Certificate of Design

Date: August 3, 2012

From: John A. Aharonian, RA, Aharonian & Associates, Inc.

These plans and / or specifications covering construction work on:

Renovation & Addition to existing Cumberland Farms Store # 5604

Have been designed and drawn up by the undersigned, a Maine registered Architect / Engineer according to the ~~2003~~ 2009 **International Building Code** and local amendments.

LICENSED ARCHITECT JOHN A. AHARONIAN No. AN2340 STATE OF MAINE

(SEAL)

Signature:

Title: President

Firm: Aharonian & Associates, Inc.

Address: 310 G Washington Hwy, Suite 100

Smithfield, RI 02917

Phone: 401-232-5010

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COM*check* Software Version 3.9.1

Envelope Compliance Certificate

90.1 (2007) Standard

Section 1: Project Information

Project Type: **Addition**
Project Title : Cumberland Frams

Construction Site:
801 Washington Ave
Portland, ME

Owner/Agent:
Cumberland Farms
100 Crossing Blvd
Framingham, MA

Designer/Contractor:
Aharonian & Associates Inc.
310 George Washington Highway
Suite 100
Smithfield, RI

Section 2: General Information

Building Location (for weather data):	**Portland, Maine**
Climate Zone:	**6a**
Building Type for Envelope Requirements:	**Non-Residential**
Vertical Glazing / Wall Area Pct.:	**16%**

Activity Type(s)	Floor Area
Retail:Sales Area	3880

Section 3: Requirements Checklist

Envelope PASSES: Design 9% better than code.

Climate-Specific Requirements:

Component Name/Description	Gross Area or Perimeter	Cavity R-Value	Cont. R-Value	Proposed U-Factor	Budget U-Factor(a)
South Wall (Addition): Metal Building Wall	229	0.0	20.0	0.048	0.113
South Wall: Steel-Framed, 16" o.c.	826	21.0	0.0	0.106	0.064
Window 2: Metal Frame with Thermal Break:Double Pane with Low-E, Clear, SHGC 0.36	181	---	---	0.440	0.550
Window 3: Metal Frame with Thermal Break:Double Pane with Low-E, Clear, SHGC 0.36	109	---	---	0.440	0.550
Door 3: Glass (> 50% glazing):Metal Frame, Clear, Entrance Door, SHGC 0.36	42	---	---	0.540	0.800
Window 4: Metal Frame with Thermal Break:Double Pane with Low-E, Clear, SHGC 0.36	138	---	---	0.440	0.550
West Wall (Addition): Metal Building Wall	655	0.0	20.0	0.048	0.113
North Wall (Addition): Metal Building Wall	636	0.0	20.0	0.048	0.113
North Wall: Concrete Block:8", Partially Grouted, Cells Empty,Normal Density , Furring: Metal	419	0.0	12.0	0.066	0.080
Door 1: Insulated Metal, Swinging	32	---	---	0.091	0.700
East Wall (Addition): Metal Building Wall	143	0.0	20.0	0.048	0.113
East Wall 1: Concrete Block:12", Partially Grouted, Cells Empty,Normal Density , Furring: Metal	195	0.0	12.0	0.065	0.080
East Wall 2: Concrete Block:12", Partially Grouted, Cells Empty,Normal Density , Furring: Metal	317	21.0	0.0	0.115	0.080
Window 1: Metal Frame with Thermal Break:Double Pane with Low-E, Clear, SHGC 0.36	16	---	---	0.440	0.550
Door 2: Glass (> 50% glazing):Metal Frame, Clear, Entrance Door, SHGC 0.36	45	---	---	0.540	0.800

Roof 1: Insulation Entirely Above Deck	3880	---	21.7	0.044	0.048
Floor 1: Slab-On-Grade:Unheated, Horizontal with vertical 4 ft.	131	---	12.0	---	---

(a) Budget U-factors are used for software baseline calculations ONLY, and are not code requirements.

Insulation:

- ☐ 1. Open-blown or poured loose-fill insulation has not been used in attic roof spaces with ceiling slope greater than 3 in 12.
- ☐ 2. Wherever vents occur, they are baffled to deflect incoming air above the insulation.
- ☐ 3. Recessed lights, equipment and ducts are not affecting insulation thickness.
- ☐ 4. No roof insulation is installed on a suspended ceiling with removable ceiling panels.
- ☐ 5. All exterior insulation is covered with protective material.
- ☐ 6. Cargo and loading dock doors are equipped with weather seals.

Fenestration and Doors:

- ☐ 7. Windows and skylights are labeled and certified by the manufacturer for U-factor and SHGC.
- ☐ 8. Fixed windows and skylights unlabeled by the manufacturer have been labeled using the default U-factor and SHGC.
- ☐ 9. Other unlabeled vertical fenestration, operable and fixed, that are unlabeled by the manufacturer have been site labeled using the default U-factor and SHGC. No credit has been given for metal frames with thermal breaks, low-emissivity coatings, gas fillings, or insulating spacers.

Air Leakage and Component Certification:

- ☐ 10. All joints and penetrations are caulked, gasketed, weather-stripped, or otherwise sealed.
- ☐ 11. Windows, doors, and skylights certified as meeting leakage requirements.
- ☐ 12. Component R-values & U-factors labeled as certified.
- ☐ 13. 'Other' components have supporting documentation for proposed U-Factors.
- ☐ 14. Building entrances that separate conditioned space from the exterior have an enclosed vestibule with all doors equipped with self-closing devices. Interior and exterior doors in the closed position are no less than 7 ft apart. Conditioned vestibules comply with the requirements for a conditioned space. Unconditioned vestibules comply with the requirements of a semiheated space.

  Exceptions:

  - ☐ Building entrances with revolving doors.
  - ☐ Doors not intended to be used as a building entrance.
  - ☐ Doors opening directly from a dwelling unit.
  - ☐ Doors that open directly from a space less than 3000 sq. ft. in area and is separate from the building entrance.

Section 4: Compliance Statement

Compliance Statement: The proposed envelope design represented in this document is consistent with the building plans, specifications and other calculations submitted with this permit application. The proposed envelope system has been designed to meet the 90.1 (2007) Standard requirements in COM*check* Version 3.9.1 and to comply with the mandatory requirements in the Requirements Checklist.

DAVID HORTON		8/3/12
Name - Title	Signature	Date