

March 5, 2015

CODE COMPLIANCE REPORT

Northern Utilities, Inc. Fit-Up
400 Riverside Industrial Parkway
Portland, Maine

1.0 Codes Review

Description of Building's Function and Program:

The project will consist of the interior fit-up and renovations associate with converting the old Paradigm building into a new Unitil facility. The entire building will be impacted by the renovations but a large portion of the work will be limited to new finishes.

1.0.A Occupant Classification(s):

Current Building Use:

- * The front and rear portions of the building are considered Business Use
- * The central portion of the building was considered F-1 (moderate-hazard)

Proposed Fit-up Criteria:

Partial Change of Use: The F-1 portion of the facility is to become used for materials storage. The change of use will become S-2 Low Hazard Storage per IBC 2009 and Storage Occupancy per NFPA 101 - Low Hazard.

The building is being considered a Non-Separated Use building.

IBC 2009:
 Use and Occupancy Classification:
 Use Group B - Business Use
 Use Group S-2 - Low-hazard Storage Use

NFPA 101 - 2009:
 Chapter 39: Existing Business Occupancy
 Chapter 42: Storage Occupancy - Low Hazard

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1.0.B Specific Occupancy Areas / Incidental Use Areas relative to the Scope of this Project:

There are no incidental use areas within the scope of the project.

1.0.C Building Height and Area Limitations:

IBC 2009 – Chapter 5, Section 503

The proposed building is a two story building of approximately 65,370 total square feet. The height and building area will not be modified by this project.

1.0.D Type of Construction:

NFPA 220: Type II (000)
 IBC 2009: Chapter 6 - Type II (B)

Structural System:

Steel beams, columns and framing. Standing seam metal roof system.

Exterior Walls:

Exterior wall system with metal liner panel.

Interior Walls:

Cold-formed Metal Stud framing
 Batt insulation
 5/8" type "X" gypsum wallboard
 8" Concrete Masonry Unit assemblies

Area Calculation:

Allowable area w/o modification per Table 503:
 Business Group: 23,000 sf
 Storage S-2 Group: 26,000 sf

* The buildings overall area will not be impacted by this project.

Height Calculation:

Allowable height w/o modification per Table 503:
 Business Group: 3-Stories / 55'-0"
 Storage S-2 Group: 3-Stories / 55'-0"

* The buildings overall area will not be impacted by this project.

1.0.E Required Fire Resistance Ratings of applicable Structure Elements:

IBC 2009 – Chapter 6: Table 601

Building Element

Structural Frame – Incl. columns, girders, trusses 0 hrs

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Bearing walls	Exterior	0 hrs
	Interior	0 hrs
Nonbearing walls and Partitions	Exterior (Ref. Table 602: > 35')	0 hrs
Nonbearing Walls and Partitions	Interior	0 hrs
Floor Construction – Incl. supporting beams and joists		0 hrs
Roof Construction – Incl. supporting beams and joists		0 hrs

1.0.F Means of Egress:

NFPA 101 – Chapter 7: Table 7.3.1.2
 IBC 2009 – Chapter 10: Table 1004.1.1

Occupant Load NFPA:
 Business Use: 100 gross s.f. / per occupant
 Storage Use: 500 gross s.f. / per occupant

Occupant Load IBC:
 Business areas: 100 gross s.f. / per occupant
 Warehouses: 500 gross s.f. / per occupant

Total calculated Occupant Load of the Entire Building = 262 people

Minimum Number of Exits:

IBC 2009 – Chapter 10, Section 1007.1 and Section 1021

Two separate means of egress are required.

Capacity of Egress Components:

Element	Minimum Allowable
Exit Access Corridors:	
Width	44 inches clear
Doors:	
Width	32 inches clear

All proposed doors will be 36" wide doors providing a clear opening width exceeding 32".

Egress Arrangement:

IBC 2009 - Chapter 10
 Dead-end corridor (Section 1018.4, exc. 2) 50' with a sprinkler system

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Exit Access Travel Distance (Table 1016.1) – B	300' with a sprinkler system*
Exit Access Travel Distance (Table 1016.1) – S-2	400' with a sprinkler system
Common path of egress travel (Section 1014.3, exc. 1)	100' with a sprinkler system

NFPA 101 – Chapters 39 and 42	
Dead-end corridor (NFPA Chapter 39, Section 39.2.5.2)	50 ft
Dead-end corridor (NFPA Chapter 42, Table 42.2.5)	No Limit
Common Path of Travel (NFPA Chapter 39, Section 39.2.5.3.1)	100 ft
Common Path of Travel (NFPA Chapter 42, Table 42.2.5)	No Limit
Travel Distance to an Exit (NFPA Chapter 39, Section 39.2.6.3)	300 ft
Travel Distance to an Exit (NFPA Chapter 42, Section 42.2.6)	No Limit

* Due to classifying this building as a non-separated use, the most restrictive requirements from each Use Group are to be followed.

1.0.G Illumination of the Means of Egress:

IBC 2009 – Section 1006
 Means of egress shall be illuminated.

NFPA 101 – Section 7.8
 Means of egress shall be illuminated.

1.0.H Emergency Lighting:

NFPA 101 – Section 7.9
 Emergency lighting shall be provided.

1.0.I Interior Finish System:

IBC 2009 - Chapter 8, Table 803.9 (Sprinkled) and Section 804

NFPA 101
 Chapter 10
 Chapter 39, Section 39.3.3
 Chapter 42, Section 42.3.3

Wall and Ceiling Finishes:	NFPA	IBC
Exit Enclosures and Passageways	Class A, B, C	Class B, C
Corridors	Class A, B, C	Class C
Rooms and Enclosed Spaces	Class A, B, C	Class C

Interior Floor Finishes:
 Vertical Exits / Exit Corridors Class II Class I or II

1.0.M Detection, Alarm, and Communications:

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IBC 2009 – Chapter 9, Section 907.2.2

A manual fire alarm system is not required. However, a manual fire alarm system will be provided.

NFPA 101 – Chapter 39, Section 39.3.4.1

A fire alarm system is not required.
 NFPA 101 – Chapter 42, Section 42.3.4.1

A fire alarm system is required.

1.0.N Extinguishing Requirements:

IBC 2009 - Chapter 9, Section 906

Portable Fire Extinguishers shall be provided at locations required by the *International Fire Code* and shall be installed, inspected and maintained in accordance with NFPA 10, *Standard for Portable Fire Extinguishers*.

NFPA 10, Table 5.2.1:

Fire extinguishers shall be provided such that the maximum travel distance to an extinguisher is 75'.

2.0 GENERAL BUILDING COMPONENTS

2.0.A Stair Assemblies

IBC 2009 – Chapter 10

Maximum Riser Height (1009.4.2)	7"
Minimum Rise Height (1009.4.2)	4"
Minimum Tread Depth (1009.4.2)	11"
Minimum Head Room (1009.2)	80" (6'-8")
Maximum Vertical Rise to Landing (1009.7)	12'-0"
Hand Rail Height (1012.2)	not less than 34" / not greater than 38"
Guardrail Height (1013.2)	at least 42"
Opening Limitations (1013.3)	Openings shall resist the passage of a 4" sphere through any opening up to 42".

NFPA 101 – Chapter 7, Table 7.2.2.1.1(b)

Maximum Riser Height	8"
Minimum Rise Height	4"
Minimum Tread Depth	9"
Minimum Head Room	80" (6'-8")
Maximum Vertical Rise to Landing	12'-0"
Hand Rail Height (7.2.2.4.4.1)	not less than 30" / not greater than 38"
Guardrail Height (7.2.2.4.5.2)	not less than 42"
Opening Limitations (7.2.2.4.5.3(2))	Openings shall resist the passage of a 21" sphere through any opening up to 42".

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Unitil - Portland POC Renovations - 400 Riverside Industrial Parkway

4/7/2015

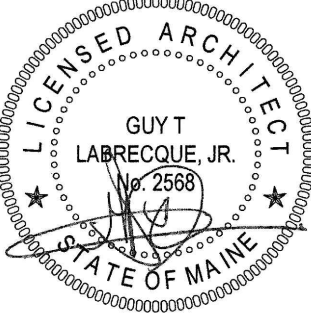
Non-Separated Use / Mixed Use: Most Restrictive Codes Review

Related Code Compliancy Item	Business Use		Storage Use - S-2 / Low Hazard	
	IBC 2009	NFPA 101	IBC 2009	NFPA 101
Means of Egress Elements				
Common Path of Travel	100' w/ sprinkler	100' w/ sprinkler	100' w/ sprinkler	No Limit
Dead End Corridors	50' w/ sprinkler	50' w/ sprinkler	50' w/ sprinkler	No Limit
Exit Access Travel Distance	300' w/ sprinkler	300' w/ sprinkler	400' w/ sprinkler	No Limit
Minimum Door Width Capacity Calculation Factor	.2" per occupant	.2" per occupant	.2" per occupant	.2" per occupant
Minimum Stair Width Capacity Calculation Factor	.3" per Occupant	.3" per Occupant	.3" per Occupant	.3" per Occupant
<i>Reference Drawings for actual calculations</i>				
Minimum Exit Access Corridor Width	44" min. clear	44" min. clear	44" min. clear	44" min. clear
Minimum Egress Door Clear Width	32" min. clear	32" min. clear	32" min. clear	32" min. clear
Occupant Load				
Calculation Factor	1 per 100sf gross	1 per 100sf gross	1 per 500sf gross	1 per 500sf gross
<i>Reference Drawings for actual calculations</i>				
Interior Finishes - Wall Ceilings				
Exit Enclosures and Passageways	Class B	Class B	Class C	Class C
Corridors	Class C	Class C	Class C	Class C
Rooms and Enclosed Spaces	Class C	Class C	Class C	Class C
Interior Finishes - Floors				
Vertical Exits / Exit Corridors	Class II	Class II	Class II	Class II

NOTES:

- The building is fully sprinkled. The existing system will be reconfigured as required to provide proper coverage to the newly created spaces.
- The building is equipped with an addressable fire alarm system. New components will be provided as required to provide proper coverage to new and existing spaces.

DESIGNER



CWS ARCHITECTS
 ARCHITECTURE | INTERIOR DESIGN
 434 CUMBERLAND AVENUE
 PORTLAND, MAINE 04101
 F: 207.774.4016
 WWW.CWSARCH.COM

OWNER

UNITIL

6 LIBERTY LANE WEST
 HAMPTON, NEW HAMPSHIRE
 03842

PROJECT

NORTHERN UTILITIES, INC. FIT-UP

400 RIVERSIDE INDUSTRIAL PARKWAY
 PORTLAND, MAINE 04101

DRAWING

CODE SUMMARY

REVISIONS

DRAWING NUMBER

LS1.01

SCALE: N/A
 DATE: 04/17/15