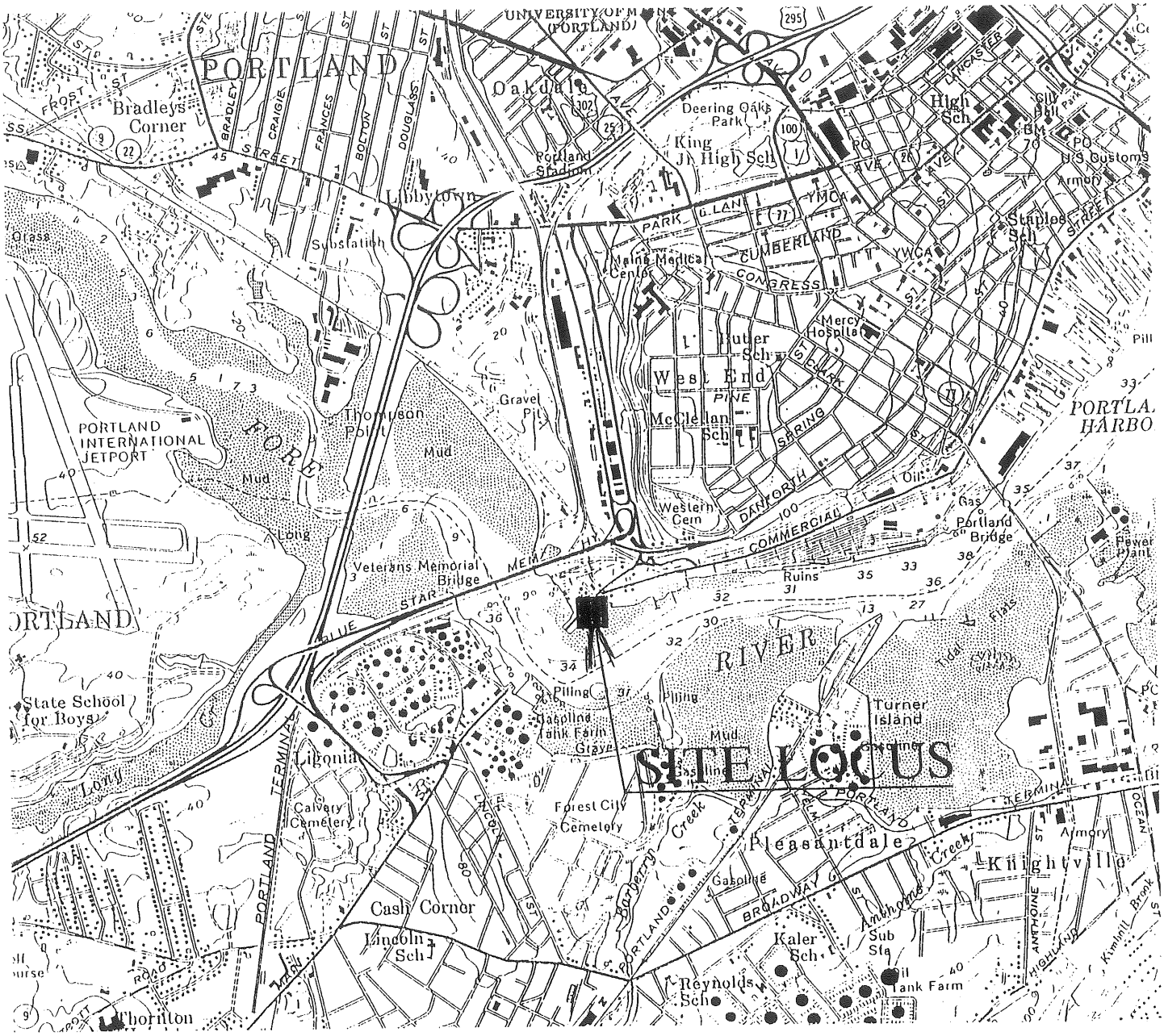
1/94
MOD



MERRILL'S MARINE TERMINAL

95653

JANUARY 1996

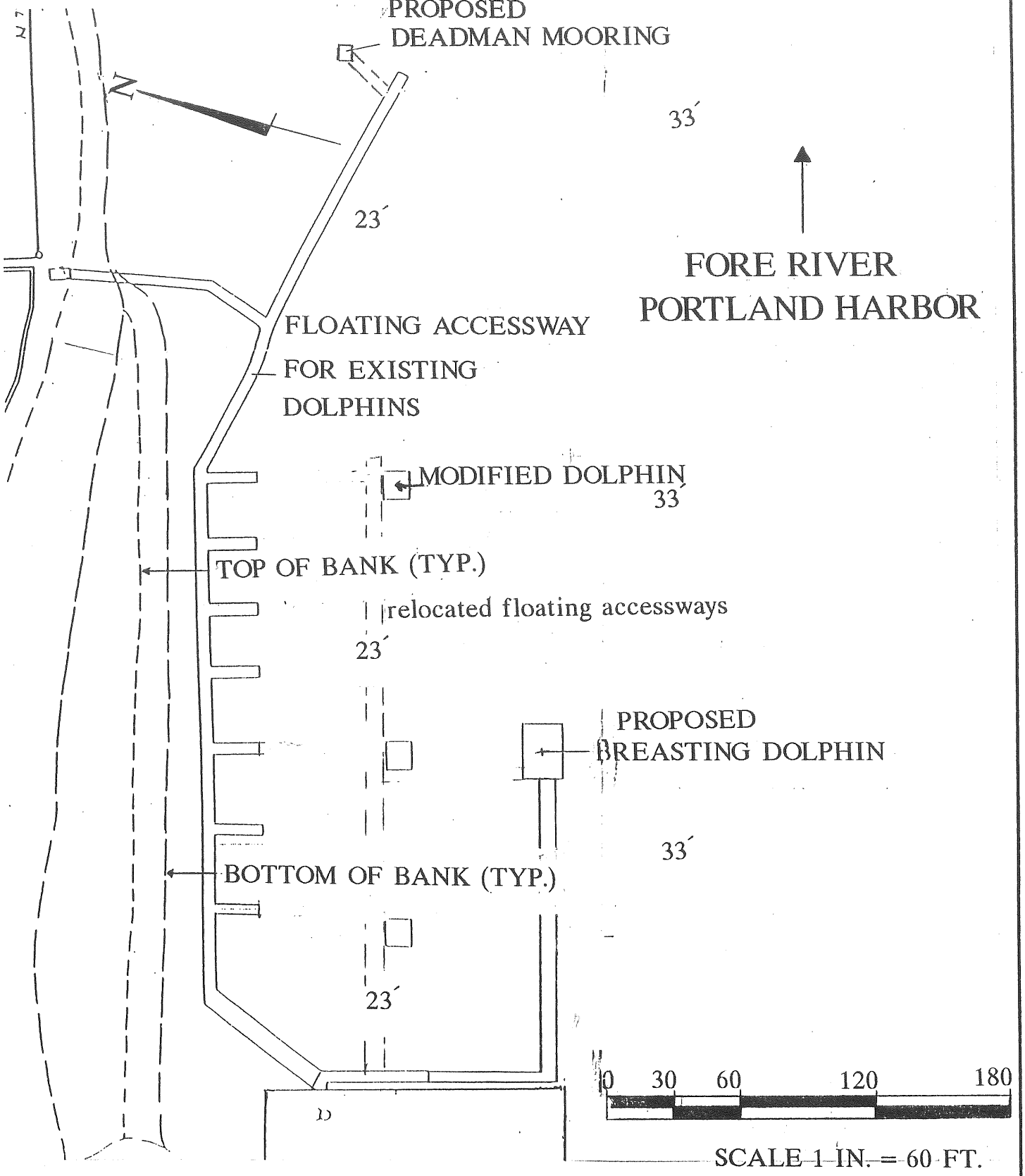


U.S.G.S. QUADRANGLE "PORTLAND-WEST" 1:24,000

LATITUDE: 43° 38' 30"

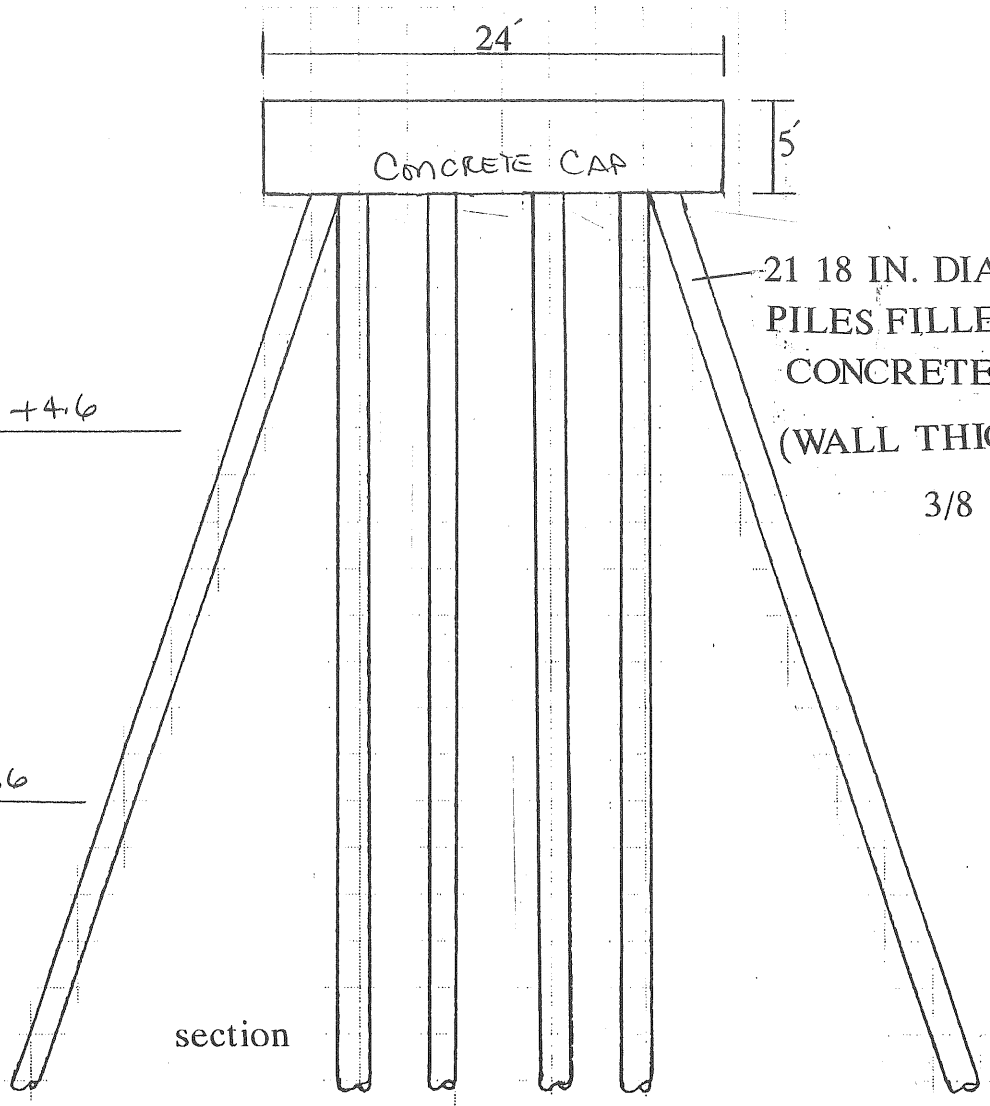
LONGITUDE: 70° 17' 08"

Sebago Technics *Engineering & Planning for the Future* 12 WESTBROOK COMMON WESTBROOK, ME 04092-1336 TEL (207) 856-0277	MERRILL'S MARINE TERMINAL	DATE FEB 96
	LOCATION PORTLAND	APPLICATION BY: MERRILL IND. INC.
		SHEET 1 OF 4

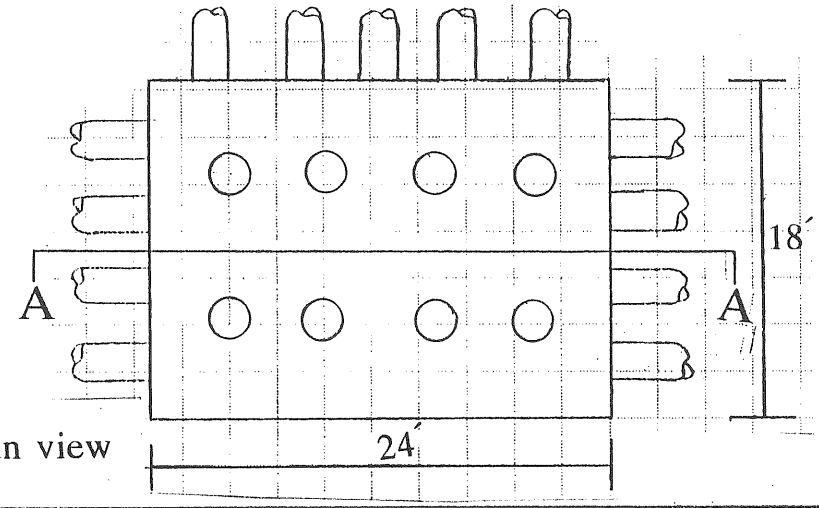


Sebago Technics Engineering & Planning for the Future 12 WESTBROOK COMMON WESTBROOK, ME 04092-1338 TEL (207) 856-0277	MERRILL'S MARINE TERMINAL		DATE FEB 96
	LOCATION PORTLAND	APPLICATION BY: MERRILL IND. INC	SHEET OF 2 4

A - A



section



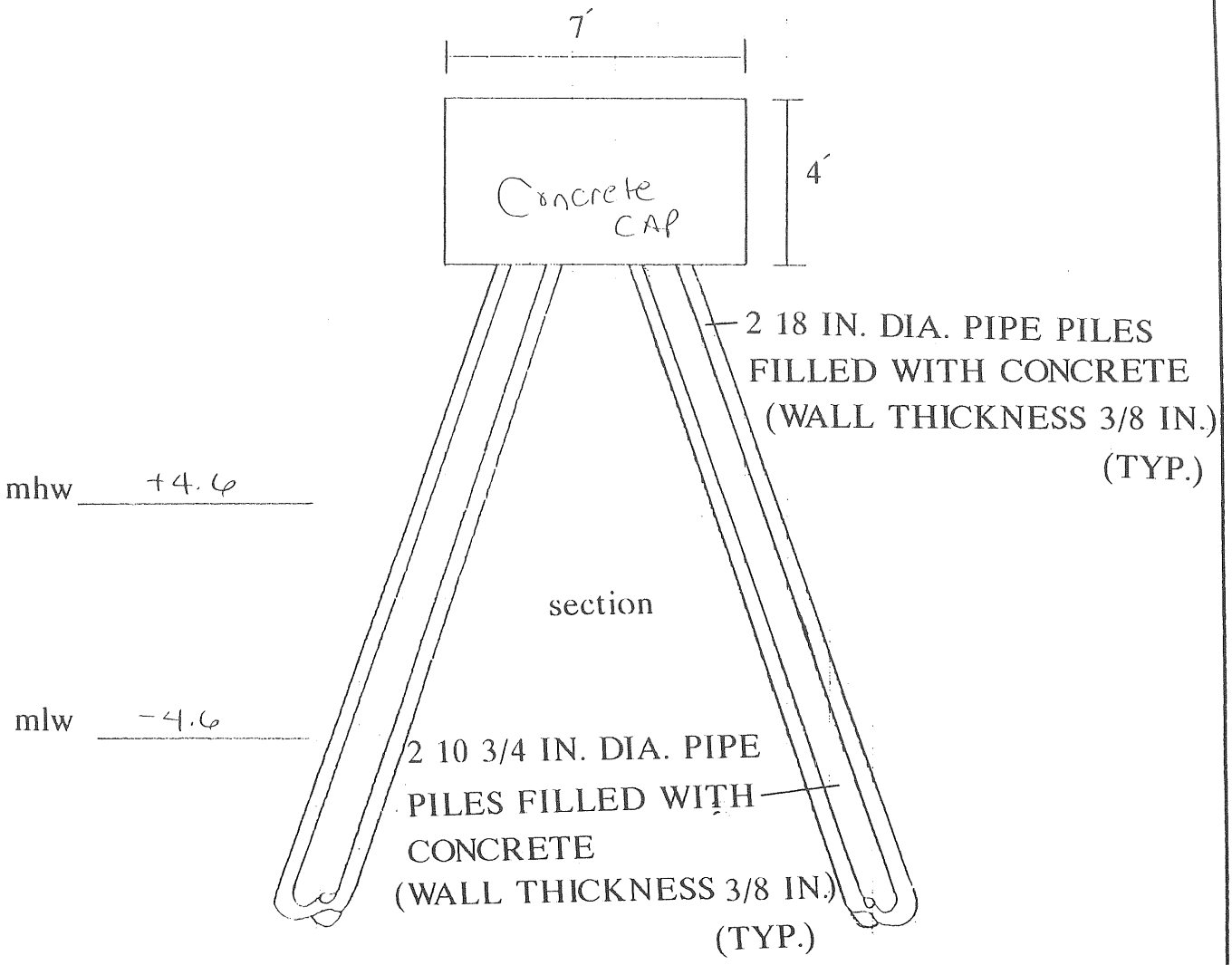
plan view

N 294644.29
E 868528.52
NAD 83
MAINE WEST ZONE

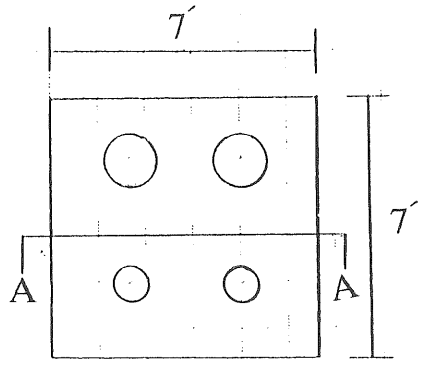
SCALE 1 IN. = 10 FT.

Sebago Technics Engineering & Planning for the Future 12 WESTBROOK COMMON WESTBROOK, ME 04092-1338 TEL (207) 856-0277	BREASTING DOLPHIN DETAILS		DATE FEB 96
	LOCATION PORTLAND	APPLICATION BY: MERRILL IND. INC.	SHEET 3 OF 4

A - A SCALE 1 IN. = 4 FT.



section

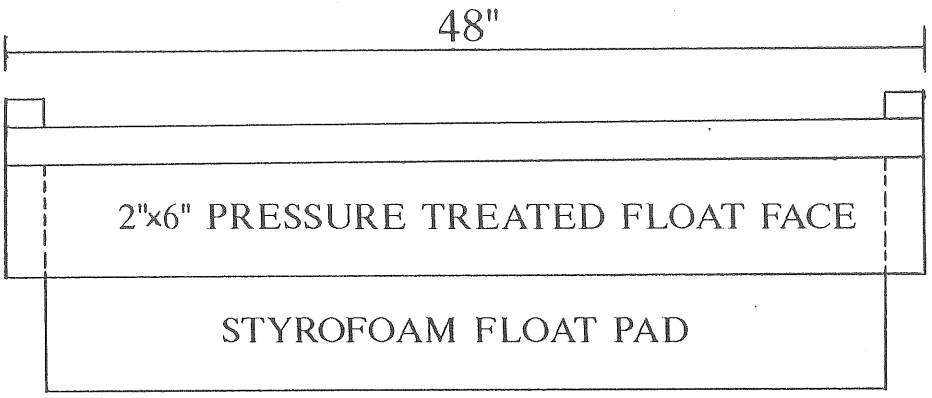


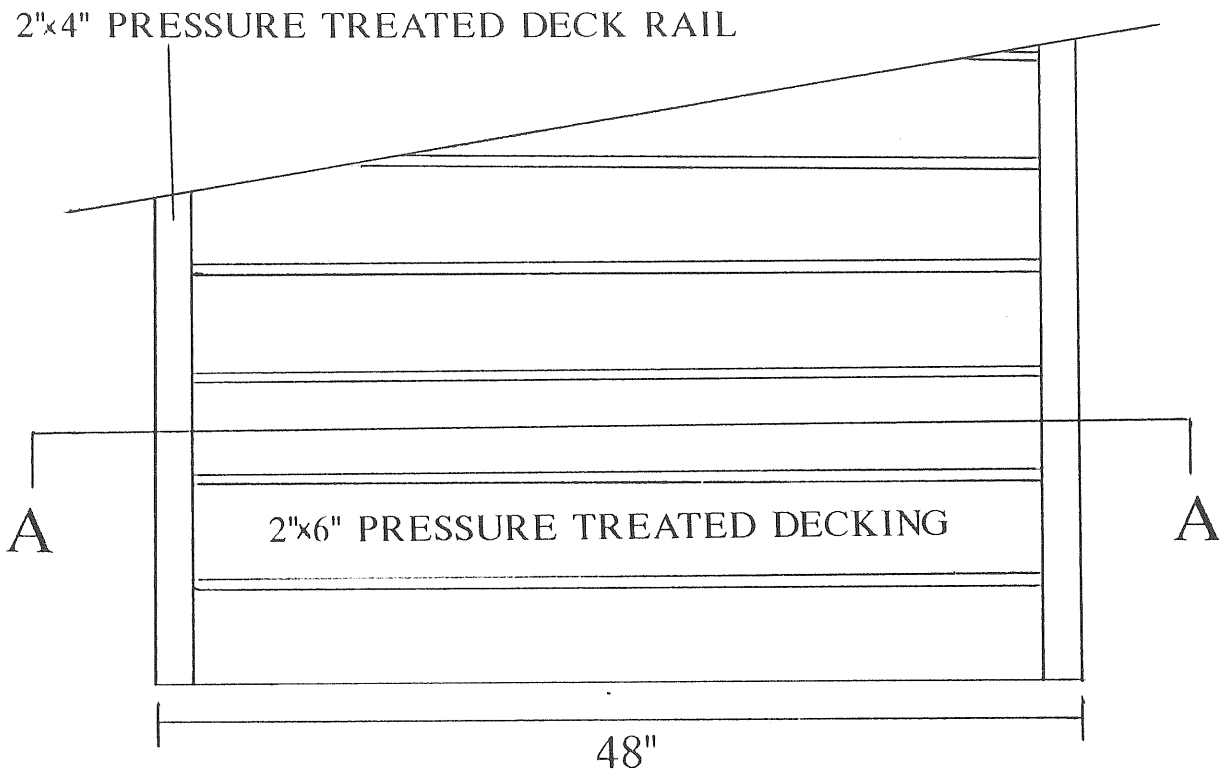
plan view

SCALE 1 IN. = 5 FT.

Sebago Technics Engineering & Planning for the Future 10 WESTBROOK COMMON WESTBROOK, ME 04092-1336 TEL (207) 856-0277	DEADMAN MOORING DETAILS		DATE FEB 96
	LOCATION PORTLAND	APPLICATION BY: MERRILL IND. INC.	SHEET 4 OF 4

A - A





SCALE: 1"=10"

Sebago Technics Engineering & Planning for the Future 12 WESTBROOK COMMON WESTBROOK, ME 04092-1339 TEL (207) 856-0277	FLOAT RAMP DETAILS		DATE FEB 96
	LOCATION PORTLAND	APPLICATION BY: MERRILL IND. INC.	SHEET OF

GEI Consultants, Inc.

Client	Project 95090	Page —	
	Date 6/95	By M. Yako	
Subject	Checked	By	
	Approved	By	

Analysis and Design Calculations

Merrill's Marine Terminal

Dolphin Project

- New Breasting Dolphin
- New Mooring Deadman
- Modification of Dolphin 3

STATE OF MAINE
WILLIAM P. KONICKI 6134
REGISTERED PROFESSIONAL ENGINEER

6/15/95

REVISION	DATE	DESCRIPTION	BY		

DEPARTMENT OF THE ARMY
NEW ENGLAND DIVISION
CORPS OF ENGINEERS
WALTHAM, MASS.

DES. BY	DR. BY	CK. BY
V. G.	E. J. K.	

SUBMITTED: _____ PROJECT MANAGER

REVIEWED: _____ CHIEF, COAST. ENG/SUR. BR.

APPROVAL RECOMMENDED: _____ CHIEF, DESIGN DIVISION

PORTLAND HARBOR
PORTLAND MAINE
CONDITION SURVEY
35 FOOT CHANNEL

PROJECT NO. 46.0

APPROVED _____ DIRECTOR OF ENGINEERING

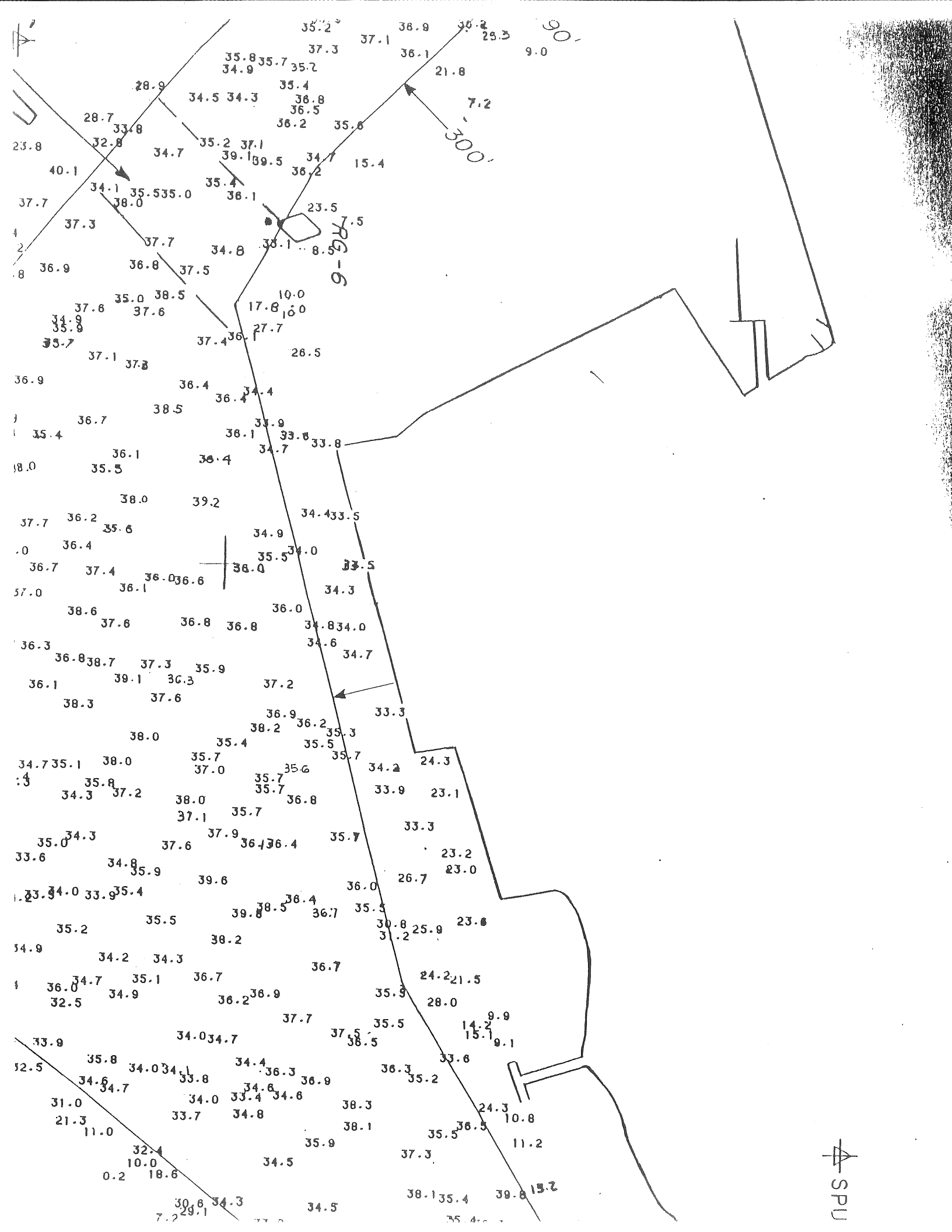
DATE JUNE 1992

SCALE: 1" = 200' | SPEC. NO. DACW 33

DRAWING NUMBER
2370

SHEET 5 OF 5

SEE NOAA CHART 13292


90'
300'
9-RG-6
SPU

Facsimile Cover Sheet

To: Kandi Talbot / Jim Seymour

Company: Portland / STI

Phone:

Fax: 756-8258 / 856-2206

From: Jim W

Company: DeLuca-Hoffman Associates, Inc.
Phone: (207) 775-1121
Fax: (207) 879-0896

Date: 10/31/97

Pages including this cover page: 2

Comments:

DeLUCA HOFFMAN ASSOCIATES, INC.
CONSULTING ENGINEERS

778 MAIN STREET
SUITE 8
SOUTH PORTLAND, MAINE 04106
TEL. 207 775 1121
FAX 207 879 0896

- ROADWAY DESIGN
- ENVIRONMENTAL ENGINEERING
- TRAFFIC STUDIES AND MANAGEMENT
- PERMITTING
- AIRPORT ENGINEERING
- SITE PLANNING
- CONSTRUCTION ADMINISTRATION

MEMORANDUM

TO: Kandi Talbot, Planner

FROM: Jim Wendel, P.E., Development Review Coordinator

DATE: October 31, 1997

RE: Paving of Metals Stockpile Yard-Site Plan Review
Merrill Industries, Inc.
601 Danforth Street

A review of the revised site plan has been completed. The applicant has satisfactorily responded to my concerns and have no further technical comments.

Should you have any questions please call.

c. Jim Seymour, STI

JN1353.02/disk3/merril2.doc

From: Anthony Lombardo
To: kcote
Date: 10/29/97 3:01pm
Subject: Merrill's Marine Terminal

The following comments were generated during Public Works Engineering review of the plans received on Oct. 9, 1997.

DRAINAGE & GRADING PLAN
1. applicant needs to specify the Vortech's model to be used for this development.
2. applicant should should provide a construction detail specifying thicknesses of subbase, base and pavement.
3. applicant needs to provide maintenance schedule for the treatment tank.

DeLUCA HOFFMAN ASSOCIATES, INC.
CONSULTING ENGINEERS

778 MAIN STREET
SUITE 8
SOUTH PORTLAND, MAINE 04106
TEL. 207 775 1121
FAX 207 879 0896

- ROADWAY DESIGN
- ENVIRONMENTAL ENGINEERING
- TRAFFIC STUDIES AND MANAGEMENT
- PERMITTING
- AIRPORT ENGINEERING
- SITE PLANNING
- CONSTRUCTION ADMINISTRATION

MEMORANDUM

TO: Kandi Talbot, Planner

FROM: Jim Wendel, P.E., Development Review Coordinator

DATE: October 29, 1997

RE: Paving of Metals Stockpile Yard-Site Plan Review
Merrill Industries, Inc.
601 Danforth Street

A review of the site plan has been completed. I offer the following comments:

1. The stormwater analysis implies that all the runoff from the stockpile yard will drain to the pond and treatment system. Based on a site visit, the proposed grading does not indicate that intent.

2. The calculation output of pond 1 does not match the proposed plan. The plan has an 18" outlet pipe Vs the 12" outlet pipe in the calcs; the peak flow out will be different. Will the revised increased peak flow be compatible with the treatment system size indicated in the report? The limit of the pond is not clear; based on my site visit, it appears that containment of runoff up to elevation 13.8 will not occur. If elevation 13.8 is intended to be the top of the existing bit curb, than containment will not occur. Their is a break in the existing curb for access to the existing wooden dock ramp and the contouring of the drive to the south indicates that the "pond" is open. The pond shape should be clearly defined.

3. If the schedule of the project is to complete it this season, than recommend that the questions raised in item 2 above be resolved now and have an asbuilt drawing submitted after the work is completed that substantiates conformance with item 1. It should be made clear to the owner that the work must conform to the analysis. Also, a final copy of the shop drawing for the stormwater treatment system should be submitted to the planning department.

Should you have any questions please call.

c, Jim Seymour, STI

JN1353.02/disk3/merrill.doc

Facsimile Cover Sheet

To: KANDI TALBOT, JIM SEYMOUR

Company: PORTLAND, STI

Phone:

Fax: 756-8258, 856-2206

From: Jim W.

Company: DeLuca-Hoffman Associates, Inc.
Phone: (207) 775-1121
Fax: (207) 879-0896

Date: 10/29/97

Pages including this cover page: 2

Comments:

From: Anthony Lombardo
To: kcote
Date: 10/29/97 3:01pm
Subject: Merrill's Marine Terminal

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2. applicant should should provide a construction detail specifying thicknesses of subbase, base and pavement.
3. applicant needs to provide maintenance schedule for the treatment tank.

Dev. Review Mtg -
- 10/16/97

1. removing contaminated soils
- capping - containing — / over clay

2. Applied for NRPA permit
DEQ approved design

Q.M.'s quiet
1) no grades in to westerly corners —
-no clear drainage will go
into system 1/3 —
-check on site —
written implied all

2) maintenance record?
-adopt maintenance record —

3) nature of materials — removed sediment
-do you want to know
how remedied / special
hand

merge 4) Maximum Height of piles (>)
- can we consider ing / ask quest.
- W - 45'

5) will review stormwater more closely -

Please show -

PD Merrill Site on Danforth Street

they are paving area where stockpile exists

issue will be for Jim to review system they will be using for water quality

97282

STORMWATER MANAGEMENT PLAN

Recycled Metal Handling and Storage Area
Merrill's Marine Technical
Portland, Maine

Introduction

The Stormwater Management Plan has been prepared to evaluate the pre and post-development conditions associated with the construction of a paved pad surface of the Merrill Marine Terminals Recycled Metal Handling and Storage Area.

The project site will entail construction of approximately 2 acres of paved surface, with installation of a catchbasin and stormwater treatment system. Currently Merrill Marine Terminal operates a metal recycling handling area on the project site. The piles of recycled metal are stored on a bare compacted soil surface. The operation activities with heavy equipment continuously disturb the surface and also soil the metal. The owner proposes to stabilize the work area to promote cleaner metal and provide a cleaner, more stabilized work area. In addition the owner has proposed proactive measures to pre-treat the site runoff prior to running off the site. Currently the runoff from the site runs unabated to the Fore River via sheet and shallow flows.

Methodology

The stormwater runoff analysis has been developed in accordance with methodology outlined in "Urban Hydrology for Small Watersheds", Technical Release No. 55, USDA Soil Conservation Service and HydroCAD Stormwater Modeling System, Version #4. From these methods, the 2, 10 and 25-year storm event was used to calculate peak rates of runoff.

Soils

Soils information used for the stormwater evaluation were obtained from observations made at the site. It appears that the current operation has compacted the topsoil and metal residue to a near impervious condition. Based on the Cumberland County Medium Intensity Soil Survey Manual the underlying soils on the site are Scantic silty loam. The recommended Hydrologic classification for Scantic soils and for highly compacted soils is "D" soil class.

Watersheds (Pre and Post-Conditions)

The pre and post-development watershed areas will remain the same in size and direction in which they flow. The only change to occur is that the existing surface is compacted metal debris and gravelly sands, while the proposed surface will be bituminous pavement.

The pre-developed condition consists of a 2.4 acre area of existing scrap metal piles, gravel access, paved access, and a portion of a salt storage building. The sites topography is sloped at 1% to 3% toward the shoreside of the Fore River. Runoff is through sheet flows and shallow concentrated flows to the lower sections of the site and are eventually discharged into the Fore River. A swale along the western property line which has no defined banks, travels parallel to the property toward the Fore River. This swale diverts offsite flows generated from the Maine Central Railroad tracks and Veterans Bridge area toward the shore. Current the upper reaches located on the site are not protected or vegetated.

The post-developed watershed is the same area as the pre-developed watershed but has been graded to separate on-site generated runoff from offsite runoff. In addition the offsite generated runoff will be diverted to a constructed swale consisting of a combination of vegetation with erosion control mesh and stone riprap. This will provide stabilization and promote erosion and sedimentation control.

The on-site runoff will be collected via a paved swale and proposed catchbasin located at the bottom of the site next to the shoreline bank. There, the runoff will be directed to either a Vortechs Stormwater Treatment System manufactured by Vortechnics, Inc. or a Downstream Defender as manufactured by H.I.L. Technology , Inc. The owner has proposed this protective measure of collection and treatment of the scrap/recycled metal pile runoff for the probability of grease/oil and metal debris/sediment. Based on the data available it is apparent that vortex flow technology can provide excellent removal of both materials in a space effective manner.

Stormwater Management

The following summary table presents the results of the stormwater calculations for the peak runoff rate in the 2, 10, and 25-year storm event:

Stormwater Runoff Summary Table

Storm Event	Watershed Ac.	Avg. CN Value	Peak Runoff Rates 25-Year Storm
Pre-Developed Condition			
2-Yr	2.4	95	6.5 cfs
10-Yr	2.4	95	10.6 cfs
25-Yr	2.4	95	12.5 cfs
Post-Developed Condition			
2-Yr	2.10	985	6.5 cfs
10-Yr	10.70	98	7.7 cfs
25-Yr	4.25	98	8.2 cfs

The stormwater calculations were performed to determine if any increase in the peak runoff rates associated with the development of this project were observed. As illustrated in the tables, calculations for the peak rates of runoff at the watershed boundary suggests a slight decrease in the runoff rate from the pre to post-development condition. The proposed treatment system will cause a temporary backup on the site which will decrease the discharge rate from the system. The treatment system will be designed to treat runoff rates up to the 10-year storm event. Rates greater than the 10-year event will exceed the tanks capacity, backup the system, overflow the channel area near the shoreline and flow over the riprap embankment to the waterline. Following the peak of the 10-year storm the system will continue to operate and eventually drop the ponding elevations.

In the event of a large storm the tank will treat up to 10-year storm capacity and we believe the remainder of stormwater will overflow into the Fore River. This design is more conservative than most measures accepted to treat the first ½" to 1" of "first flush" runoff.

Summary

Due to the implementation of a catchbasin and stormwater treatment system, the runoff rate impact will be decreased and the quality will be enhanced greatly. The on-site surface water as proposed will be directed into a designed channel to be treated. The off-site water will be directed into a constructed swale protected from erosion. In the pre-developed condition both cases did not have either adequate erosion control or direction. In addition to the erosion and stabilization measures, the owner has provided means to treat stormwater prior to discharging into the Fore River.

The site will be graded such that runoff will be directed in the same general area as the pre-developed condition. However, the paved surface and treatment system will provide a more stable work area, discourage erosion and sedimentation, provide a cleaner product for the owner, and enhance the quality of stormwater leaving the project site. The improvements of this site not only improve runoff rates but also improve the water quality of the surrounding environment and Fore River system.

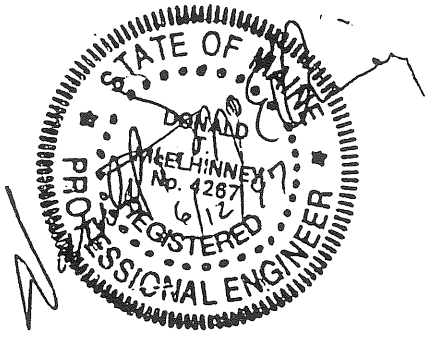
Prepared by:

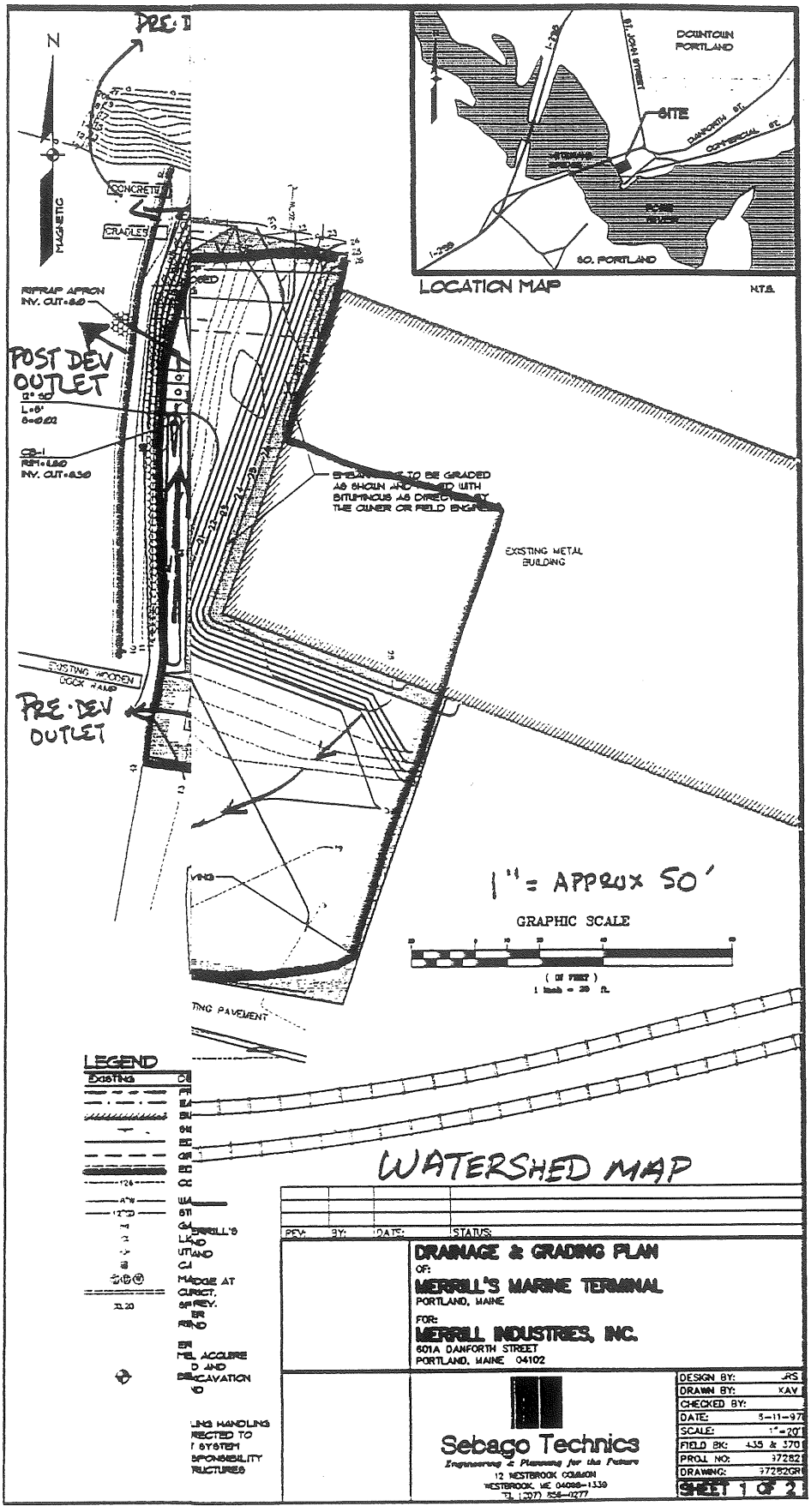
SEBAGO TECHNICS, INC.

James R. Seymour

James R. Seymour
Project Engineer

JRS:dlf
June 12, 1997





REV:	BY:	DATE:	STATUS:

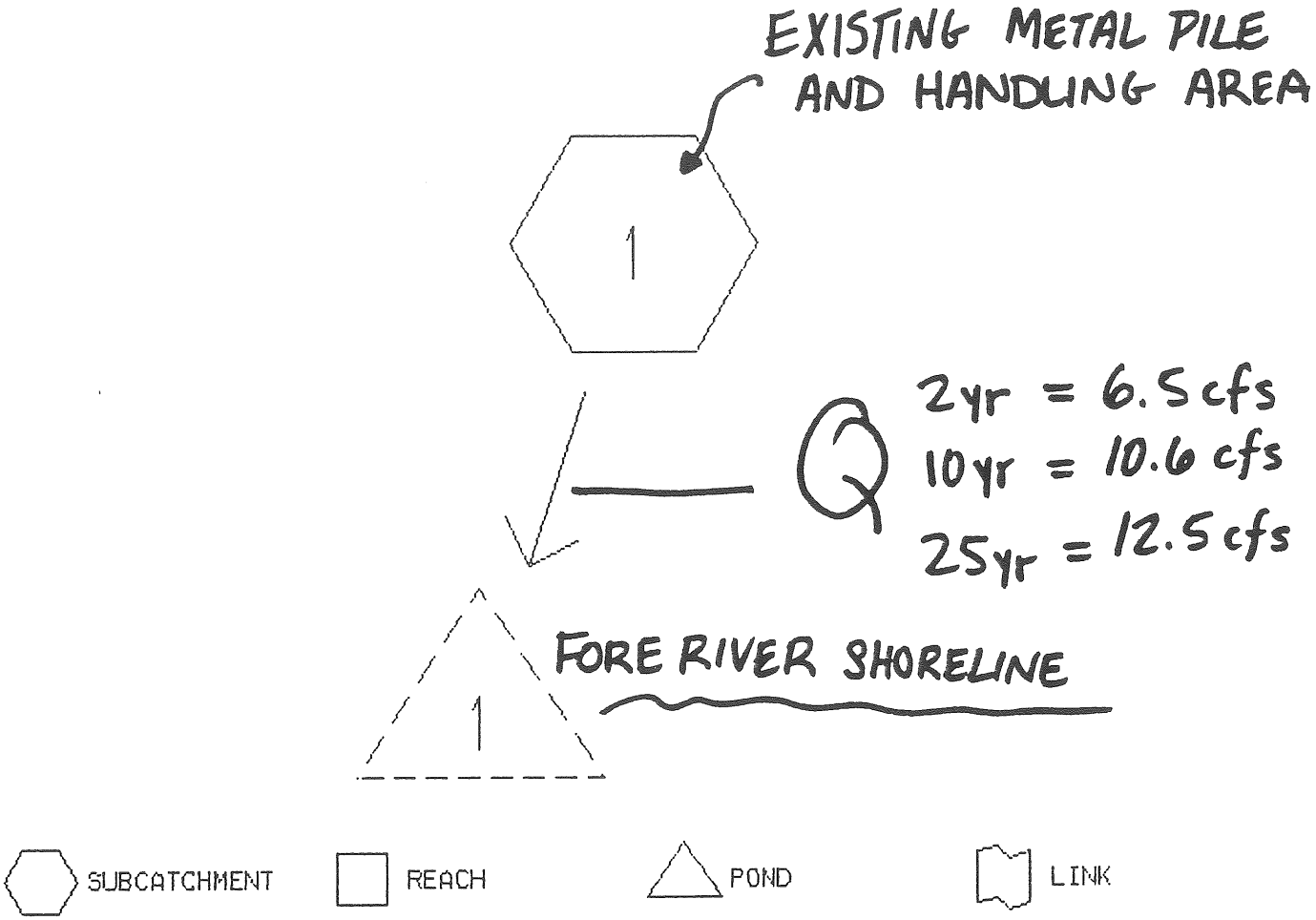
DRAINAGE & GRADING PLAN
OF:
MERRILL'S MARINE TERMINAL
PORTLAND, MAINE
FOR:
MERRILL INDUSTRIES, INC.
601A DANFORTH STREET
PORTLAND, MAINE 04102

Sebago Technics
Engineering & Planning for the Future
12 WESTBROOK COMMON
WESTBROOK, ME 04092-1339
TEL (207) 856-0277

DESIGN BY:	JRS
DRAWN BY:	KAV
CHECKED BY:	
DATE:	5-11-97
SCALE:	1"=20'
FIELD BK:	435 & 370
PROJ. NO:	372823
DRAWING:	372823GR
SHEET 1 OF 2	

Data for MERRILL'S MAR. TERM - METAL RECYLING AREA predev PRE-DEV.
TYPE III 24-HOUR RAINFALL= 3.0 IN
Prepared by SEBAGO TECHNICS, INC. 11 Jun 9
HydroCAD 4.00 000509 (c) 1986-1995 Applied Microcomputer Systems

WATERSHED ROUTING ==========



Data for MERRILL'S MAR. TERM - METAL RECYLING AREA predev 2YR
TYPE III 24-HOUR RAINFALL= 3.0 IN
Prepared by SEBAGO TECHNICS, INC. 11 Jun
HydroCAD 4.00 000509 (c) 1986-1995 Applied Microcomputer Systems

SUBCATCHMENT 1 PILE AREA

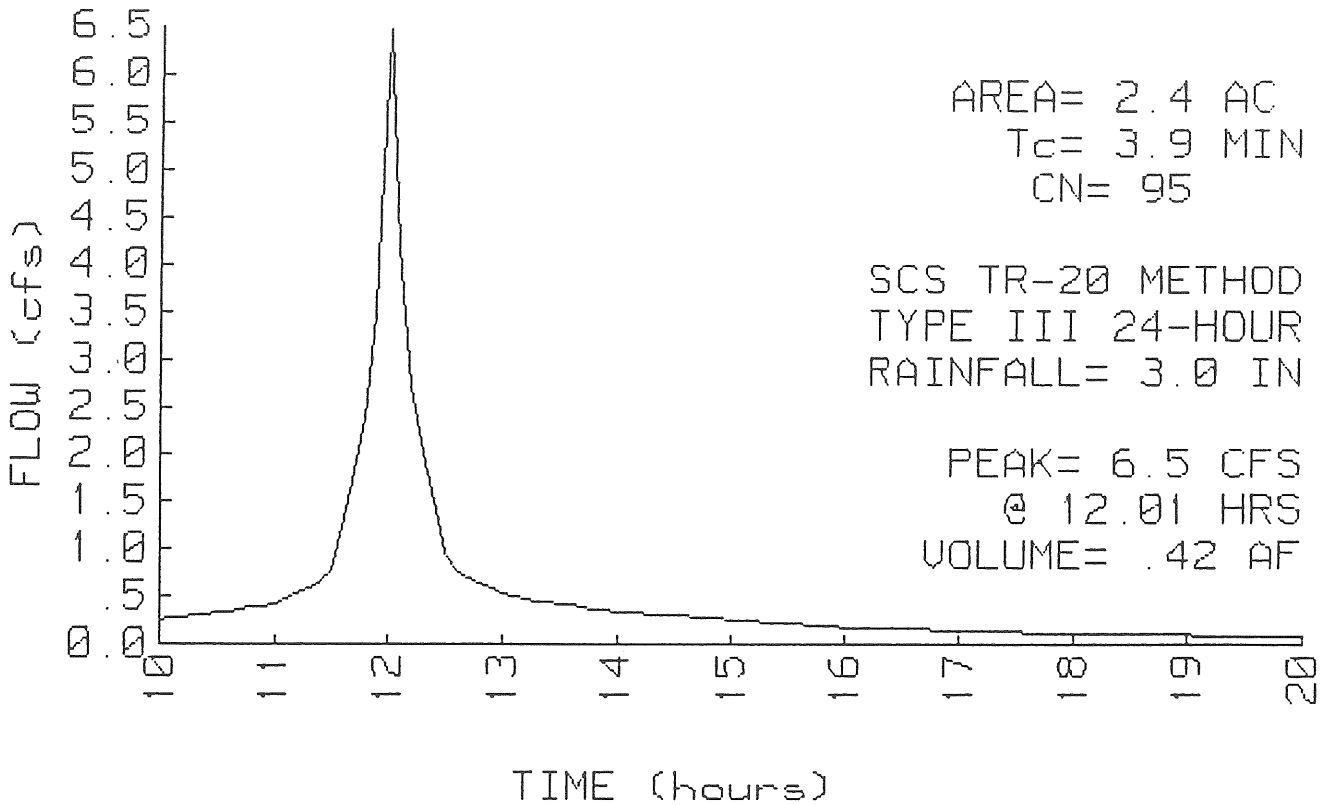
PEAK= 6.5 CFS @ 12.01 HRS, VOLUME= .42 AF

ACRES	CN	
2.40	95	compacted surface and paving

SCS TR-20 METHOD
TYPE III 24-HOUR
RAINFALL= 3.0 IN
SPAN= 10-20 HRS, dt=.1 HRS

Method	Comment	Tc (min
TR-55 SHEET FLOW	SHEET FLOW	2.4
Smooth surfaces n=.011 L=200'	P2=3 in s=.015 '/'	
SHALLOW CONCENTRATED/UPLAND FLOW	SHALLOW FLOW	1.5
Kv=18 L=230' s=.02 '/' V=2.55 fps		
	Total Length= 430 ft	Total Tc= 3.9

SUBCATCHMENT 1 RUNOFF
PILE AREA



10YR

Data for MERRILL'S MAR. TERM - METAL RECYLING AREA predev
TYPE III 24-HOUR RAINFALL= 4.7 IN
Prepared by SEBAGO TECHNICS, INC. 11 Jun 97
HydroCAD 4.00 000509 (c) 1986-1995 Applied Microcomputer Systems

SUBCATCHMENT 1 PILE AREA

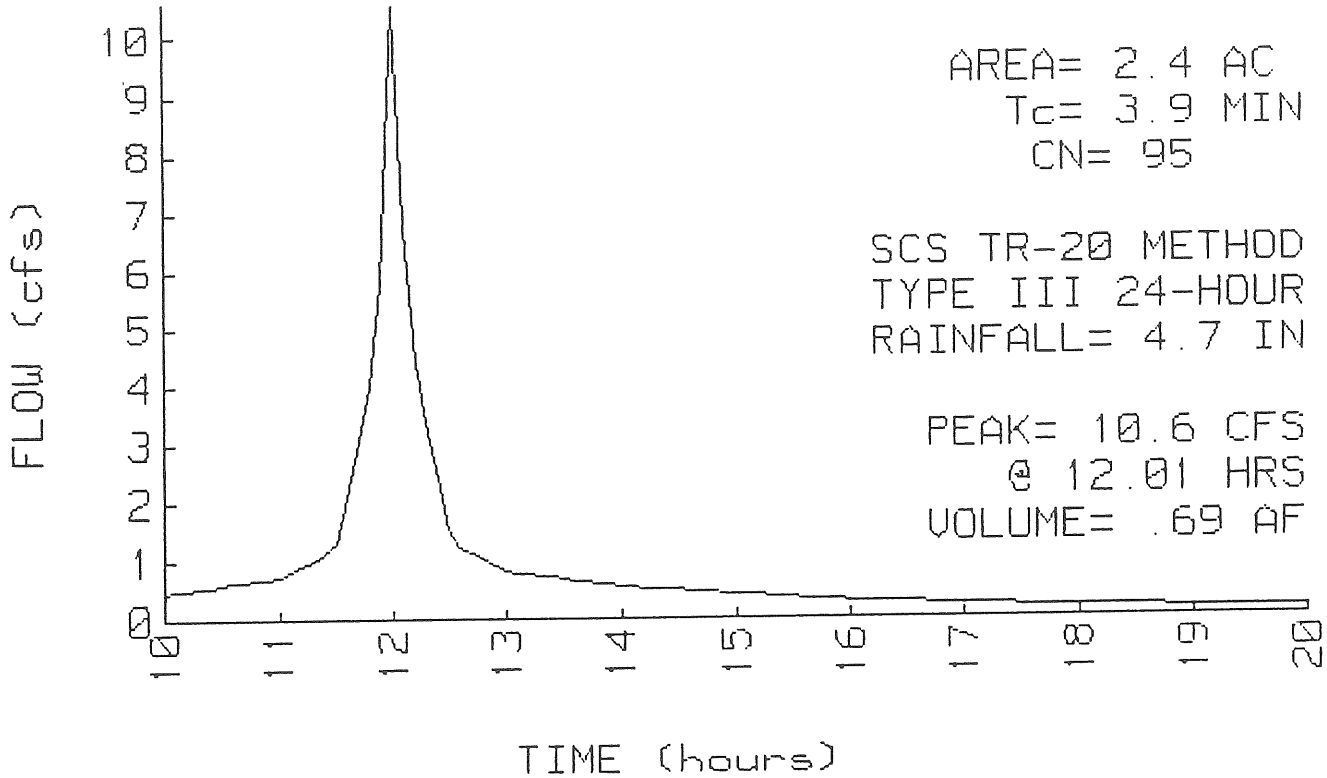
PEAK= 10.6 CFS @ 12.01 HRS, VOLUME= .69 AF

ACRES	CN	
2.40	95	compacted surface and paving

SCS TR-20 METHOD
TYPE III 24-HOUR
RAINFALL= 4.7 IN
SPAN= 10-20 HRS, dt=.1 HRS

Method	Comment	Tc (min)
TR-55 SHEET FLOW	SHEET FLOW	2.4
Smooth surfaces n=.011 L=200'	P2=3 in s=.015 '/'	
SHALLOW CONCENTRATED/UPLAND FLOW	SHALLOW FLOW	1.5
Kv=18 L=230' s=.02 '/' V=2.55 fps		
	Total Length= 430 ft	Total Tc= 3.9

SUBCATCHMENT 1 RUNOFF
PILE AREA



Data for MERRILL'S MAR. TERM - METAL RECYLING AREA predev 25YR
TYPE III 24-HOUR RAINFALL= 5.5 IN
Prepared by SEBAGO TECHNICS, INC. 11 Jun 97
HydroCAD 4.00 000509 (c) 1986-1995 Applied Microcomputer Systems

SUBCATCHMENT 1 PILE AREA

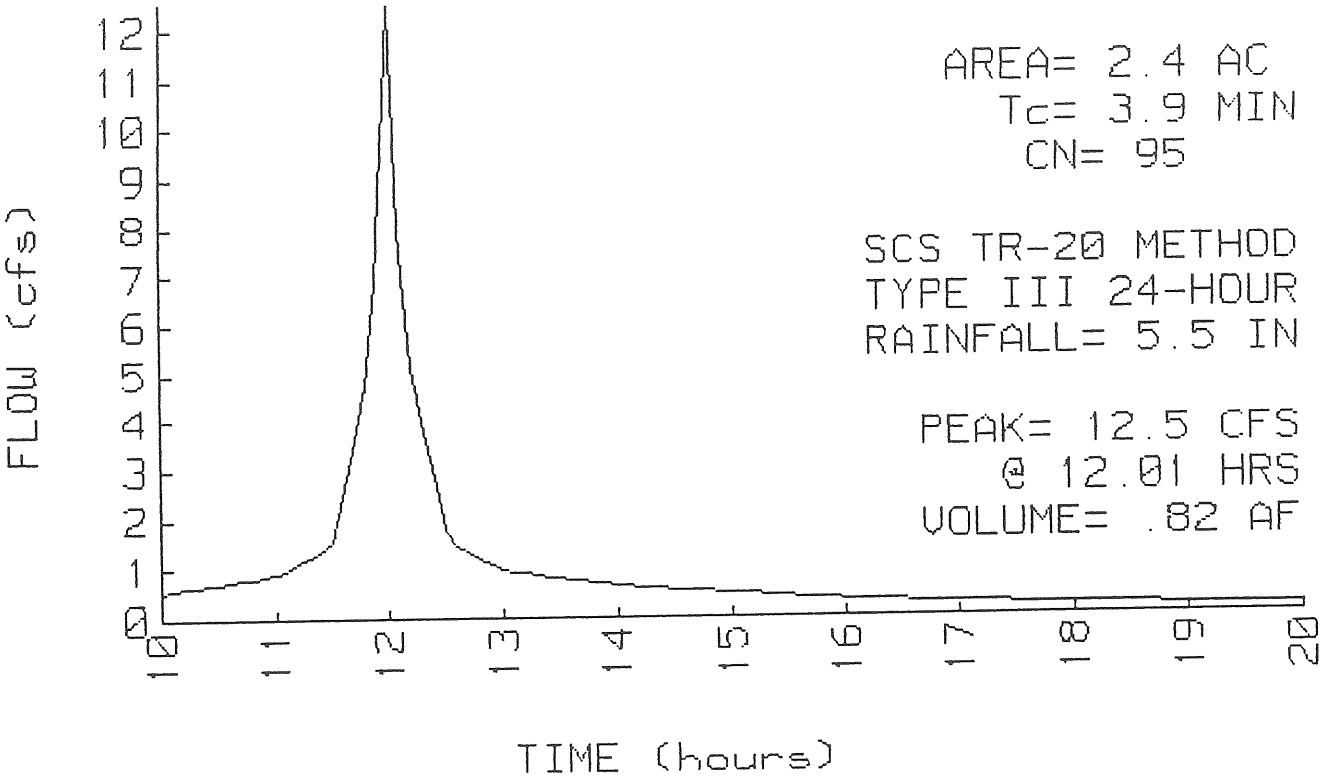
PEAK= 12.5 CFS @ 12.01 HRS, VOLUME= .82 AF

ACRES	CN	
2.40	95	compacted surface and paving

SCS TR-20 METHOD
TYPE III 24-HOUR
RAINFALL= 5.5 IN
SPAN= 10-20 HRS, dt=.1 HRS

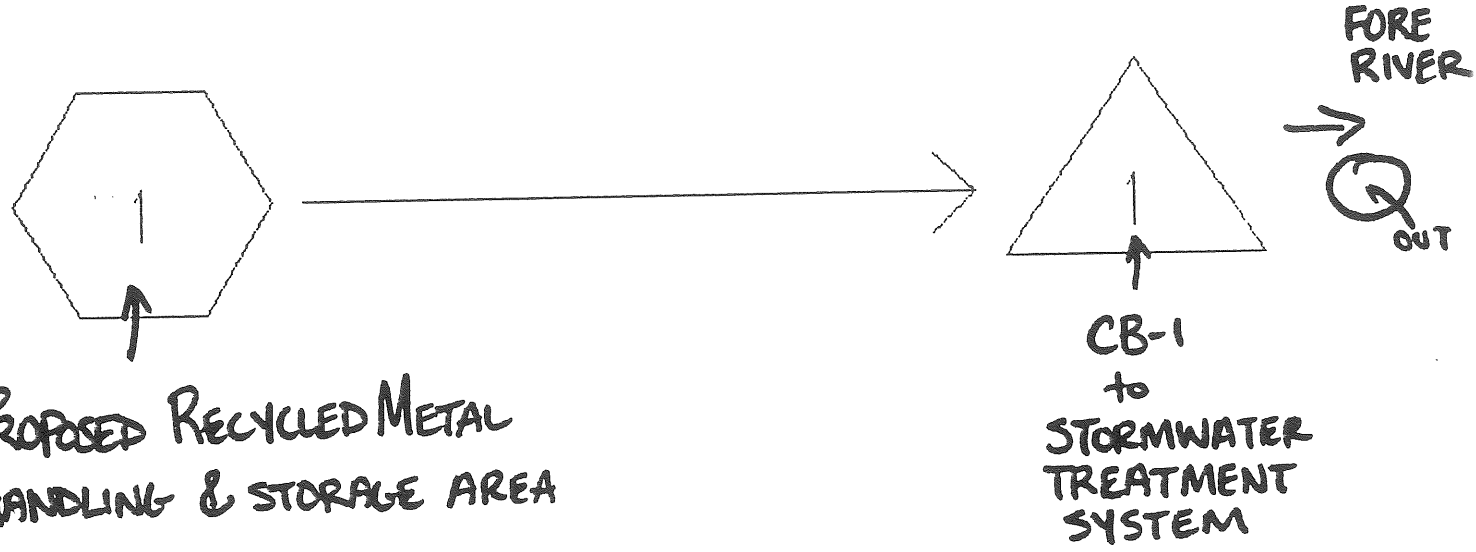
Method	Comment	Tc (min)
TR-55 SHEET FLOW	SHEET FLOW	2.4
Smooth surfaces n=.011 L=200'	P2=3 in s=.015 '/'	
SHALLOW CONCENTRATED/UPLAND FLOW	SHALLOW FLOW	1.5
Kv=18 L=230' s=.02 '/'	V=2.55 fps	
	Total Length= 430 ft	Total Tc= 3.9

SUBCATCHMENT 1 RUNOFF
PILE AREA



Data for MERRILL'S MAR. TERM - METAL RECYLING AREA POST-DEV.
TYPE III 24-HOUR RAINFALL= [redacted]
Prepared by SEBAGO TECHNICS, INC. 11 Jun 97
HydroCAD 4.00 000509 (c) 1986-1995 Applied Microcomputer Systems

WATERSHED ROUTING ==========



PROPOSED RECYCLED METAL HANDLING & STORAGE AREA

CB-1 to STORMWATER TREATMENT SYSTEM

SUBCATCHMENT REACH POND LINK

Q_{OUT}

2 YR = 6.5 cfs
10 YR = 7.7 cfs
25 YR = 8.2 cfs

Data for MERRILL'S MAR. TERM - METAL RECYLING AREA
TYPE III 24-HOUR RAINFALL= 3.0 IN

2 YR

11 Jun 97

Prepared by SEBAGO TECHNICS, INC.
HydroCAD 4.00 000509 (c) 1986-1995 Applied Microcomputer Systems

SUBCATCHMENT 1 PILE AREA

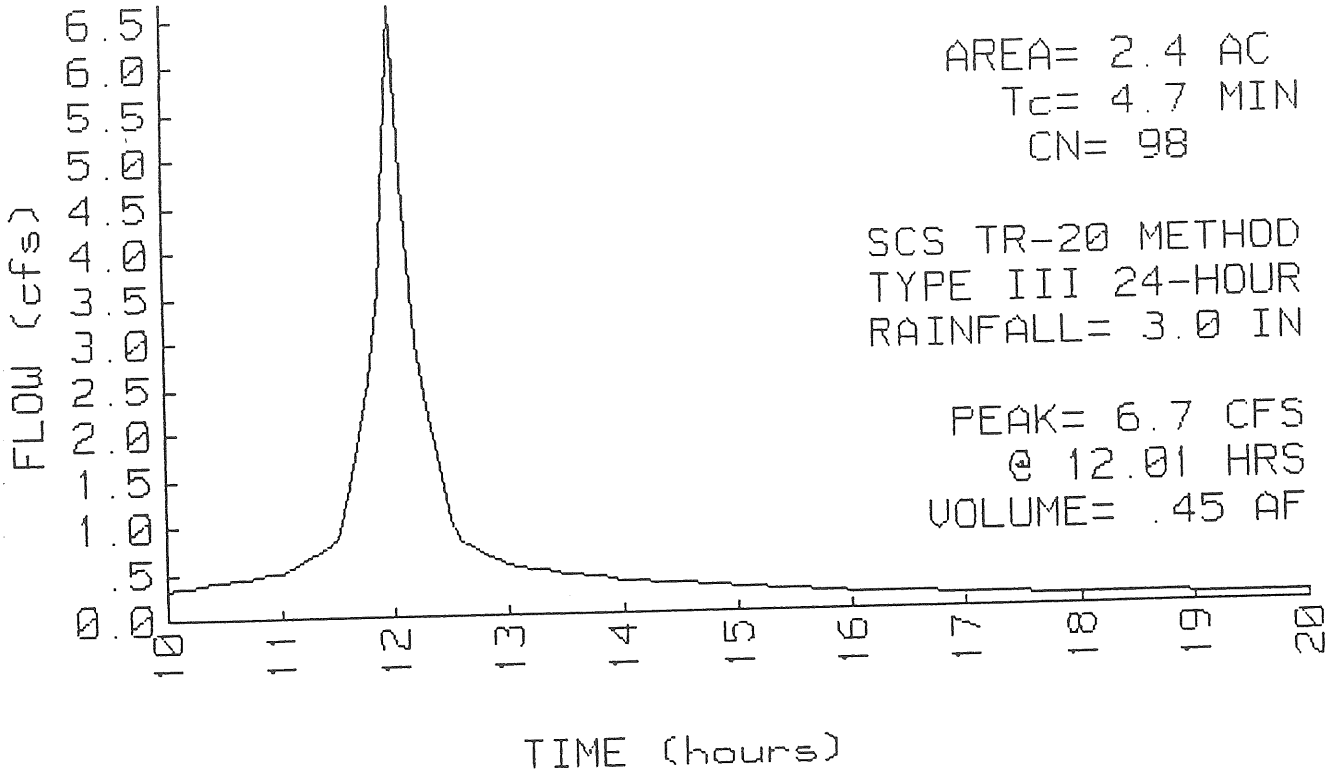
PEAK= 6.7 CFS @ 12.01 HRS, VOLUME= .45 AF

ACRES	CN	
2.40	98	PAVED

SCS TR-20 METHOD
TYPE III 24-HOUR
RAINFALL= 3.0 IN
SPAN= 10-20 HRS, dt=.1 HRS

Method	Comment	Tc (min)
TR-55 SHEET FLOW	SHEET FLOW	2.6
Smooth surfaces n=.011 L=200'	P2=3 in s=.0125 '/'	
SHALLOW CONCENTRATED/UPLAND FLOW	SHALLOW FLOW	2.1
Paved Kv=20.3282 L=280'	s=.0125 '/' V=2.27 fps	
	Total Length= 480 ft	Total Tc= 4.7

SUBCATCHMENT 1 RUNOFF
PILE AREA



Data for MERRILL'S MAR. TERM - METAL RECYLING AREA
TYPE III 24-HOUR RAINFALL= 3.0 IN
Prepared by SEBAGO TECHNICS, INC.
HydroCAD 4.00 000509 (c) 1986-1995 Applied Microcomputer Systems

2YR

11 Jun

POND 1 SWALE CATCH BASIN

Qin = 6.7 CFS @ 12.01 HRS, VOLUME= .45 AF
Qout= 6.5 CFS @ 12.02 HRS, VOLUME= .46 AF, ATTEN= 2%, LAG= .7 MIN

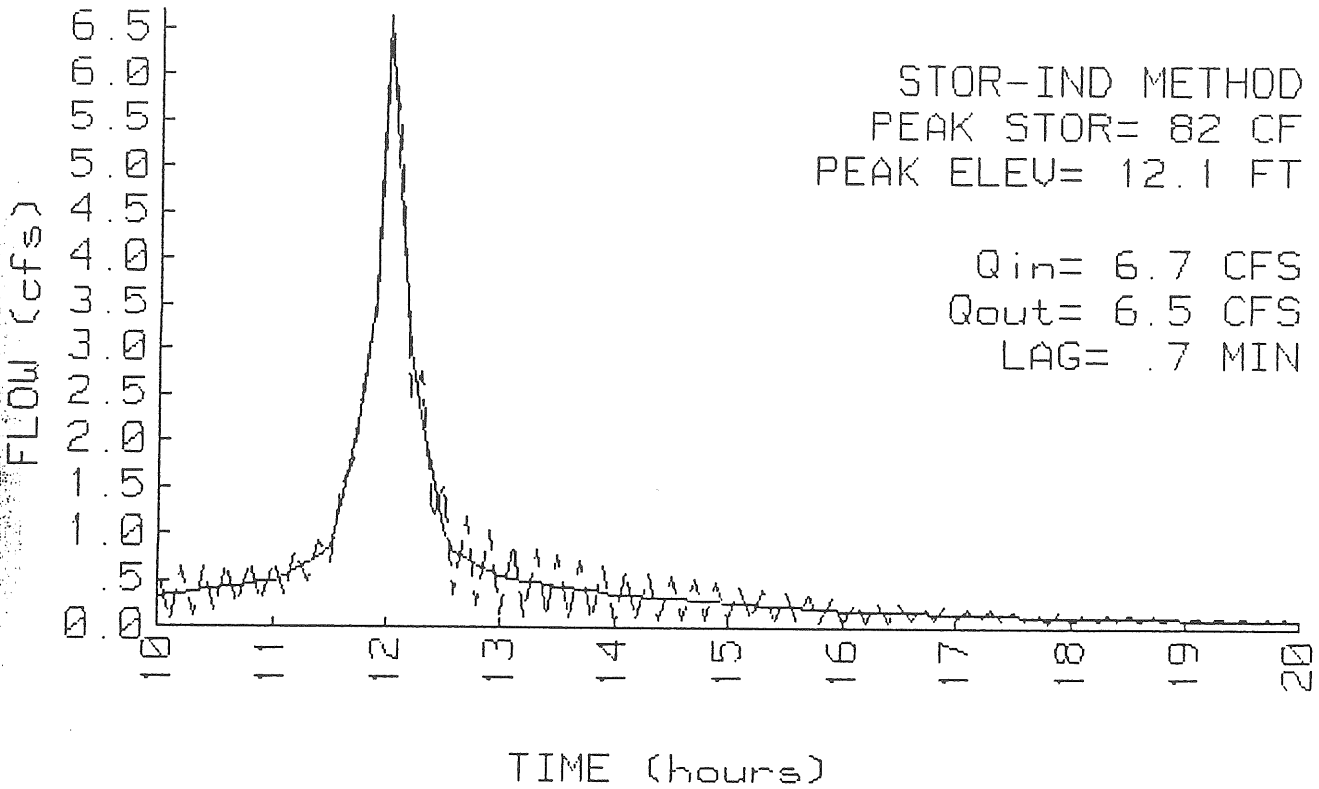
ELEVATION (FT)	AREA (SF)	INC.STOR (CF)	CUM.STOR (CF)
8.0	0	0	0
11.0	13	19	19
12.0	40	26	45
13.0	630	335	380
13.8	2000	1052	1432

STOR-IND METHOD
PEAK STORAGE = 82 C
PEAK ELEVATION= 12.1 F
FLOOD ELEVATION= 13.6 F
START ELEVATION= 8.0 F
SPAN= 10-20 HRS, dt=.1 HR

#	ROUTE	INVERT	OUTLET DEVICES
1	P	8.3'	12" CULVERT

n=.011 L=5' S=.02'/' Ke=.6 Cc=.9 Cd=.56

POND 1 INFLOW & OUTFLOW
SWALE CATCH BASIN



Data for MERRILL'S MAR. TERM - METAL RECYLING AREA
TYPE III 24-HOUR RAINFALL= 4.7 IN

10 YR

Prepared by SEBAGO TECHNICS, INC. 11 Jun 9
HydroCAD 4.00 000509 (c) 1986-1995 Applied Microcomputer Systems

SUBCATCHMENT 1 PILE AREA

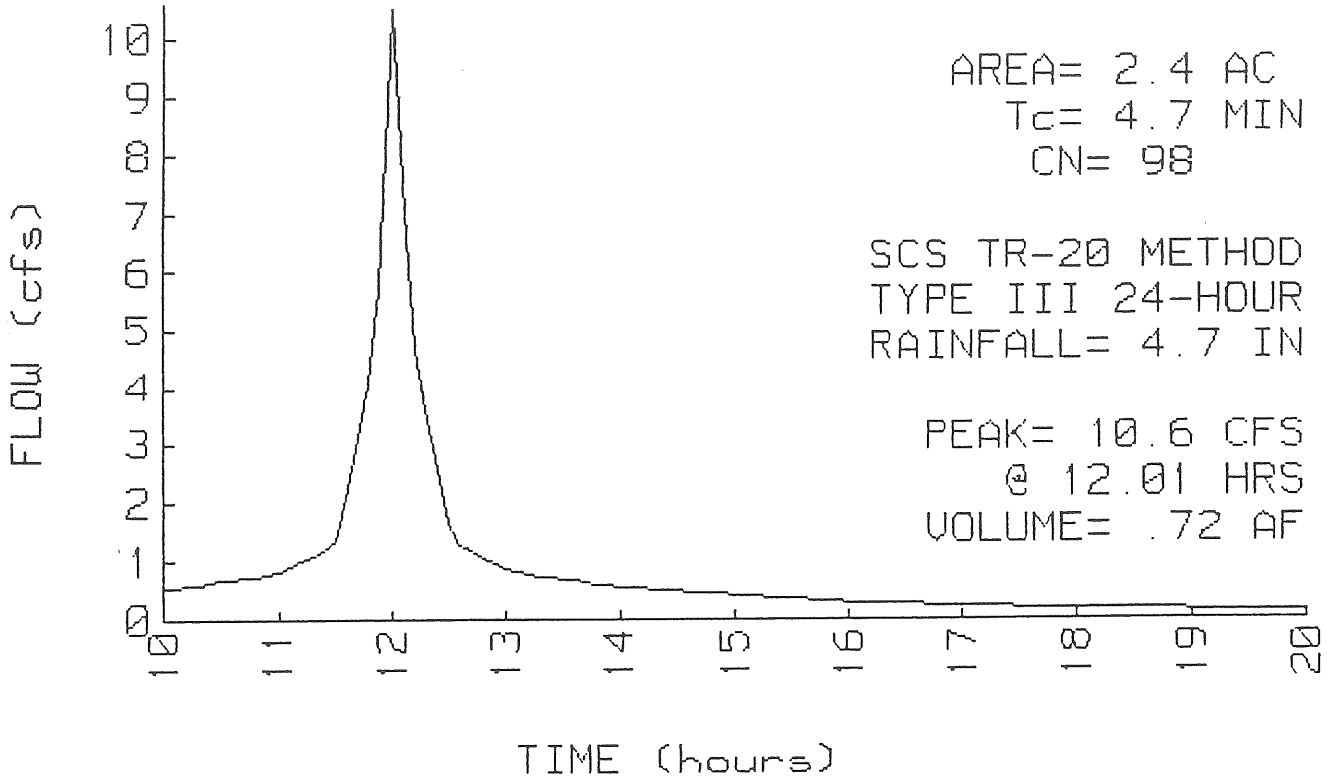
PEAK= 10.6 CFS @ 12.01 HRS, VOLUME= .72 AF

ACRES	CN	
2.40	98	PAVED

SCS TR-20 METHOD
TYPE III 24-HOUR
RAINFALL= 4.7 IN
SPAN= 10-20 HRS, dt=.1 HRS

Method	Comment	Tc (min
TR-55 SHEET FLOW	SHEET FLOW	2.6
Smooth surfaces n=.011 L=200'	P2=3 in s=.0125 '/'	
SHALLOW CONCENTRATED/UPLAND FLOW	SHALLOW FLOW	2.1
Paved Kv=20.3282 L=280'	s=.0125 '/' V=2.27 fps	
	Total Length= 480 ft	Total Tc= 4.7

SUBCATCHMENT 1 RUNOFF
PILE AREA



10 yr

Data for MERRILL'S MAR. TERM - METAL RECYLING AREA
TYPE III 24-HOUR RAINFALL= 4.7 IN
Prepared by SEBAGO TECHNICS, INC. 11 Jun 9
HydroCAD 4.00 000509 (c) 1986-1995 Applied Microcomputer Systems

POND 1 SWALE CATCH BASIN

Qin = 10.6 CFS @ 12.01 HRS, VOLUME= .72 AF
Qout= 7.7 CFS @ 12.10 HRS, VOLUME= .72 AF, ATTEN= 27%, LAG= 5.3 MIN

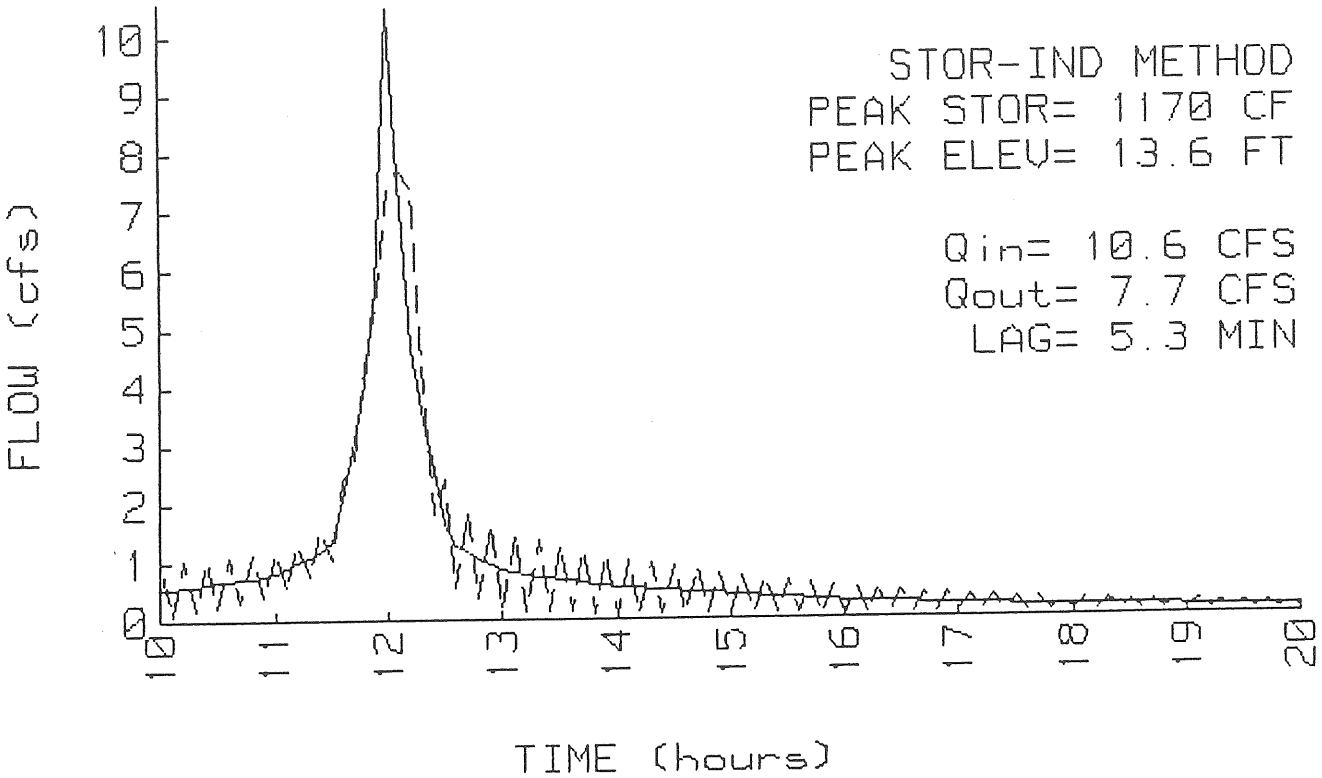
ELEVATION (FT)	AREA (SF)	INC.STOR (CF)	CUM.STOR (CF)
8.0	0	0	0
11.0	13	19	19
12.0	40	26	45
13.0	630	335	380
13.8	2000	1052	1432

STOR-IND METHOD
PEAK STORAGE = 1170 CF
PEAK ELEVATION= 13.6 FT
FLOOD ELEVATION= 13.6 FT
START ELEVATION= 8.0 FT
SPAN= 10-20 HRS, dt=.1 HRS

#	ROUTE	INVERT	OUTLET DEVICES
1	P	8.3'	12" CULVERT

n=.011 L=5' S=.02'/' Ke=.6 Cc=.9 Cd=.56

POND 1 INFLOW & OUTFLOW
SWALE CATCH BASIN



Data for MERRILL'S MAR. TERM - METAL RECYLING AREA
TYPE III 24-HOUR RAINFALL= 5.5 IN

25 YR

Prepared by SEBAGO TECHNICS, INC. 11 Jun 9
HydroCAD 4.00 000509 (c) 1986-1995 Applied Microcomputer Systems

SUBCATCHMENT 1 PILE AREA

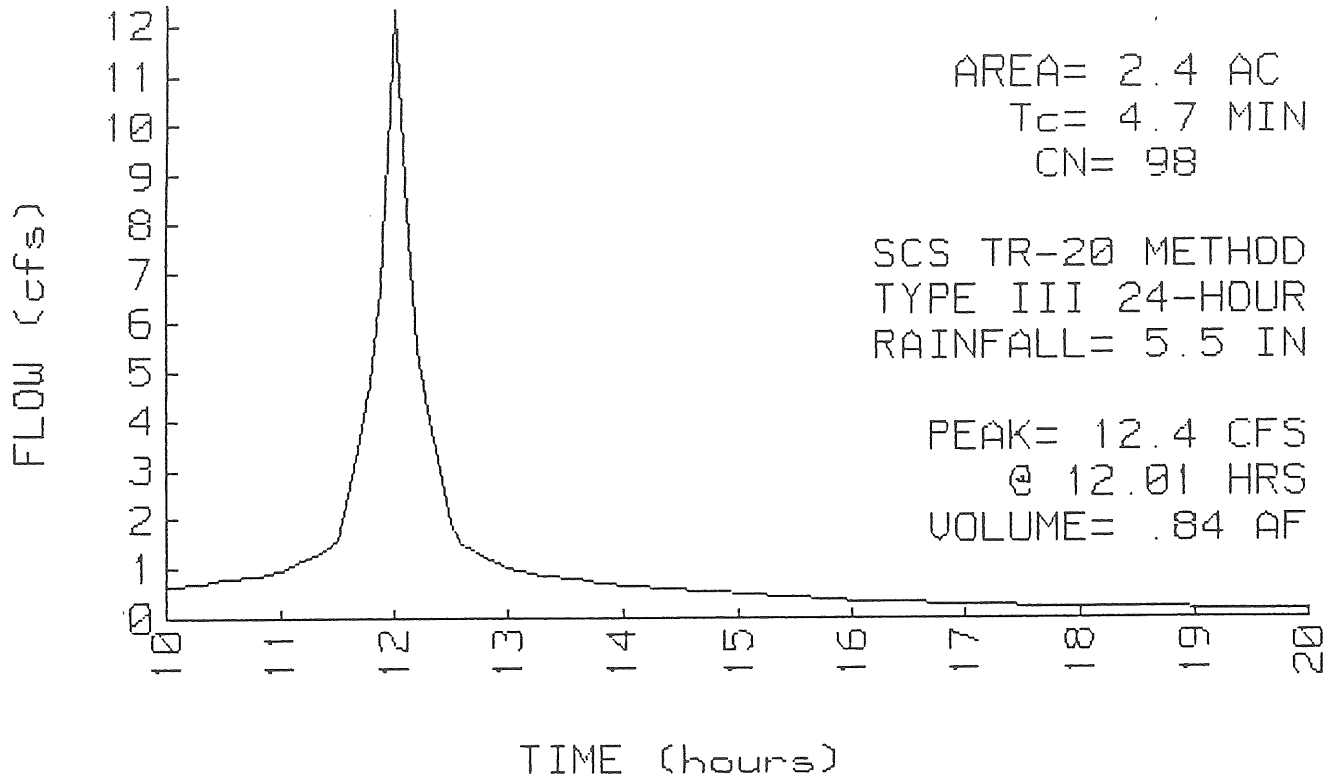
PEAK= 12.4 CFS @ 12.01 HRS, VOLUME= .84 AF

ACRES	CN	
2.40	98	PAVED

SCS TR-20 METHOD
TYPE III 24-HOUR
RAINFALL= 5.5 IN
SPAN= 10-20 HRS, dt=.1 HRS

Method	Comment	Tc (min
TR-55 SHEET FLOW	SHEET FLOW	2.6
Smooth surfaces n=.011 L=200'	P2=3 in s=.0125 '/'	
SHALLOW CONCENTRATED/UPLAND FLOW	SHALLOW FLOW	2.1
Paved Kv=20.3282 L=280'	s=.0125 '/' V=2.27 fps	
	Total Length= 480 ft	Total Tc= 4.7

SUBCATCHMENT 1 RUNOFF
PILE AREA



Data for MERRILL'S MAR. TERM - METAL RECYLING AREA
TYPE III 24-HOUR RAINFALL= 5.5 IN

25YR

Prepared by SEBAGO TECHNICS, INC. 11 Jun 97
HydroCAD 4.00 000509 (c) 1986-1995 Applied Microcomputer Systems

POND 1 SWALE CATCH BASIN

Qin = 12.4 CFS @ 12.01 HRS, VOLUME= .84 AF
Qout= 8.2 CFS @ 12.12 HRS, VOLUME= .85 AF, ATTEN= 34%, LAG= 6.8 MIN

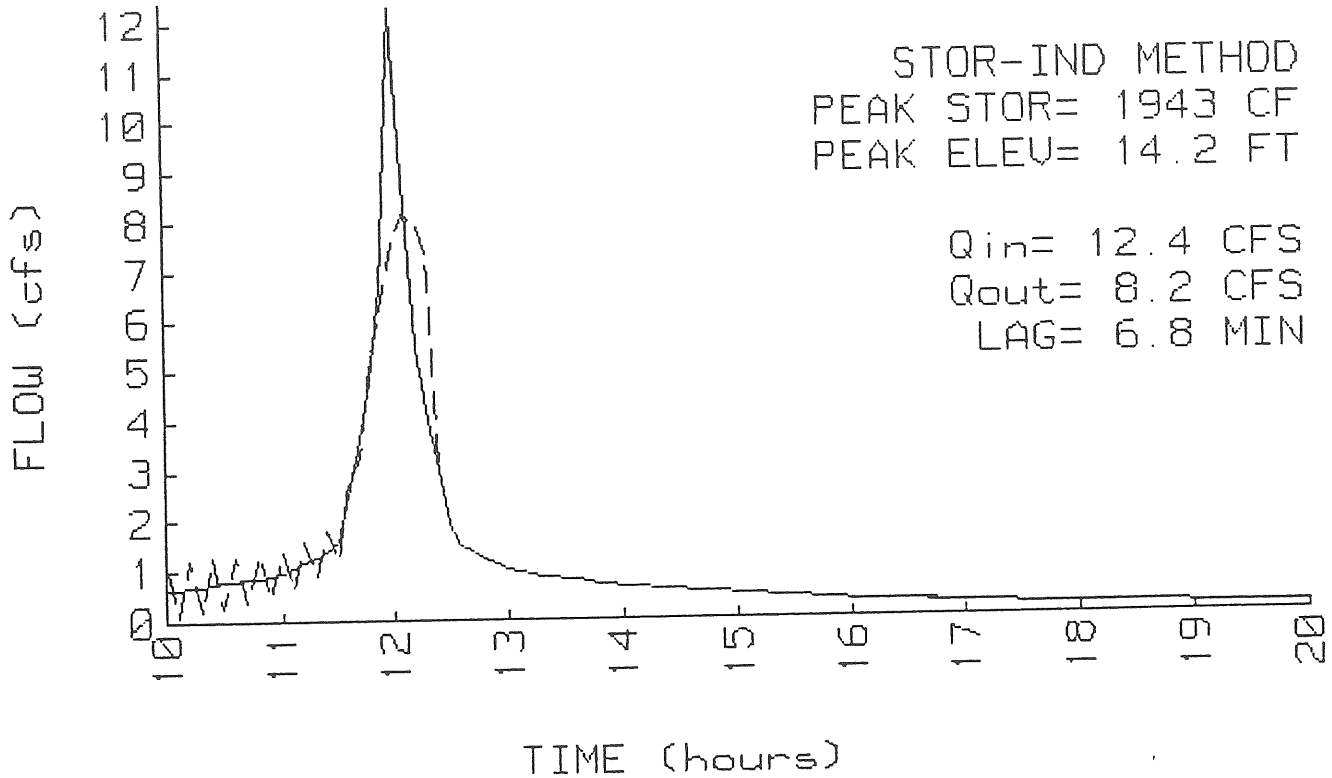
ELEVATION (FT)	AREA (SF)	INC.STOR (CF)	CUM.STOR (CF)
8.0	0	0	0
11.0	13	19	19
12.0	40	26	45
13.0	630	335	380
13.8	2000	1052	1432

STOR-IND METHOD
PEAK STORAGE = 1943 CF
PEAK ELEVATION= 14.2 FT
FLOOD ELEVATION= 13.6 FT
START ELEVATION= 8.0 FT
SPAN= 10-20 HRS, dt=.1 HRS

#	ROUTE	INVERT	OUTLET DEVICES
1	P	8.3'	12" CULVERT

n=.011 L=5' S=.02'/' Ke=.6 Cc=.9 Cd=.56

POND 1 INFLOW & OUTFLOW
SWALE CATCH BASIN



Vortechnics

Tom Adams

VORTECHS™ STORMWATER TREATMENT SYSTEM SPECIFICATIONS

Note: All information provided below is representative of typical and approximate sizes and construction details. Specific applications may deviate; Vortechnics can make alterations for shop drawing submittals on specific projects.

Vortechs™	Flow Rate (CFS / GPM)	Sediment Storage (C.Y.)	Oil Storage (GALLONS)	Weight (tons)	Size (LxWxH, ft)	
2000	2.8 / 1,300	1.5	350	17	10 x 4 x 8.25	-10.5K
3000	4.5 / 2,000	2.0	500	20	11 x 5 x 8.25	-12.5K
4000	6.0 / 2,800	3.0	700	25	12 x 6 x 8.25	-15K
5000	8.5 / 3,800	5.0	900	29	13 x 7 x 8.25	-16K
7000	11.0 / 5,000	6.0	1,200	33	14 x 8 x 8.25	-18K
9000	14.0 / 6,300	8.0	1,480	37	15 x 9 x 8.25	-21K
11000	17.5 / 7,800	10.0	2,400	42	16 x 10 x 8.25	-24K
16000	25.0 / 11,200	14.0	2,500	47	18 x 12 x 8.25	

MAINTENANCE: Inspect once every three months, or more often if conditions warrant, especially during the first year or when winter sanding is unusually heavy. Inspection consists of measuring depth of sediment in the sump and thickness of the layer of floating material. A record of the measurements should always be kept. Clean by pumping out just the swirl chamber whenever the sediment accumulates to within 6"-12" of the water surface or the floating layer reaches a thickness of 6" or more.

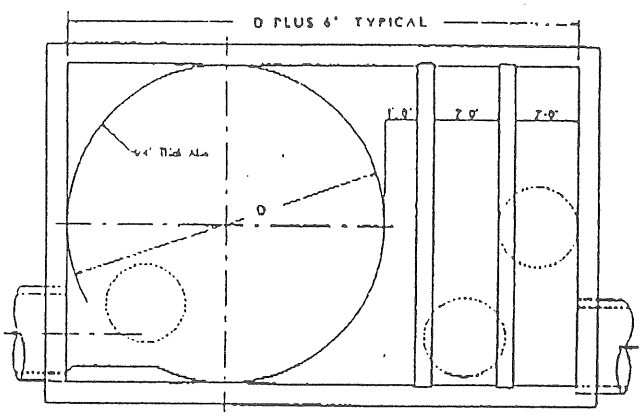
STRUCTURAL CHARACTERISTICS: Materials and structural calculations to be in accordance with ASTM C857 "Recommended Practice for Minimum Structural Design Loading for Underground Precast Concrete Utility Structures" and ASTM C858 "Specification for Underground Precast Utility Structures".

METAL COMPONENTS: Internal components: Grade 3031 aluminum with a minimum thickness of $^{1}/_{4}$-inch. Covers and supporting frames: ASTM specification A-48-83, Class 35B gray iron.

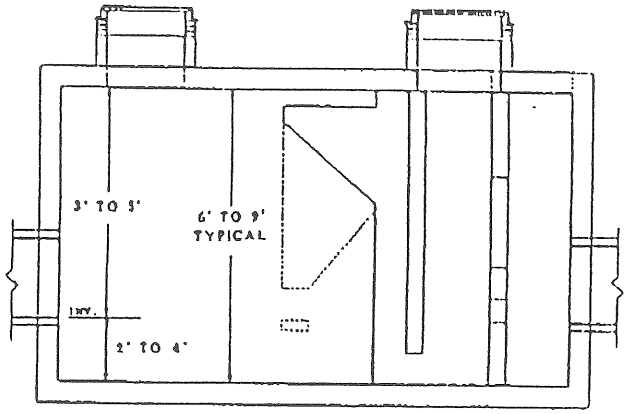
Vortechnics sizing criteria are based on 100 gpm/s.f. for peak flow or, in the case of installations which bypass peak flows, 24 gpm/s.f. for the 2-month storm. For very infrequent storms, (e.g. 25-year, 100-year), of short duration, a service factor of up to 1.4 may be applied to the peak flow rating.

Vortechnics

STORMWATER TREATMENT SYSTEM



PLAN VIEW



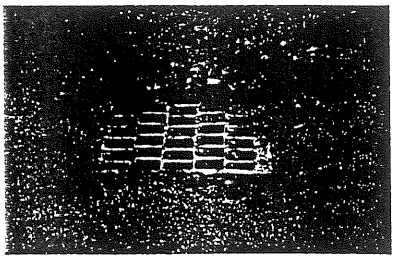
ELEVATION VIEW

MODEL	FLOW RATE c.f.s.	MAX PIPE INLET inches	SEDIMENT CHAMBER DIAMETER feet	TOTAL VOLUME gallons	SEDIMENT STORAGE cu.yards	CLEAN OUT VOLUME gallons
2000	3.0	18	4	2,100	1.5	360
3000	4.5	24	5	2,900	2.0	500
4000	6.0	30	6	3,800	3.0	900
5000	8.5	36	7	4,800	5.0	1,100
7000	11.0	42	8	7,500	6.0	1,400
9000	14.0	48	9	9,100	8.0	1,800
11000	17.0	54	10	11,000	10.0	2,100

Performance

The Downstream Defender regulates both the quality and quantity of stormwater runoff for more effective pollution control. Each installation is designed to achieve the performance objectives set forth in the U.S. EPA's National Pollutant Discharge Elimination System (NPDES) requirements.

- Typical results show overall removal efficiencies in excess of 90% of particles greater than 150 microns.
- It retains floatables, oils and grease.
- Interception of the first flush – a bypass is available.
- Headloss across the Downstream Defender is typically less than 12".
- Used with the Reg-U-Flo® Vortex Valve to maximize storage in the collection system, it provides an effective control of quantity and improves the quality of stormwater discharges.



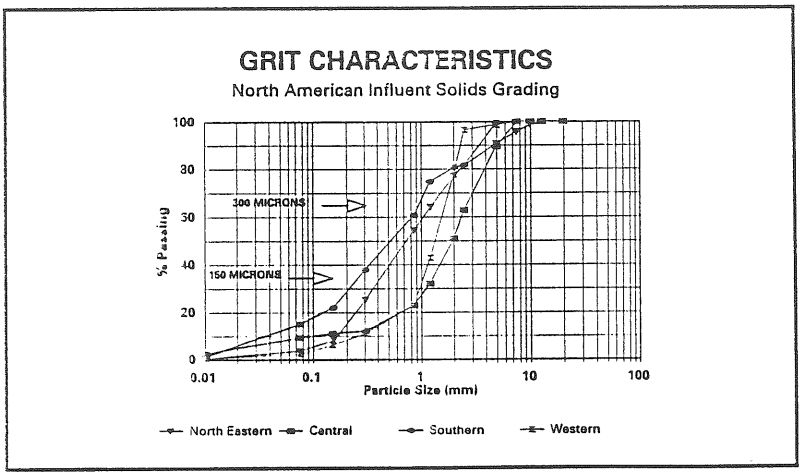
According to the 1992 U.S. EPA Needs Survey, stormwater runoff from urban areas significantly impairs the Nation's surface water quality.

Design

Preliminary Sizing Chart

Unit Diameter (feet)	Approximate Flow Range* (cfs)
4	0 – 0.75
6	0.75 – 3
8	3 – 7
10	7 – 13

* Based on 90% removal of all particles with a specific gravity of 2.65 down to 150 microns.



Design Procedure

On receipt of:

- Design Flow
- Peak Flow
- Required particle removal efficiency
- Available grit gradation information
- Site Plan and Elevations

We provide free of charge:

- Recommended size of Downstream Defender
- Proposals and Specifications
- Installation Drawings
- Quotation for the design and supply of the Downstream Defender

COVER SHEET

FAX

H.I.L. TECHNOLOGY INC.

To: Jim Seymour of Sebago Tech
Fax #: 856 2206
Subject: Downstream Defender Krisway, South Portland HIL Ref: 02\96\00345.001
Date: October 24, 1996
Pages: 1, including this cover sheet.

Jim,

I apologize for the delay in getting this information off to you. The wet weather got the best of me. Listed below is a table showing the solids collection facility and floatables capacity of each of the standard Downstream Defenders as requested.

DOWNSTREAM DEFENDER DIAMETER (FT)	4	6	8	10
SOLIDS COLLECTION FACILITY CAPACITY (CUBIC YARDS)	0.07	0.24	0.58	1.16
FLOATABLES STORAGE CAPACITY (GALLONS)	100	344	820	1615

The solids collection facility can be increased by extending its depth if site criteria suggests the need.

Please call if you have any questions or need additional information

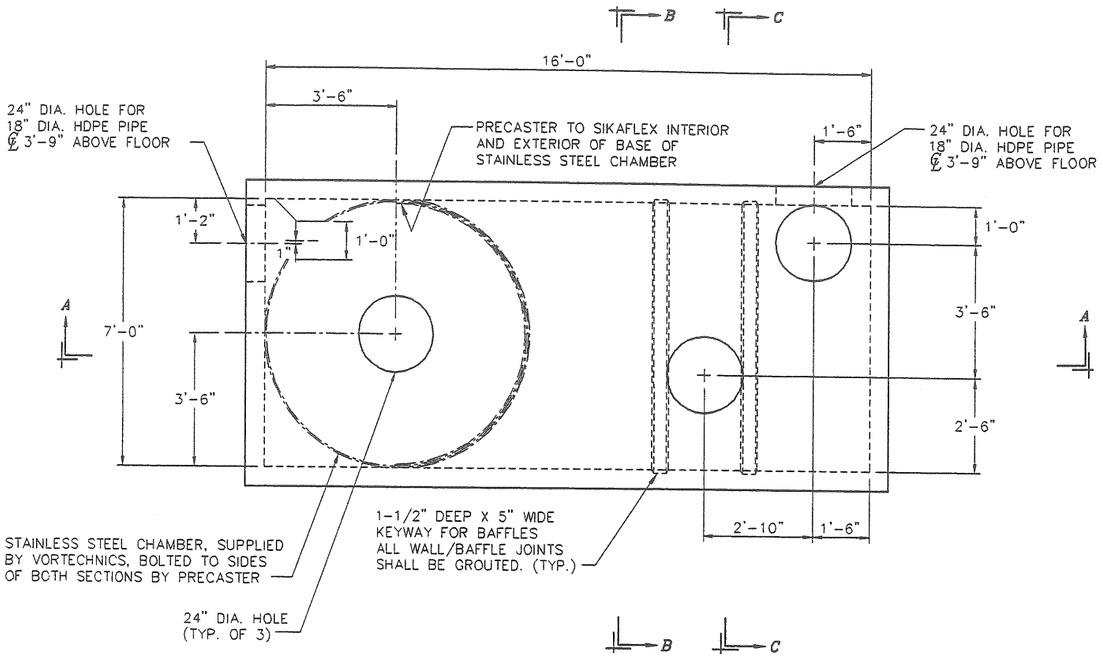
Steve R. Teleff

From the desk of

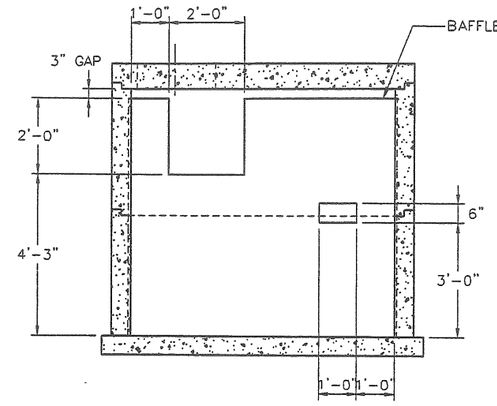
Audrey B Knight

H.I.L. Technology, Inc
94 Hutchins Drive
Portland, Maine 04102

207 756 8200
Fax: 207 756 8212

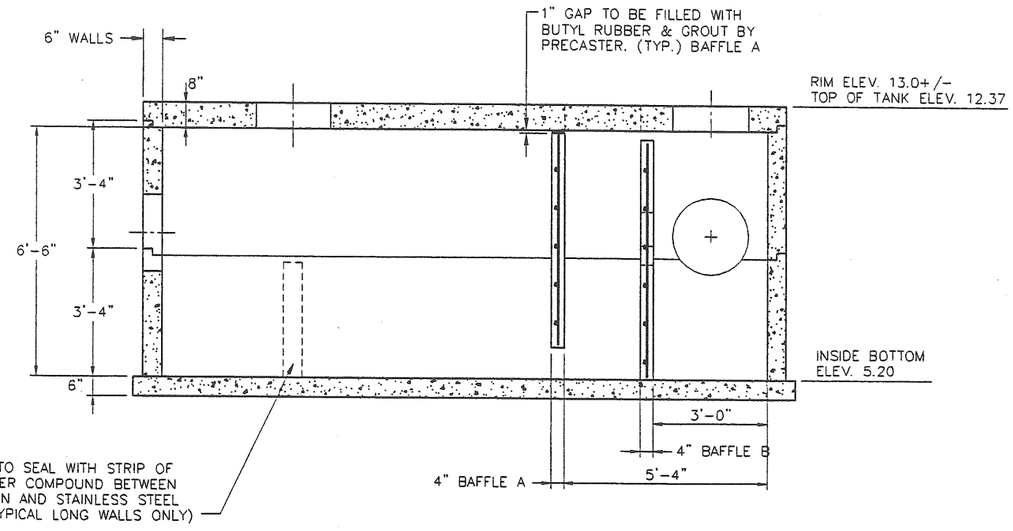


PLAN VIEW

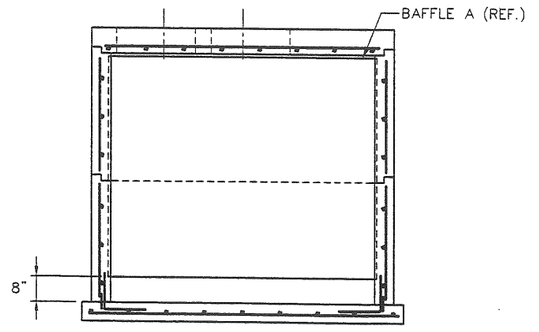


SECTION C-C

NOTE: WEIR & ORIFICE PLATES TO BE SUPPLIED BY VORTECHNICS AND INSTALLED IN BAFFLE "B" BY PRECASTER



SECTION A-A (ALUMINUM CHAMBER NOT SHOWN)



SECTION B-B

DESIGN NOTES:

1. CONCRETE MINIMUM STRENGTH – 5000 PSI @ 28 DAYS
2. STEEL REINFORCEMENT – ASTM A-615, GRADE 60, 1" COVER
3. DESIGN LOADING – AASHTO HS20-44
4. CONSTRUCTION JOINT – SEALED W/1" DIA. BUTYL RUBBER
5. DESIGN SPECIFICATION – ACI 318 & AASHTO LOAD FACTOR DESIGN METHOD

ASSUMPTIONS:

1. GROUND WATER @ 3'-6" BELOW FINISHED GRADE
2. EARTH COVER 0'-0" MIN. 5'-0" MAX.
3. 2'-0" LIVE LOAD SURCHARGE APPLIED TO 8'-0" DEPTH
4. LIVE LOAD IMPACT 0" TO 1'-0" COVER I=30%
5. COEFFICIENT OF ACTIVE EARTH PRESSURE Ka=.33
6. DRY EARTH DENSITY 120 PCF
   DRY EARTH LATERAL PRESSURE= 120 (.33)= 39.6 PSF
7. SATURATED EARTH DENSITY 120 PCF
   120 PCF – 62.4= 57.6 PCF
   57.6 PCF (.33)= 19.0 PSF
   SATURATED EARTH LATERAL PRESSURE= 19.0 + 62.4= 81.4 PSF
8. TANK WILL FILL COMPLETELY WITH WATER IN DESIGN STORM.

(3) 24" DIA. MANHOLE FRAMES AND PERFORATED COVERS SHALL BE PROVIDED BY VORTECHNICS.

STEEL REINFORCEMENT AS SHOWN IS SUBJECT TO CHANGE. FINAL CONSTRUCTION SHALL MEET H-20 LOADING DESIGN CRITERIA. JOINT LOCATIONS MAY VARY DUE TO MANUFACTURERS REQUIREMENTS.

APPROXIMATE WEIGHTS:

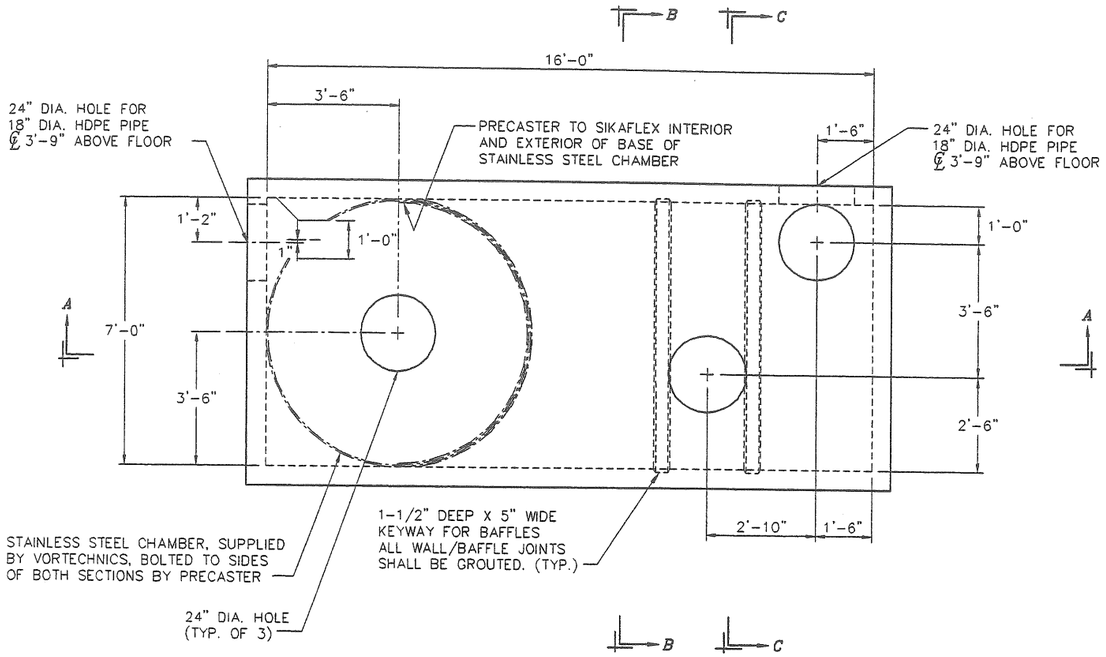
TOP SLAB = 7 TONS
RISER SECTION = 9 TONS
BASE SECTION = 13 TONS (INCLUDES BAFFLES)
TOTAL = 29 TONS

MERRILL MARINE TERMINAL, PORTLAND, ME
STORMWATER TREATMENT SYSTEM
VORTECHS™ MODEL #5000 PATENT PENDING

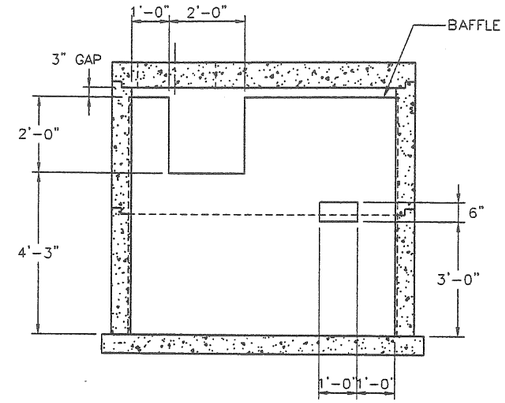
REVISIONS

Vortechnics™
41 Evergreen Drive
Portland, ME 04103
Tel.: 207-878-3662
Fax: 207-878-8507

SCALE:	1" = 4'-0"
DRAWN BY:	NDG
CHECKED BY:	TRA
FILE NAME:	517S
DATE:	10/16/97



PLAN VIEW



SECTION C-C

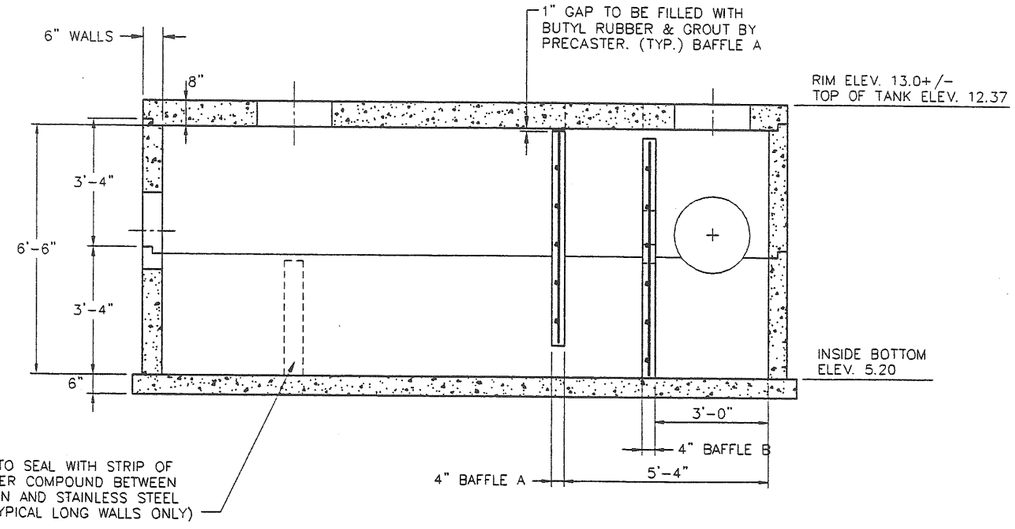
NOTE: WEIR & ORIFICE PLATES TO BE SUPPLIED BY VORTECHNICS AND INSTALLED IN BAFFLE "B" BY PRECASTER

DESIGN NOTES:

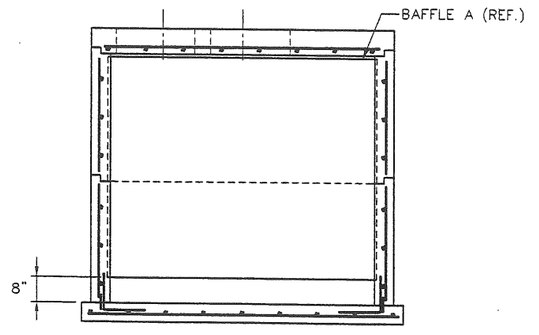
1. CONCRETE MINIMUM STRENGTH – 5000 PSI @ 28 DAYS
2. STEEL REINFORCEMENT – ASTM A-615, GRADE 60, 1" COVER
3. DESIGN LOADING – AASHTO HS20-44
4. CONSTRUCTION JOINT – SEALED W/1" DIA. BUTYL RUBBER
5. DESIGN SPECIFICATION – ACI 318 & AASHTO LOAD FACTOR DESIGN METHOD

ASSUMPTIONS:

1. GROUND WATER @ 3'-6" BELOW FINISHED GRADE
2. EARTH COVER 0'-0" MIN. 5'-0" MAX.
3. 2'-0" LIVE LOAD SURCHARGE APPLIED TO 8'-0" DEPTH
4. LIVE LOAD IMPACT 0" TO 1'-0" COVER I=30%
5. COEFFICIENT OF ACTIVE EARTH PRESSURE Ka=.33
6. DRY EARTH DENSITY 120 PCF
   DRY EARTH LATERAL PRESSURE= 120 (.33)= 39.6 PSF
7. SATURATED EARTH DENSITY 120 PCF
   120 PCF – 62.4= 57.6 PCF
   57.6 PCF (.33)= 19.0 PSF
   SATURATED EARTH LATERAL PRESSURE= 19.0 + 62.4= 81.4 PSF
8. TANK WILL FILL COMPLETELY WITH WATER IN DESIGN STORM.



SECTION A-A (ALUMINUM CHAMBER NOT SHOWN)



SECTION B-B

(3) 24" DIA. MANHOLE FRAMES AND PERFORATED COVERS SHALL BE PROVIDED BY VORTECHNICS.

STEEL REINFORCEMENT AS SHOWN IS SUBJECT TO CHANGE. FINAL CONSTRUCTION SHALL MEET H-20 LOADING DESIGN CRITERIA. JOINT LOCATIONS MAY VARY DUE TO MANUFACTURERS REQUIREMENTS.

APPROXIMATE WEIGHTS:

TOP SLAB = 7 TONS
RISER SECTION = 9 TONS
BASE SECTION = 13 TONS (INCLUDES BAFFLES)
TOTAL = 29 TONS

MERRILL MARINE TERMINAL, PORTLAND, ME
STORMWATER TREATMENT SYSTEM
VORTECHS™ MODEL #5000 PATENT PENDING

REVISIONS

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DRAWN BY:	NDG
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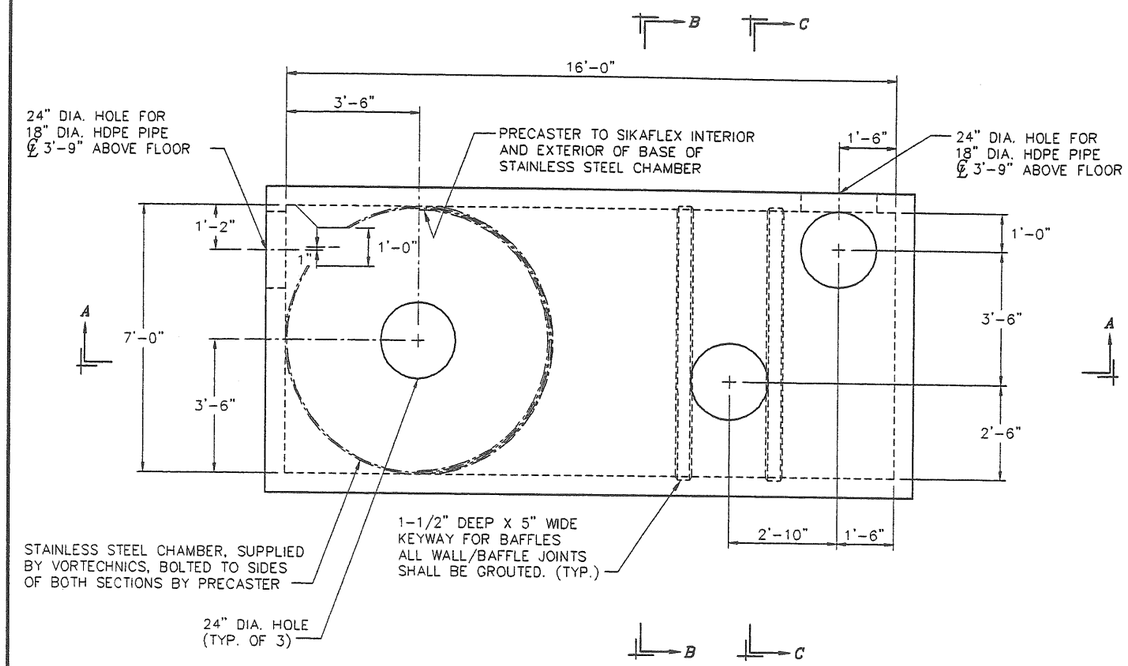
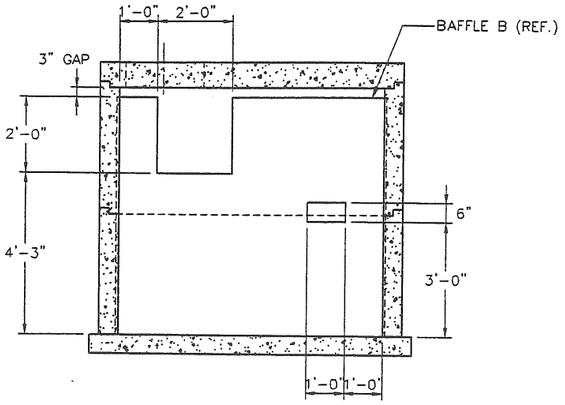


PLAN VIEW



SECTION C-C

NOTE: WEIR & ORIFICE PLATES TO BE SUPPLIED BY VORTECHNICS AND INSTALLED IN BAFFLE "B" BY PRECASTER

DESIGN NOTES:

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4. CONSTRUCTION JOINT – SEALED W/1" DIA. BUTYL RUBBER
5. DESIGN SPECIFICATION – ACI 318 & AASHTO LOAD FACTOR DESIGN METHOD

ASSUMPTIONS:

1. GROUND WATER @ 3'-6" BELOW FINISHED GRADE
2. EARTH COVER 0'-0" MIN. 5'-0" MAX.
3. 2'-0" LIVE LOAD SURCHARGE APPLIED TO 8'-0" DEPTH
4. LIVE LOAD IMPACT 0" TO 1'-0" COVER I=30%
5. COEFFICIENT OF ACTIVE EARTH PRESSURE Ka=.33
6. DRY EARTH DENSITY 120 PCF
   DRY EARTH LATERAL PRESSURE= 120 (.33)= 39.6 PSF
7. SATURATED EARTH DENSITY 120 PCF
   120 PCF – 62.4= 57.6 PCF
   57.6 PCF (.33)= 19.0 PSF
   SATURATED EARTH LATERAL PRESSURE= 19.0 + 62.4= 81.4 PSF
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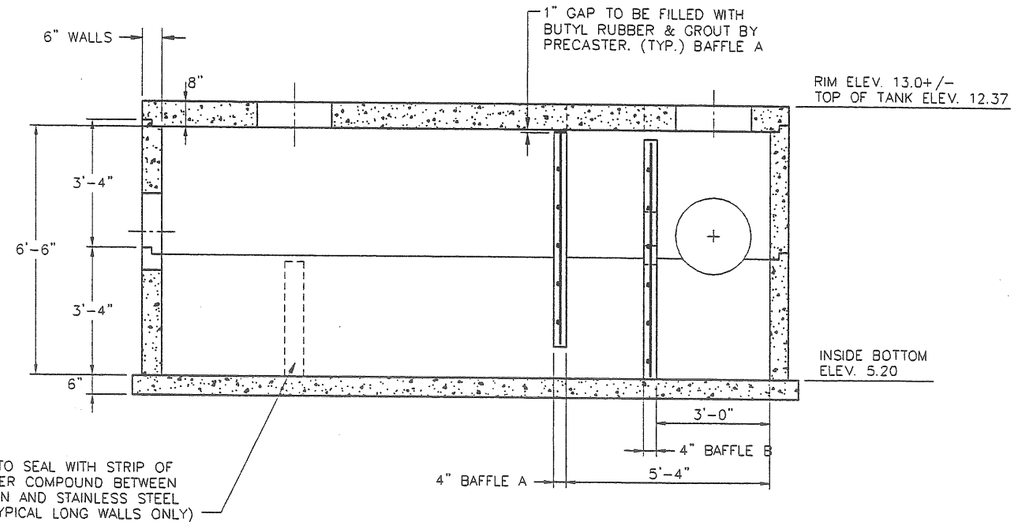
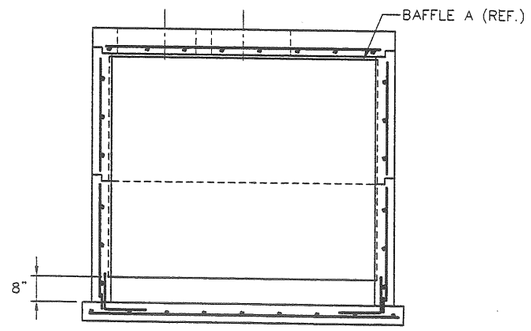


SECTION A-A (ALUMINUM CHAMBER NOT SHOWN)



SECTION B-B

APPROXIMATE WEIGHTS:

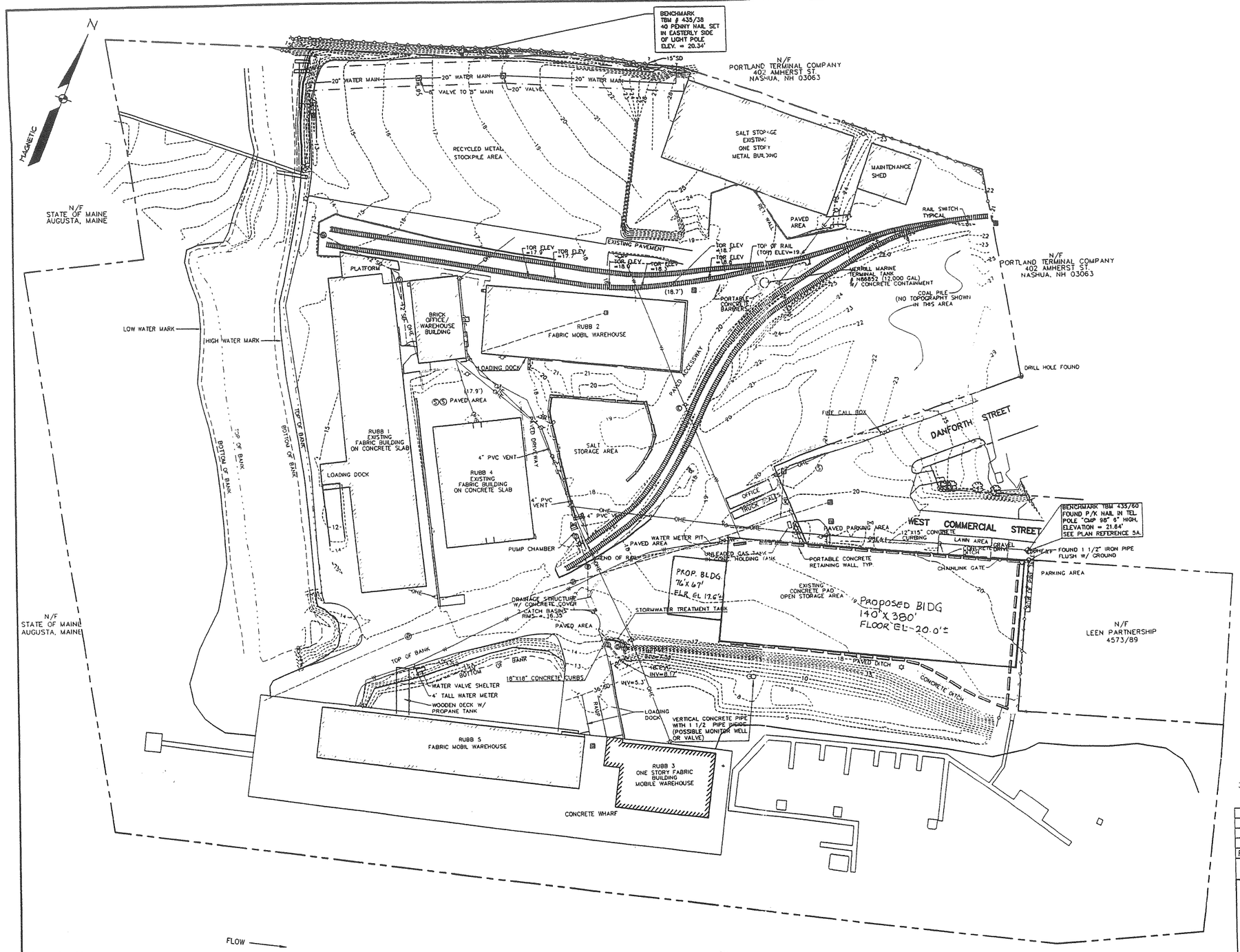
TOP SLAB = 7 TONS
RISER SECTION = 9 TONS
BASE SECTION = 13 TONS (INCLUDES BAFFLES)
TOTAL = 29 TONS

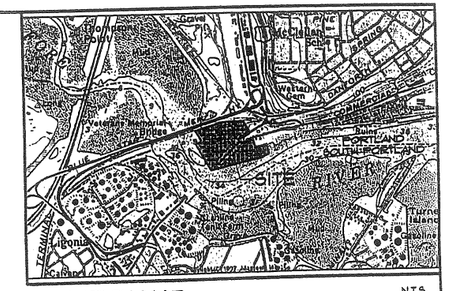
MERRILL MARINE TERMINAL, PORTLAND, ME
STORMWATER TREATMENT SYSTEM
VORTECHS™ MODEL #5000 PATENT PENDING

REVISIONS

Vortechnics™
41 Evergreen Drive
Portland, ME 04103
Tel.: 207-878-3602
Fax: 207-878-8507

SCALE:	1" = 4'-0"
DRAWN BY:	NDG
CHECKED BY:	TRA
FILE NAME:	517S
DATE:	10/18/97





LOCATION MAP N.T.S.

GENERAL NOTES:

1. RECORD OWNER OF PROPERTY IS MERRILL INDUSTRIES, INC. WHOSE MAILING ADDRESS IS 601 DANFORTH STREET, PORTLAND, MAINE 04102, AND IS RECORDED BY DEED BOOK 4088, PAGE 319 IN THE CUMBERLAND COUNTY REGISTRY OF DEEDS.
2. THE LOCUS PROPERTY IS SHOWN ON THE CITY OF PORTLAND TAX MAP 72, LOTS 3A, 7A, AND 19A.
3. TOPOGRAPHIC SURVEY WAS PERFORMED BY SEBAGO TECHNICS, INC. JUNE, 1997. ELEVATIONS ARE RELATED TO MEAN LOW WATER (M.L.W. = 0').
4. PROPERTY IS LOCATED WITHIN THE (WPDZ) WATERFRONT PORT DEVELOPMENT ZONE.

   DIMENSION REQUIREMENTS

MINIMUM LOT SIZE	NONE
MINIMAL FRONTAGE	NONE
SETBACK REQUIREMENTS	NONE
MAXIMUM LOT COVERAGE	100%
MAXIMUM BUILDING HEIGHT	45' (UNLESS SUBJECT TO EXCEPTIONS)

5. PLAN REFERENCE
   A. PLAN OF PROPERTY IN PORTLAND, MAINE MADE FOR MERRILL'S MARINE TERMINAL, EXISTING CONDITIONS PLAN BY H.J. AND E.C. JORDAN - SURVEYORS, DATED DECEMBER 18, 1989 AND STAMPED BY JOHN P. McGONIGLE, JR. PLS 356.
   B. PLAN AND PROFILE OF "20" MAIN UNDER VETERAN'S BRIDGE AT MERRILL'S COAL CO." PLAN BY PORTLAND WATER DISTRICT, 225 DOUGLASS STREET, PORTLAND, MAINE 04104. LAST REV. DATE 3/20/89. THE EASEMENT FOR THE PORTLAND WATER DISTRICT WATER MAIN IS RECORDED AT THE CUMBERLAND COUNTY REGISTRY OF DEEDS IN BOOK 8013, PAGE 72.
6. PRIOR TO BEGINNING ANY CONSTRUCTION THE OWNER SHALL ACQUIRE ALL THE NECESSARY PERMITS FROM THE CITY OF PORTLAND AND NOTIFY DIG SAFE 72 HOURS IN ADVANCE OF COMMENCING EXCAVATION ACTIVITIES, TO VERIFY THE LOCATIONS OF ALL UNDERGROUND UTILITIES.
7. UNDERGROUND UTILITIES SHOWN HEREON ARE APPROXIMATE.
8. CONTRACTOR OR EXCAVATOR TO FIELD VERIFY INVERTS OF EXISTING STRUCTURES TO BE ALTERED PRIOR TO EXCAVATION ACTIVITIES.
9. THE ADDITIONAL EXISTING CONDITIONS DATA REFERENCED IN REVISION "C" WAS FIELD LOCATED BY INSTRUMENT SURVEY ON 12-14-01 & 1-23-02.

PRELIMINARY
NOT FOR CONSTRUCTION

LEGEND

EXISTING	DESCRIPTION	PROPOSED
———	PROPERTY/ROW	———
———	BUILDING	———
———	EDGE PAVEMENT	
— — —	GRAVEL ROAD	
———	CURBLINE	
------124------	CONTOURS	
——8"W——	WATER	
——6"S——	SEWER	
----12"SD----	STORM DRAIN	

EXISTING	DESCRIPTION	PROPOSED
—OHE—	OVERHEAD ELEC. & TEL.	
⋈	GATE VALVE	
⊸	UTILITY POLE	
⊹	HYDRANT	
▣	CATCH BASIN	
(S)(D)	MANHOLE	
==========	CULVERT	
++++++++++	RAILROAD	
◈	BENCHMARK	

GRAPHIC SCALE
60 0 30 60 120 240
(IN FEET)
1 inch = 60 ft.

REV:	BY:	DATE:	STATUS:
D	DTM	3-04-02	REMOVE NOTE 10 & HYDROGRAPHIC SURVEY
C	DRL	1-30-02	ADD ADDITIONAL EXISTING CONDITIONS SURVEY DATA & NOTES 9&10
B	DTM	11/22/00	MODS REQUESTED BY CLIENT
A	DTM	06-28-00	SUBMITTED TO CLIENT FOR REVIEW

THIS PLAN SHALL NOT BE MODIFIED WITHOUT WRITTEN PERMISSION FROM SEBAGO TECHNICS, INC. ANY ALTERATIONS, AUTHORIZED OR OTHERWISE, SHALL BE AT THE USER'S SOLE RISK AND WITHOUT LIABILITY TO SEBAGO TECHNICS, INC.

MASTER SITE PLAN
OF:
MERRILL'S MARINE TERMINAL
DANFORTH AND WEST COMMERCIAL STREETS
PORTLAND, MAINE
FOR:
MERRILL INDUSTRIES, INC.
601A DANFORTH STREET
PORTLAND, MAINE 04102

Sebago Technics
Engineering & Planning for the Future
ONE CHABOT STREET
WESTBROOK, ME 04098-1339
TEL (207) 856-0277

DESIGN BY:	
DRAWN BY:	BRF/DRL
CHECKED BY:	DTM
DATE:	06-24-00
SCALE:	1"=60'
FIELD BK:	370&435a
PROJ. NO:	00139
DRAWNG:	00139msp
SHEET 1 OF 1	