

Bowl Portland
58 Alder Street
Portland, ME

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The existing two-story brick building and attached one story warehouse building has a total of 13,720 sf on the first floor and 2,523 sf on the second floor. The existing retail/storage will be renovated to a 12 lane bowling alley with restaurant, kitchen, bar, live music stage, and a prep kitchen and offices on the second floor. A new ADA accessible entrance will be incorporated into the design. The building will be fully sprinklered.

The building is within a B-7 Mixed Development District Zone, Bayside District

Portland will review this project under the following codes:
Portland Code of Ordinances
International Building Code, 2003
NFPA 101 Life and Safety Code, 2003
Maine Internal Plumbing Code

PORTLAND ORDINANCES

Zoning District

B-7 Mixed Development Permitted use	Indicates indoor amusement and recreation
Minimum lot size	None
Minimum street frontage	None
Front setback	None
Side setback	None
Rear setback	None
Maximum lot coverage	Indicates 100%
Minimum building height	3 Floors per Bayside overlay map Existing – 2 floors
Maximum building height	Indicates 105' per Bayside overlay map Existing 28'
Building entrances	Indicates min. 1 public entrance facing street <u>Proposed 2 – OK</u>

IBC CODE REVIEW

Chapter 3 USE AND OCCUPANCY CLASSIFICATION

Use and Occupancy Classification Group

Section 304 Assembly Group A-3	
Table 302.1.1 Incidental Use Areas	
Storage rooms over 100 sf	1 hour or provide sprinkler system Proposed to provide sprinkler system – OK

Chapter 4 SPECIAL DETAILED REQUIREMENTS BASED ON USE AND OCCUPANCY

Stages and Platforms

Section 410.4 Platform construction	Permitted to be constructed of fire-treated wood for Type I, II, and IV construction when less than 30' above floor, less than 1/3 of the floor area, and less than 3,000 sq. ft. Where space beneath platform is used only for equipment, wiring, or plumbing, underside of platform need not be protected.
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Chapter 5 GENERAL BUILDING HEIGHTS AND AREAS

Construction Type

Type III B

Height and Area Limitations

Table 503 Height and Area Limitations of Buildings Group A-3 Assembly	
Area limitations	Indicates 9,500 sf per floor Existing 13,720 sf first floor Existing 2,523 sf second floor
Height limitations	Indicates 2 stories Existing 2 story – OK Indicates 55 feet Existing 28' – OK
Section 504.2 Automatic sprinkler system	When equipped with sprinkler system Height increase Indicates type III B, increase not allowed
Section 506 Area Modifications	Area shall be permitted to be increased due to frontage and automatic sprinkler system
Equation	$A_a = A_t + [A_{if}/100] + [A_{is}/100]$ $A_a = 9,500 + [9,500 \times 26 / 100] + [9,500 \times 200 / 100]$ $A_a = 9,500 + 2,470 + 19,000$ Area Allowed = 30,970 sf / existing 13,720 sf – OK
Section 506.2 Frontage Increase	If = $100[F/P - .25]W/30$ If = $100 [260/510 - .25] 30/30$ If = $100 (.26) * 1$ If = 26
Section 506.3 Automatic sprinkler system increase	When fully sprinklered Is = 200 percent for multi-story buildings

Chapter 6 TYPES OF CONSTRUCTION

Fire Resistance Ratings of Structure Elements

Table 601 Fire Resistance Rating Requirements for Building Elements – Type III B Structural frame	Indicates 0 hour Existing to remain – 0 hour
Exterior Bearing Walls	Indicates 2 hour Existing to remain – 2 hour (solid brick wall)
Interior Bearing Walls	Indicates 0 hour Existing to remain – 0 hour
Nonbearing walls and partitions (interior)	Indicates 0 hour Proposed – 0 hour
Floor construction	Indicates 0 hour Existing to remain – 0 hour
Roof construction	Indicates 0 hour Existing to remain – 0 hour
Non-Bearing Walls (exterior/interior)	Indicates 0 hour Existing to remain – 0 hour
Table 602 Fire Resistance Rating Requirements for Exterior Walls	
Less than 30'	Indicates 1 hour Existing to remain – 1 hour
More than 30'	Indicates 0 hour

Chapter 7 FIRE RESISTANT MATERIALS AND CONSTRUCTION

Exterior Walls

Table 704.8 Maximum are of exterior wall openings – Protected	
0 to 3'	Indicates not permitted
3 to 5'	Indicates 15%
5 to 10'	Indicates 25%
10 to 15'	Indicates 45%
15 to 20'	Indicates 75%
Greater than 20'	Unlimited
Section 704.8.2 First Story	Unlimited unprotected openings are permitted in the first story of exterior walls facing a street which have a fire separation distance of greater than 15 feet.
Section 704.9 Vertical separation of openings	Shall not apply to building that are three stories or less in height.
Section 704.11 Parapet	Not required on exterior wall if wall is not required to be fire-resistance rated

Opening Protectives

Table 715.3 – Fire door and fire shutter fire protection ratings	
Fire walls – 2 hour	Indicates 1 ½ hour rating None proposed – OK
Exit enclosures – 1 hour	Indicates 1 hour rating Proposed 1 hour rating – OK
Corridor walls – 1 hour	Indicates 20 minute None proposed – OK
Section 715.3.5 Labeled protective assemblies: Fire door assemblies shall be labeled by an approved agency. The labels shall comply with NFPA 80, and shall be permanently affixed to the door.	
Table 715.4.3 Limiting Size of Wired Glass Panels (also in Fire Doors)	
1 and 1 ½ hours	Indicates 100 sq. in., 33" max ht., 10" max width
¾ hour	Indicates 1,296 sq in., 54" max ht., 54" max width
20 minute	Not limited

Chapter 8 INTERIOR FINISHES

Interior Finish Requirements

Section 803.1 Classification: ASTM E84 flame spread as follows:	
Class A	Flame spread 0–25
Class B	Flame spread 26–75
Class C	Flame spread 76–200
Table 803.4 – Interior Finish Requirements	
Use Group A–3, sprinklered	
Vertical exits	Indicates Class C if sprinklered Proposed Class C – OK
Exit access corridor	Indicates Class B Proposed Class B – OK
Rooms or enclosed spaces	Indicates Class C Proposed Class C – OK

Chapter 9 FIRE PROTECTIVE SYSTEMS

Automatic Sprinkler Systems

Section 903 – Automatic Sprinkler System
Required for group A–3 occupancies over 12,000 sf, load of 300 or more, and when fire area is located on a floor other than the level of exit discharge
Automatic sprinkler system provided – OK

Alternative Automatic Fire-Extinguishing Systems

Section 904.2.1 – Hood System Suppression
Each required commercial kitchen exhaust hood and duct system required to have a type I hood shall be protected by an approved automatic fire-extinguishing system.
Ansul Fire Suppression system provided – OK

Fire Alarm and Detection Systems

Section 907.2.1 – Group A
Manual fire alarm boxes are not required where the building is equipped with a sprinkler system and the notification appliances will activate upon sprinkler water flow

Chapter 10 MEANS OF EGRESS

Occupant Load

Table 1004.1.2 Maximum Floor Area Allowances per Occupant	
First Floor	Refer to table on Drawing R.2
Total First Floor	488 Occupants
Second Floor	Refer to table on Drawing R.2
Total Second Floor	9 Occupants
Section 1004.1.3 Number by combination	Occupants from accessory spaces egress through primary area, occupant load for the primary space shall include the total occupant load of both spaces

Egress Width

Table 1005 – Egress Width per Occupant (with sprinkler system)	
Stairways	.20' per person
Doors, ramps and corridors	.15' per person
Section 1005.2 – Door encroachment	Door opening into path of egress travel
	Shall not reduce width to less than ½ during course of swing and 7" when fully open

Means of Egress Illumination

Section 1006.2 – Illumination level	Means of egress illum. Indicates not less than 1 foot-candle /floor level
Section 1006.3 – Illumination emergency power	Emergency power shall illuminate Indicates exit access corridor, passageways, and aisles in rooms and spaces which require two means of egress

Door, Gates and Turnstiles

Section 1008.1.1 Size of doors	
Minimum width	Indicates 32" Proposed minimum 36" – OK
Minimum height	Indicates 80" Proposed minimum 74" – OK

Stairways and Handrails

Section 1009.1 – Stairway width	
Minimum width	Indicates 44" Proposed 44" min – OK
Exception	Serving occupant load of 50 or less Indicates 36" Proposed 44" min – OK
Section 1009.2 – Headroom	
Minimum headroom	Indicates 80" Proposed minimum 80" – OK
Section 1009.3 – Stair treads and risers	
Stair riser height maximum	Indicates 7" Proposed maximum 7" – OK
Stair riser minimum	Indicates 4"
Stair tread depth	Indicates 11" Proposed maximum 11" – OK
Section 1009.11.1 – Handrail height	
Handrail height	Indicates between 34" and 38" Proposed between 34" and 38" – OK

Guards

Section 1012.1 – Where required	On open-sided walking surfaces Indicates more than 30" above fir / grade
Section 1012.2 – Height	Protective barrier Indicates not less than 42" Proposed 42" – OK

Exit Access

Section 1013.2 Egress through intervening spaces	Egress from a room may not pass through kitchens, storage rooms, closets
Section 1013.3 – Common path of egress travel	Occupancy A when sprinklered Indicates not more than 75' Proposed 48' – OK

Exit and Exit Access Doorways

Table 1014.1 – Spaces with one means of egress	
Occupancy A	Indicates maximum occupant load of 50 Proposed occupant load of second floor with one means of egress is 9 – OK
Section 1014.1 – Two exits or exit access doorways	When two are required Indicates not less than 1/3 the length of overall diagonal dimension when sprinklered Proposed 186' diagonal / 104' exit distance. More than 1/3 the length – OK
First floor	

Exit Access Travel Distance

Table 1015.1 Exit Access Travel Distance	
Exits from most remote point	
Occupancy A	Indicates 250' with sprinkler system First Floor, Proposed 100' – OK Second floor, Proposed 61' – OK

Corridors

Table 1016.1	
Occupancy A	
Occ load greater than 30	Ind 0 hr rated corridor when sprinklered None proposed – OK
Section 1016.2 – Corridor width	
Minimum corridor width	Indicates 44" None proposed – OK
Capacity of 50 or less	Indicates 36" Proposed 49" – OK
Section 1016.3 – Dead Ends	
Group A with sprinkler system	Indicates 20" Proposed 17' – OK

Number of Exits and Continuity

Table 1018.2 – Buildings with one exit	
Occupancy A	Indicates 1 story above grade maximum 50 occupants Proposed 9 occupants from second floor – OK 75 feet travel distance Proposed 61' at second floor– OK

Chapter 11 ACCESSIBILITY

Accessible Entrances

Section 1105.1 – Public Entrances	Amount of accessible entrances Indicates at least 50% Proposed 50% – OK
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Chapter 12 INTERIOR ENVIRONMENT

Lighting

Section 1205.2 – Natural Light	Minimum net glazed area Indicates 8% of the floor area
Section 1205.3 Artificial Light	Avg illumination of room at 30" Indicates 10 foot-candles

NFPA 101 LIFE SAFETY CODE REVIEW

Chapter 3 DEFINITIONS

Use and Occupancy Classification Group

Assembly Occupancy	Gathering of 50 or more persons for eating...
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Chapter 7 MEANS OF EGRESS

Separation of Means of Egress

Section 7.1.3.1 Exit Access Corridor	Indicates 1 hr when occupant load exceeds 30 Exception, does not apply to existing buildings if occupancy classification does not change None proposed – OK
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Interior Finish in Exit Enclosures

Section 7.1.4.1 Interior Wall and Ceiling Finish in Exit Enclosures	Interior wall & clg finish shall be Class A / B Proposed Class B – OK
Section 7.1.4.2 Interior Floor Finish in Exit Enclosures	Floor finish shall be not less than Class II Proposed not less than Class II – OK

Headroom

Section 7.1.5.1 Means of egress	Indicates 7'–8", projections not less than 6'–8" Proposed 8", projections 7' – OK
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Guards

Section 7.1.8 Guards on open side of means of egress	Indicates when floor height exceeds 30"
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Means of Egress Components

Section 7.2.1.2.4 Minimum Door Width	Indicates not less than 32" in clear width Proposed 34" – OK
Section 7.2.1.3 Floor Level	Floor elevation at doors Indicates vary not more than ½" Proposed ½" – OK
Section 7.2.1.3.3 Thresholds at doorways	Indicates not exceed ½"
Section 7.2.1.3.5 Existing buildings when door discharges to outside or balcony	Door permitted to be one step lower than inside, but not more than 8" lower Existing 7" – OK

Stairs

Table 7.2.2.2.1.1 (a) New Stairs	
Max height of risers	Indicates 4"
Min height of risers	Indicates 7"
Min tread depth	Indicates 11"
Min headroom	Indicates 6'–8"
Min height between landings	Indicates 12'
Table 7.2.2.2.1.1(b) Existing stairs	
Min width	Indicates 36"
Max height of risers	Indicates 8"
Min tread depth	Indicates 9"
Min headroom	Indicates 6'–8"
Max height between landings	Indicates 12'
Section 7.2.2.2.1.2 Minimum new stair width	Occupant load fewer than 50 Indicates 36" Occupant load more than 50 Indicates 44"

Landings

Section 7.2.2.3.2 Landings measured in direction of travel	Indicates not less than width of stair
Section 7.2.2.3.2.4 Straight run	Not required to be more than 48"
Section 7.2.2.4.1 Stairs / ramps	Handrails required on both sides
Section 7.2.2.4.4.1 Handrails	Indicates between 34" and 38"
Section 7.2.2.4.4.2 Existing required handrails	Indicates between 30" and 38"
Section 7.2.2.4.5.2 Guards	Indicates not less than 42" high

Ramps

Table 7.2.5.2 (a) New Ramps	
Min clear width	Indicates 44"
Max slope	Indicates 1 in 12
Max cross slope	Indicates 1 in 48
Max rise for single ramp run	Indicates 30"
Table 7.2.5.2 (b) Existing Ramps	
Min width	Indicates 30"
Max slope	Indicates 1 in 8
Max height between landing	Indicates 12'

Arrangement of Means of Egress

Section 7.5.1.3.3 Remoteness	Sprinklered building Indicates not less than 1/3rd length of overall diagonal dimension
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Maine State Internal Plumbing Code

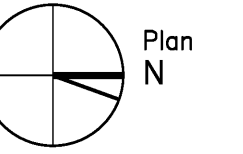
Table 4-1 – Minimum Plumbing Facilities

Total occupant load	488 Occupants / 2 = 244 men / 244 women
Restaurants, Pubs, Lounges	Male – 3 per 151 to 300 = 3 WC required Male – 2 per 300 = 2 urinals required For each urinal added in excess of required, one WC may be deducted Male: 2 Water Closets Proposed – OK 3 Urinals Proposed – OK Female – 4 per 151–300 = 4 WC required Female must have equal number of WC to WC and urinals for males Female = 5 water closets required 5 water closets proposed – OK Male – 3 per 201 to 400 = 3 lavatories reqd. Proposed 3– OK Female – 3 per 201 to 400 = 3 lavatory reqd Proposed 3 – OK Drinking fountains not required

Section 413.3 Separate Facilities
Separate facilities shall be provided for each sex
Separate facilities proposed – OK

Section 413.6 Food Service Establishment
Occupant load less than 100
Indicates customer and employee facilities may be combined
Not combined – OK

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Consultants

Casco Bay Engineering
Structural Engineer

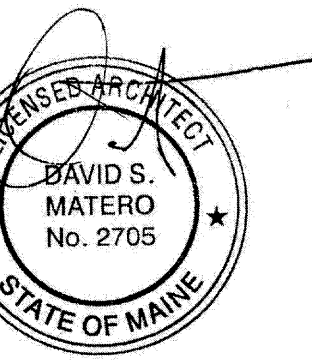
Casco Bay Engineering
Civil Engineer

TJM Consulting
Food Service

Urban Dwellings
Interior Design

Revisions

Bowl Portland
58 Alder Street Portland, Maine



Job Number: 09.017

Date: 07.Dec.09

Scale: NTS

Drawing Title:

Code
Analysis

R.3
Issue for Bid