

**GENERAL NOTES**

**CODES**

- American Association of State Highway and Transportation Officials. "Standard Specifications for Highway Bridges (AASHTO)", 16th Edition
- The BOCA National Building Code / 1999
- American Institute of Steel Construction (AISC), "Steel Construction Manual", 9th Edition
- American Welding Society (AWS) D1.1, "Structural Welding Code - Steel", Current Edition
- American Welding Society (AWS) D1.2, "Structural Welding Code - Aluminum", Current Edition
- American Welding Society (AWS) D1.5, "Bridge Welding Code", Current Edition
- American Concrete Institute (ACI) 318-02, "Building Code Requirements for Structural Concrete"

**DESIGN CRITERIA**

**DEAD LOAD:** Weight of all materials of construction

**LIVE LOAD:**

Roll-On / Roll-Off Ramp:

Live: 50 psf uniform load  
 Truck: HS20-44 (two lanes)  
 HS25-44 (one lane)

Pier A

Live: 250 psf  
 Truck: HS25-44 at turn around portion only.  
 Building: Column Reactions (see Architectural General Notes)

Pier 2 Berth 2

**Operational Live:**  
 Catwalks and Landings - 60 psf  
 Gangways - 100 psf  
 Float - 100 psf

**Non-Operational Live:**  
 Catwalks and Landings - 20 psf  
 Gangways - 20 psf  
 Float - 20 psf

**SNOW LOADS:**

Roll-On / Roll-Off Ramp:

Snow: 60 psf (ground snow)

Operational Restriction: No snow load on Ramp during operation

Pier A

Snow: 60 psf (ground snow)

Building: Column Reactions (see Architectural General Notes)

Pier 2 Berth 2

Snow: 60 psf (ground snow)

Operational Restriction: No snow load on Catwalks, Landings, Gangways or Float during operation

**LATERAL LOADS:**

Roll-On / Roll-Off Ramp (AASHTO):

Wind: Ramp - 300 lb / ft

Current: 1 knot broadside to float

**Seismic (abutment only):**

Acceleration Coefficient - A = 0.10  
 Seismic Performance Category - SPC = C

Pier 2 Fenders

Wind: Operational Wind to Vessel: 60 mph reduced to 5-min Wind

Current: 1 knot broadside to vessel

**Berthing (Accidental Impact at Fender System):**

Vessel Type: Scotia Prince (8,200 DT)  
 Approach Speed: 3.4 ft/sec  
 Approach Angle: 10 degrees  
 Kinetic Energy: 32 k-ft (Vessel contacts two fenders simultaneously)  
 Maximum Reaction at Fender: 42 k

Pier A

Wind: Design Wind to Structure: 85 mph  
 Building Column Reactions (see Architectural General Notes)

**Seismic:**

Acceleration Coefficient - A = 0.10  
 Seismic Performance Category - SPC = C  
 Building Column Reactions (see Architectural General Notes)

Pier 2 Berth 2

Wind: Operational Wind to Structure: 60 mph  
 Operational Wind to Vessel & Float: 60 mph reduced to 5-min Wind  
 Non-Operational Wind to Structure: 85 mph  
 Non-Operational Wind to Float: 85 mph reduced to 5-min Wind

Current: 1 knot broadside to Float

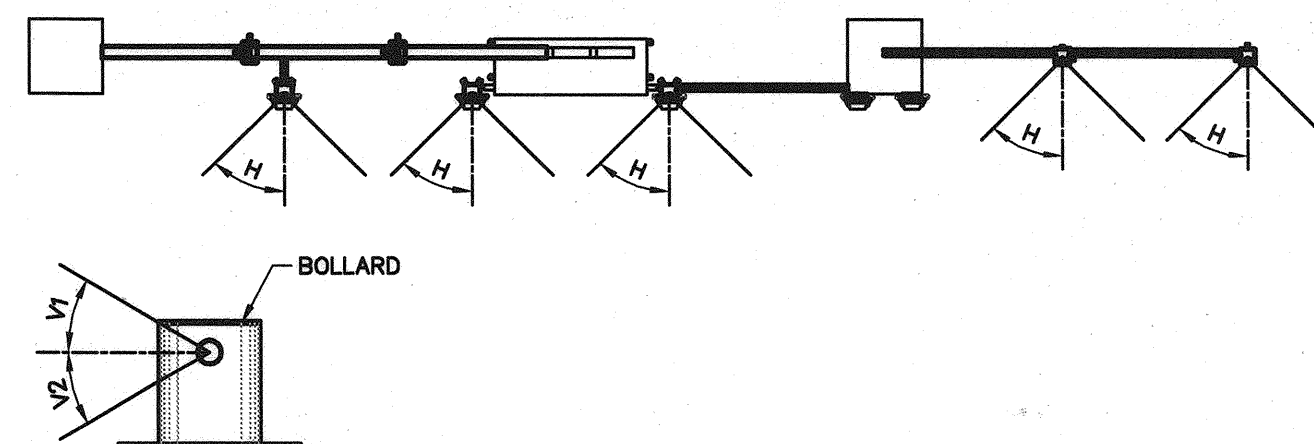
**Seismic (Gangway Piers only)**

Acceleration Coefficient - A = 0.10  
 Seismic Performance Category - SPC = C

**Berthing (Accidental Impact at Fender System):**

Vessel Type: Cruise Vessel (80,000 DT)  
 Approach Speed: 3 ft/sec  
 Approach Angle: 10 degrees  
 Kinetic Energy: 220 k-ft  
 Maximum Reaction at Fender: 210 k

Mooring: H=45', V1=30', V2=30'



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**INCORPORATED**  
**ENGINEERS**

**STATE OF MAINE**  
**DEPARTMENT OF TRANSPORTATION**  
**PROJECT NUMBER 009215.00**  
**PIN 009215.00**

**STATE OF MAINE**  
**DEPARTMENT OF TRANSPORTATION**  
**REGISTERED PROFESSIONAL ENGINEER**  
**DAVID M. PERCE**  
**9437**  
**RESIDENTIAL ENGINEER**

SIGNATURE: *[Signature]*  
 P.E. NUMBER: 101606  
 DATE: 10/16/04

PROJ. MANAGER	PAUL POTTLE	DATE
DESIGN-DETAILED	TWB	09/01/04
CHECKED-REVIEWED	RJ	09/01/04
DESIGN-DETAILED	DP	
DESIGN-DETAILED		
REVISIONS 1		
REVISIONS 2		
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

**CITY OF PORTLAND**  
**OCEAN GATEWAY PHASE 1**  
**MARINE/WATER COMPONENTS**  
**GENERAL NOTES**

**W001**  
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