



DISPLAY THIS CARD ON PRINCIPAL FRONTAGE OF WORK

CITY OF PORTLAND



BUILDING PERMIT

This is to certify that Flynn, Steve

Located At 540 CONGRESS

CBL: 037 H002001

has permission to Interior renovations and Structural Loading Dock work

PERMIT# 2011-01-315

provided that the person or persons, firm or corporation accepting this permit shall comply with all of the provisions of the Statutes of Maine and of the Ordinances of the City of Portland regulating the construction, maintenance and use of the buildings and structures, and of the application on file in the department.

Notification of inspection and written permission procured before this building or part thereof is lathed or otherwise closed-in. 48 HOUR NOTICE IS REQUIRED.

A final inspection must be completed by owner before this building or part thereof is occupied. If a certificate of occupancy is required, it must be procured prior to occupancy.

Jmp per BW
Fire Prevention Officer

James Burke 2/10/11
Code Enforcement Officer / Plan Reviewer

THIS CARD MUST BE POSTED ON THE STREET SIDE OF THE PROPERTY.
PENALTY FOR REMOVING THIS CARD.

PERMIT ISSUED

FEB 15 2011

City of Portland

FEB 15 2011

Job No: 2011-01-315-ALTCOMM	Date Applied: 1/20/2011	CBL: 037 - - H - 002 - 001 - - - - -	
Location of Construction: 540 CONGRESS	Owner Name:	Owner Address: 731 Route 1 NEWCASTLE, ME - MAINE 04553	Phone: City of Portland
Business Name:	Contractor Name: Ryan, Steve	Contractor Address: P.O. Box 2353 91 Broadturn RD SCARBOROUGHMAINE04070	Phone: 0306
Lessee/Buyer's Name:	Phone:	Permit Type: BLDG - Building	Zone: B-3
Past Use: Retail (LL Bean & Olympia Sport)	Proposed Use: Same: Retail (Reny's)	Cost of Work: 345000.000000	CEO District:
		Fire Dept: <input checked="" type="checkbox"/> Approved w/ conditions <input type="checkbox"/> Denied <input type="checkbox"/> N/A Signature: <i>Bjandorf</i> (58)	Inspection: Use Group: JM Type: 2B IBC-2009 Signature: <i>JMB</i>
Proposed Project Description: Reny's 540 Congress Interior Remodel & Loading Doc		Pedestrian Activities District (P.A.D.)	
Permit Taken By:	Zoning Approval		

1. This permit application does not preclude the Applicant(s) from meeting applicable State and Federal Rules. 2. Building Permits do not include plumbing, septic or electrical work. 3. Building permits are void if work is not started within six (6) months of the date of issuance. False informatin may invalidate a building permit and stop all work.	Special Zone or Reviews <input type="checkbox"/> Shoreland <input type="checkbox"/> Wetlands <input type="checkbox"/> Flood Zone <input type="checkbox"/> Subdivision <input type="checkbox"/> Site Plan _ Maj _ Min MM Date: <i>OK with conditions</i> <i>9/24/11</i>	Zoning Appeal <input type="checkbox"/> Variance <input type="checkbox"/> Miscellaneous <input type="checkbox"/> Conditional Use <input type="checkbox"/> Interpretation <input type="checkbox"/> Approved <input checked="" type="checkbox"/> Denied Date:	Historic Preservation <i>w/conditions</i> <input type="checkbox"/> Not in Dist or Landmark <input type="checkbox"/> Does not Require Review <input type="checkbox"/> Requires Review <input checked="" type="checkbox"/> Approved <input checked="" type="checkbox"/> Approved w/Conditions <input type="checkbox"/> Denied Date: <i>1/28/11</i> <i>D. Andrews</i>
	CERTIFICATION		

I hereby certify that I am the owner of record of the named property, or that the proposed work is authorized by the owner of record and that I have been authorized by the owner to make this application as his authorized agent and I agree to conform to all applicable laws of this jurisdiction. In addition, if a permit for work described in the appication is issued, I certify that the code official's authorized representative shall have the authority to enter all areas covered by such permit at any reasonable hour to enforce the provision of the code(s) applicable to such permit.

SIGNATURE OF APPLICANT ADDRESS DATE PHONE

RESPONSIBLE PERSON IN CHARGE OF WORK, TITLE DATE PHON

2-18-11

Widen Ramp

Went over HR and Fall Protection

dc to close some walls

Still need another close in, ceiling, and Plumbing Insp
NLD.



Certificate of Occupancy

CITY OF PORTLAND, MAINE
Department of Planning and Urban Development
Building Inspections Division



Issued to: Marc Foster/ Reny's

Date Issued: 7/27/2011

Location: 540 Congress St.

CBL: 037 H002001

This is to certify that the building, premises, or part thereof, at the above location, built-altered-changed as to use under Building Permit No. 2011-01-315, has had a final inspection, has been found to conform substantially to the requirements of the Building Code and the Land Use Code of the City of Portland, and is hereby approved for occupancy or use, limited or otherwise, as indicated below.

PORTION OF BUILDING OR PREMISES

ENTIRE

APPROVED OCCUPANCY

Retail
Use Group M
Type 2B
IBC-2009

Limiting Conditions:

Approved: 7-27-11

Inspector

Inspections Division Director

Notice: This certificate identifies the legal use of the building or premises, and ought to be transferred from owner to owner upon the sale of the property.



Certificate of Occupancy

CITY OF PORTLAND, MAINE

Department of Planning and Urban Development

Building Inspections Division



Issued to: Marc Foster/Reny's

Date Issued: 4/12/2011

Location: 570 CONGRESS ST.

CBL: 07 H002001

This is to certify that the building, premises, or part thereof at the above location, built-altered-changed as to use under Building Permit No. 2011-01-315, has had a final inspection, has been found to conform substantially to the requirements of the Building Code and the Land Use Code of the City of Portland, and is hereby approved for occupancy or use, limited or otherwise, as indicated below.

PORTION OF BUILDING OR PREMISES

ENTIRE

APPROVED OCCUPANCY

Retail

Use Group M

Type 2B

IBC-2009

Limiting Conditions: This is a temporary occupancy permit which has an expiration date of April 30, 2011.

Approved:

4-12-2011

Inspector

Inspections Division Director

Notice: This certificate identifies the legal use of the building or premises, and ought to be transferred from owner to owner upon the sale of the property.

Kamco Supply Corp. of Boston

P.O. Box 845276, BOSTON, MA 02284-5276,

Tel: 781-938-0909 Fax: 781-932-9213

Division Purchased at:

KAMCO SUPPLY - PORTLAND

INVOICE NO. 144278

Date: 14 JUN 2011

Account: FLYNSC

Page No.: 1

Project No.:

Customer:

S.F. FLYNN-Z CO., INC
P.O. BOX 2353
W. SCARBOROUGH, ME 04070

Ship To

S.F. FLYNN-Z CO., INC
WILL CALL

Salesperson: DPB	Customer PO#	RENY'S	Terms: 1% 10 DAYS
Sales Order: 133411	Customer Job	GAS ROOM	Ship Via: CPU

Order	Ship	B/O	Description	Unit Price	Extension
1	1		HOLLOW METAL DOOR 1-3/8" 3067 (NET HGT 77-1/2") RH 161, PREP FOR 4" HINGES @ 7" , 35", PREP FOR 161 (NO TB) @ 40" CL FROM TOP OF DOOR FIRE RATED 90 MIN		

Product Sub-Total	\$.00
MAINE TAX @5.000%	\$.00
Total	\$.00



PORTLAND MAINE

Strengthening a Remarkable City, Building a Community for Life • www.portlandmaine.gov

Director of Planning and Urban Development
Penny St. Louis Littell

Job ID: 2011-01-315-ALTCOMM

Located At: 540 CONGRESS

CBL037 - - H - 002 - 001 - - - -

Conditions of Approval:

Zoning

1. Separate permits shall be required for any new signage.
2. This permit is being approved on the basis of plans submitted. Any deviations shall require a separate approval before starting that work.
3. ANY exterior work requires a separate review and approval thru Historic Preservation. This property is located within an Historic District.
4. This property shall remain a retail use. Any change of use shall require a separate permit application for review and approval.

Historic

1. Staff requests that revised drawings be submitted that more accurately reflect the Historic Preservation Board's condition of approval. Specifically, the decorative brick soldier course is to wrap head of door opening, with mitered corners. Staff also recommends that bollards be installed at door opening to provide additional protection. Project architect has agreed to condition.

Fire

1. All construction shall comply with City Code Chapter 10.
2. The Fire alarm and Sprinkler systems shall be reviewed by a licensed contractor[s] for code compliance. Compliance letters are required.
3. A separate Fire Alarm Permit is required for new systems; or for work effecting more than 5 fire alarm devices; or replacement of a fire alarm panel with a different model.
4. A separate Suppression System Permit is required for all new suppression systems or sprinkler work effecting more than 20 heads.
5. Fire extinguishers are required. Installation per NFPA 10.
6. Emergency lights and exit signs are required. Emergency lights and exit signs are required to be labeled in relation to the panel and circuit and on the same circuit as the lighting for the area they serve.
7. All commercial bathrooms require emergency lights
8. Any cutting and welding done will require a Hot Work Permit from Fire Department.
9. Non-combustible construction of this structure requires all construction to be Non-combustible.

10. Installation of a sprinkler or fire alarm system requires a Knox Box to be installed per city ordinance.
11. The stair enclosure on the Free St. side shall be addressed for fire ratings and opening protection prior to issuing a Certificate of Occupancy. Applicable permits shall be submitted.

Building

1. Application approval based upon information provided by applicant, including revisions received 2/10/11. Any deviation from approved plans requires separate review and approval prior to work.
2. Separate permits are required for any electrical, plumbing, sprinkler, fire alarm, HVAC systems, heating appliances, including pellet/wood stoves, commercial hood exhaust systems and fuel tanks. Separate plans may need to be submitted for approval as a part of this process.
3. All penetrations through rated assemblies must be protected by an approved firestop system installed in accordance with ASTM 814 or UL 1479, per IBC 2003 Section 712.
4. New cafe, restaurant, lounge, bar or retail establishment where food or drink is sold and/or prepared shall meet the requirements of the City and State Food Codes.
5. Approval of City license is subject to health inspections per the Food Code.

BUILDING PERMIT INSPECTION PROCEDURES

Please call 874-8703 or 874-8693 (ONLY)

or email: buildinginspections@portlandmaine.gov

With the issuance of this permit, the owner, builder or their designee is required to provide adequate notice to the city of Portland Inspections Services for the following inspections. Appointments must be requested 48 to 72 hours in advance of the required inspection. The inspection date will need to be confirmed by this office.

- **Please read the conditions of approval that is attached to this permit!! Contact this office if you have any questions.**
 - **Permits expire in 6 months. If the project is not started or ceases for 6 months.**
 - **If the inspection requirements are not followed as stated below additional fees may be incurred due to the issuance of a "Stop Work Order" and subsequent release to continue.**
1. Close In Elec/Plmb/Framing
 2. Final Inspection at completion including full report of special inspections and business license inspection.

The project cannot move to the next phase prior to the required inspection and approval to continue, REGARDLESS OF THE NOTICE OF CIRCUMSTANCES.

IF THE PERMIT REQUIRES A CERTIFICATE OF OCCUPANCY, IT MUST BE PAID FOR AND ISSUED TO THE OWNER OR DESIGNEE BEFORE THE SPACE MAY BE OCCUPIED.

GEORGE S. PARKER**ARCHITECT**

206 Elm Street
P.O.B. 1327
Damariscotta, Maine 04543

Phone 207-563-8754
Fax 207-563-7029
Email:gparker@gparkerarchitect.com

January 14, 2011

Ms. Tammy Munson
Building Inspections Department
Portland City Hall
389 Congress Street
Portland, ME 04101

RECEIVED
JAN 20 2011
Dept. of Building Inspections
City of Portland Maine

Re: 540 Congress Street Building Permit Application

Dear Tammy,

Enclosed are the following for review and approval of the remaining portion of the 540 Congress Street project (including the Loading area work).

1. Permit application. This application includes both the remainder of the renovation work and the work at the Loading Area.
2. The drawings include the removal and Life Safety plans already submitted in addition to the other drawings.
3. Specifications: They include all the work for the project. Structural specifications are shown on the drawings.
4. Permit fee for the remainder of the renovation work is enclosed. The fee for the Loading area work is being paid for by Marc Foster separately. He will be coming in to discuss this with Lannie.
5. The application submission from the Structural Engineer for the Loading area is included.

Please note that there is no Fire suppression drawing enclosed as Eastern Fire Protection will be applying for that permit separately and will discuss with the Fire Department what their needs are. It is assumed that the building permit can be issued without that drawing.

The Mechanical and electrical and fire alarm drawings are enclosed. If they are not satisfactory in any way, please call Steve Flynn at 415-6073 or his office at 883-0306 and he will get what you need. I am going to be out of State for 3 weeks, but can be reached by e-mail or cell (350-9220) if there is information required.

Let me know if there is further information or clarifications needed.

Many thanks for your help.

Sincerely,

A handwritten signature in black ink that reads "George Parker". The signature is written in a cursive style with a long horizontal flourish at the end.

George Parker, Architect



General Building Permit Application

If you or the property owner owes real estate or personal property taxes or user charges on any property within the City, payment arrangements must be made before permits of any kind are accepted.

Location/Address of Construction: <u>540 CONGRESS STREET</u>		
Total Square Footage of Proposed Structure/Area <u>26,736</u>	Square Footage of Lot <u>27,955</u>	
Tax Assessor's Chart, Block & Lot Chart# <u>037</u> Block# <u>H-002002</u> Lot#	Applicant * <u>must</u> be owner, Lessee or Buyer* Name <u>MARC FOSTER</u> Address <u>90 CARROLL ST</u> City, State & Zip <u>PORTLAND 04102</u>	Telephone: <u>207-408-5100</u>
Lessee/DBA (If Applicable): <u>RH. RENY CO.</u> <u>731 ROUTE 1</u> <u>NEW CASTLE, ME 04553</u>	Owner (if different from Applicant): Name Address City, State & Zip	Cost Of <u>20,000-DEMO</u> Work: \$ <u>280,000 INTERI</u> <u>65,000 LOAD</u> C of O Fee <u>\$343,000</u> Total Fee: \$ _____
Current legal use (i.e. single family) <u>COMMERCIAL</u> If vacant, what was the previous use? Proposed Specific use: <u>MERCANTILE</u> Is property part of a subdivision? <u>NO</u> If yes, please name Project description: <u>RENOVATION OF FIRST FLOOR SPACE.</u>		
Contractor's name: <u>FLYNN-2 CONSTRUCTION</u> Address: <u>P.O. B E 2353, 91 BROADTURN Rd.</u> Telephone: <u>415-6073</u> City, State & Zip: <u>SCARBOROUGH, ME 04070</u> Telephone: <u>883-0506</u> Who should we contact when the permit is ready: <u>FLYNN-2 (STEVE FLYNN)</u> Telephone: <u>SAME</u> Mailing address: <u>SEE ABOVE</u>		

Please submit all of the information outlined on the applicable Checklist. Failure to do so will result in the automatic denial of your permit.

In order to be sure the City fully understands the full scope of the project, the Planning and Development Department may request additional information prior to the issuance of a permit. For further information or to download copies of this form and other applications visit the Inspections Division on line at www.portlandmaine.gov, or stop by the Inspections Division office, room 315 City Hall or call 874-8703.

I hereby certify that I am the Owner of record of the named property, or that the owner of record authorizes the proposed work and that I have been authorized by the owner to make this application as his/her authorized agent. I agree to conform to all applicable laws of this jurisdiction. In addition, if a permit for work described in this application is issued, I certify that the Code Official's authorized representative shall have the authority to enter all areas covered by this permit at any reasonable hour to enforce the provisions of the codes applicable to this permit.

Signature: Marc Foster

Date: 12-28-2010

This is not a permit, you may not commence ANY work until the permit is issue

* THIS PROJECT IS DIVIDED INTO 2 PARTS :
PART 1 - Interior Renovation Work
PART 2 - MODIFICATIONS TO LOADING DECK AREA.



Certificate of Design Application

From Designer:

GEORGE S. PARKER, ARCHITECT

Date:

12/28/2010

Job Name:

540 CONGRESS ST. RENOVATIONS

Address of Construction:

540 CONGRESS ST.

2003 International Building Code

Construction project was designed to the building code criteria listed below:

BUILT IN 1940'S

Building Code & Year CODE UNKNOWN Use Group Classification (s) M - MERCANTILE

Type of Construction TYPE 2 - UNPROTECTED (AN ASSUMPTION)

Will the Structure have a Fire suppression system in Accordance with Section 903.3.1 of the 2003 IRC YES

Is the Structure mixed use? YES If yes, separated or non separated or non separated (section 302.3) DO NOT KN

Supervisory alarm System? YES Geotechnical/Soils report required? (See Section 1802.2) N/A

Structural Design Calculations

Submitted for all structural members (106.1 - 106.11)

Design Loads on Construction Documents (1603)

Uniformly distributed floor live loads (7603.11, 1807)

Floor Area Use	Loads Shown

Wind loads (1603.1.4, 1609)

- Design option utilized (1609.1.1, 1609.6)
- Basic wind speed (1809.3)
- Building category and wind importance Factor, I_w table 1604.5, 1609.5
- Wind exposure category (1609.4)
- Internal pressure coefficient (ASCE 7)
- Component and cladding pressures (1609.1.1, 1609.6.2.2)
- Main force wind pressures (7603.1.1, 1609.6.2.1)

Earth design data (1603.1.5, 1614-1623)

- Design option utilized (1614.1)
- Seismic use group ("Category")
- Spectral response coefficients, S_D & S_{D1} (1615.1)
- Site class (1615.1.5)

- Live load reduction
- Roof live loads (1603.1.2, 1607.11)
- Roof snow loads (1603.7.3, 1608)
- Ground snow load, P_g (1608.2)
- If $P_g > 10$ psf, flat-roof snow load P_f
- If $P_g > 10$ psf, snow exposure factor, C_e
- If $P_g > 10$ psf, snow load importance factor, C_t
- Roof thermal factor, C_{tr} (1608.4)
- Sloped roof snowload, P_s (1608.4)
- Seismic design category (1616.3)
- Basic seismic force resisting system (1617.6)
- Response modification coefficient, R_d and deflection amplification factor C_d (1617.6.2)
- Analysis procedure (1616.6, 1617.5)
- Design base shear (1617.4, 1617.5.1)

Flood loads (1803.1.6, 1612)

- Flood Hazard area (1612.3)
- Elevation of structure

Other loads

- Concentrated loads (1607.4)
- Partition loads (1607.5)
- Misc. loads (Table 1607.8, 1607.6.1, 1607.7, 1607.12, 1607.13, 1610, 1611, 2404)

SEE APPLICATION INFORMATION BY ASSOCIATED DESIGN PARTNERS FOR THIS.



Commercial Interior & Change of Use Permit Application Checklist

All of the following information is required and must be submitted. Checking off each item as you prepare your application package will ensure your package is complete and will help to expedite the permitting process.

One (1) complete set of construction drawings must include:

Note: Construction documents for costs in excess of \$50,000.00 must be prepared by a Design Professional and bear their seal.

- Cross sections w/framing details
- Detail of any new walls or permanent partitions
- Floor plans and elevations
- Window and door schedules
- Complete electrical and plumbing layout.
- Mechanical drawings for any specialized equipment such as furnaces, chimneys, gas equipment, HVAC equipment or other types of work that may require special review
- N/A Insulation R-factors of walls, ceilings, floors & U-factors of windows as per the IECC 2003
- Proof of ownership is required if it is inconsistent with the assessors records.
- Reduced plans or electronic files in PDF format are required if originals are larger than 11" x 17".
- N/A Per State Fire Marshall, all new bathrooms must be ADA compliant.

Separate permits are required for internal and external plumbing, HVAC & electrical installations.

For additions less than 500 sq. ft. or that does not affect parking or traffic, a site plan exemption should be filed including:

- The shape and dimension of the lot, footprint of the existing and proposed structure and the distance from the actual property lines.
- Location and dimensions of parking areas and driveways, street spaces and building frontage.
- Dimensional floor plan of existing space and dimensional floor plan of proposed space.

A Minor Site Plan Review is required for any change of use between 5,000 and 10,000 sq. ft. (cumulatively within a 3-year period)



Certificate of Design

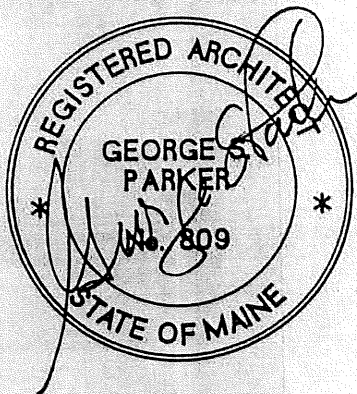
Date: 12/28/2010

From: GEORGE PARKER

These plans and / or specifications covering construction work on:

RENOVATIONS to 540 CONGRESS ST.

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



Signature: *George Parker*

Title: OWNER

Firm: GEORGE PARKER, ARCHITECT

Address: POB 1527

DAMARISCOTTA, ME 04875

Phone: 563-8754

For more information or to download this form and other permit applications visit the Inspections Division on our website at www.portlandmaine.gov



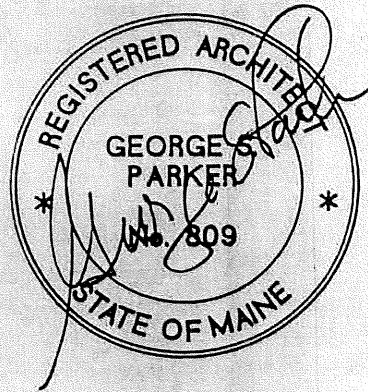
Accessibility Building Code Certificate

Designer: GEORGE PARKER, ARCHITECT

Address of Project: 540 CONGRESS ST.

Nature of Project: RENOVATE 2 RETAIL SPACES INTO
1 SPACE

The technical submissions covering the proposed construction work as described above have been designed in compliance with applicable referenced standards found in the Maine Human Rights Law and Federal Americans with Disability Act. Residential Buildings with 4 units or more must conform to the Federal Fair Housing Accessibility Standards. Please provide proof of compliance if applicable.



Signature: George Parker

Title: OWNER

Firm: GEORGE PARKER

Address: P.O. B 1327

DAMARISCOTTA, ME 04543

Phone: 563-8754

For more information or to download this form and other permit applications visit the Inspections Division on our website at www.portlandmaine.gov

Fire Department requirements.

The following shall be submitted on a separate sheet:

- Name, address and phone number of applicant **and** the project architect.
- Proposed use of structure (NFPA and IBC classification)
- Square footage of proposed structure (total and per story)
- Existing and proposed fire protection of structure.
- see letter* → Separate plans shall be submitted for
 - a) Suppression system
 - b) Detection System (separate permit is required)
- A separate Life Safety Plan must include:
 - a) Fire resistance ratings of all means of egress
 - b) Travel distance from most remote point to exit discharge
 - c) Location of any required fire extinguishers
 - d) Location of emergency lighting
 - e) Location of exit signs
 - f) NFPA 101 code summary
- N/A* Elevators shall be sized to fit an 80" x 24" stretcher.

For questions on Fire Department requirements call the Fire Prevention Officer at (207) 874-8405.

Please submit all of the information outlined in this application checklist. If the application is incomplete, the application may be refused.

In order to be sure the City fully understands the full scope of the project, the Planning and Development Department may request additional information prior to the issuance of a permit. For further information or to download copies of this form and other applications visit the Inspections Division on-line at www.portlandmaine.gov, or stop by the Inspections Division office, room 315 City Hall or call 874-8703.

Permit Fee: \$30.00 for the first \$1000.00 construction cost, \$10.00 per additional \$1000.00 cost

This is not a Permit; you may not commence any work until the Permit is issued.

206 Elm Street
P.O.B. 1327
Damariscotta, Maine 04543

Phone 207-563-8754
Fax 207-563-7029
Email:gparker@gparkerarchitect.com

January 14, 2010

Portland Fire Department Permit Submission

1. Name/addresses of applicant
Marc Foster
90 Carroll Street
Portland, ME 04102
2. Name/ Address of project Architect:
George Parker, Architect
P.O. Box 1327
Damariscotta, ME 04543
3. Current and Proposed Use of Structure: Mercantile/Mercantile
4. Area of Structure:
 - a. Basement: Assumed to be the same area as First Floor: 26,736 SF.
 - b. First Floor:
 - 1) Gross Area: 26,736
 - 2) Net area(for exiting purposes):
 - a.) Mercantile: 19,240 SF
 - b.) Storage: 2,740 SF
 - c.) Office: 2,211 SFTotal 24,191 SF
 - c. Second Floor: The Apartment on the 2nd Floor is located on the Congress street side and is approximately 4,300 SF.
5. Existing and proposed Fire protection of the structure: While the first floor slab and supporting columns are concrete, the remainder of the construction has not been determined. The roof structure in the only part that was visible had a steel frame and concrete plank roof deck. Therefore, to be on the conservative side we are assuming that the building is Type II, unprotected. The entire structure is sprinklered, with a monitored fire alarm system. In addition, it has been assumed that the building as currently configured meets the requirements for the City of Portland .
6. Plans:
 - a. Suppression system: The building currently has a suppression system and will be modified to conform to NFPA 13 for the plans as submitted. Eastern Fire Protection will be preparing the sprinkler plan for submission to both Portland and the Fire Marshal's Office. The drawings as submitted do not show this system yet. They will be submitted as required for the suppression permit.
 - b. Detections system: The building currently has a fire alarm system that has 24 hour monitoring. This system will be modified for the configuration shown on the Fire

Alarm drawing FA-1. The life Safety Plan, A3, also shows similar information.

7. Life Safety Plan.

- a. The A3- Life Safety Plan, shows locations of emergency lighting, exits, fire alarm system components, fire extinguisher locations, travel distances to exits, and a code analysis.

From: Tammy Munson
To: Jeanie Bourke
Date: 3/11/2011 9:22 AM
Subject: Fwd: 540 Congress Street
Attachments: 540Drawings 031011.pdf; TruckPlan030711.pdf

>>> George Parker <gparker@gparkerarchitect.com> 3/10/2011 10:10 AM >>>
Tammy, Lannie and Jeanne,
I am sending this to you, Tammy, as I don't have the correct email address for Jeanne Bourke. Would you make she gets it as she is the one that has been involved to date. I have enclosed a revised set of drawings that reflect some of the more minor changes and some proposed changes at the loading dock that will need your more immediate scrutiny as they want to begin work ASAP.

The change in the loading dock is that they wish to eliminate the scissor lift and create a raised loading dock at the inside door with a ramp. This will result in the following changes:

1. A smaller inside door (8'x9').
2. The outside door needs to be 13' high instead of 12' as there will be an angle to the truck, making a 12; door possibly an issue. I have modified the brick around the door and added a steel protector at the jambs, per historic Preservation request. Other than that, no other changes to the outside.
3. Addition of the raised loading platform and ramp. We are assuming that the use of fire retardant treated wood over steel framing is acceptable as it was approved for the ADA ramp. Let me know if that is an issue. We are currently having the structural engineer make the necessary revisions.
4. Because the truck will not be backing in as far as was previously configured it will be sticking out passed the parked vehicles by about 14". A drawing of this is included. Would you have the Highway Department, person (Matt Doughty?) review this to determine if this is going to be a problem. As the road is one way, it should not present a serious issue.

37-H-2

Please review this and let me, Marc and Steve Flynn know if there are issues. Thanks for your help.

George

George Parker, Architect
P.O. Box 1327
Damariscotta, ME 04543

Tel. 207-563-8754
Fax: 207 563-7029

RECEIVED
MAR 11 2011
Dept. of Building Inspections
City of Portland Maine



Certificate of Design Application

ASSOCIATED DESIGN PARTNERS, INC

From Designer:

Date:

Job Name:

Address of Construction:

1-7-11

540 CONGRESS ST

540 CONGRESS ST, PORTLAND MAINE

2003 International Building Code

Construction project was designed to the building code criteria listed below:

Building Code & Year 2009 IBC Use Group Classification (s) B

Type of Construction 1

Will the Structure have a Fire suppression system in Accordance with Section 903.3.1 of the 2003 IRC Y

Is the Structure mixed use? Y If yes, separated or non separated or non separated (section 302.3) SEPARATED

Supervisory alarm System? Y Geotechnical/Soils report required? (See Section 1802.2) N

Structural Design Calculations

 Submitted for all structural members (106.1 – 106.11)

Design Loads on Construction Documents (1603)

Uniformly distributed floor live loads (7603.11, 1807)

Floor Area Use LIGHT STORAGE Loads Shown 125 PSF

Wind loads (1603.1.4, 1609)

NA Design option utilized (1609.1.1, 1609.6)

Basic wind speed (1809.3)

1.0 Building category and wind importance Factor, I_w table 1604.5, 1609.5

B Wind exposure category (1609.4)

Internal pressure coefficient (ASCE 7)

Component and cladding pressures (1609.1.1, 1609.6.2.2)

Main force wind pressures (7603.1.1, 1609.6.2.1)

Earth design data (1603.1.5, 1614-1623)

NA Design option utilized (1614.1)

Seismic use group ("Category")

Spectral response coefficients, S_D & S_{D1} (1615.1)

Site class (1615.1.5)

NO Live load reduction

20 Roof *live* loads (1603.1.2, 1607.11)

50.4 Roof snow loads (1603.7.3, 1608)

60 Ground snow load, P_g (1608.2)

50.4 If $P_g > 10$ psf, flat-roof snow load P_f

1 If $P_g > 10$ psf, snow exposure factor, C_e

1 If $P_g > 10$ psf, snow load importance factor, I_s

1.0 Roof thermal factor, C_t (1608.4)

NA Sloped roof snowload, P_s (1608.4)

NA Seismic design category (1616.3)

NA Basic seismic force resisting system (1617.6.2)

NA Response modification coefficient, R_f and

deflection amplification factor C_d (1617.6.2)

Analysis procedure (1616.6, 1617.5)

Design base shear (1617.4, 1617.5.1)

Flood loads (1803.1.6, 1612)

NA Flood Hazard area (1612.3)

NA Elevation of structure

Other loads

NA Concentrated loads (1607.4)

NA Partition loads (1607.5)

NA Misc. loads (Table 1607.8, 1607.6.1, 1607.7, 1607.12, 1607.13, 1610, 1611, 2404)

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City of Portland, Maine



Certificate of Design

Date: 1-7-11

From: ASSOCIATED DESIGN PARTNERS, INC

These plans and / or specifications covering construction work on:

540 CONGRESS ST - FIRST FLOOR REINFORCING

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



Signature: *Aaron S. Wilson*

Title: ENGINEER

Firm: ASSOCIATED DESIGN PARTNERS, INC

Address: 80 LEIGHTON RD

FALMOUTH, ME 04105

Phone: 878-1751

For more information or to download this form and other permit applications visit the Inspections Division on our website at www.portlandmaine.gov

**STATEMENT OF SPECIAL
CONSTRUCTION MONITORING**

**PROJECT: 540 Congress St – Floor Reinforcing
Portland, Maine**

**PERMIT APPLICANT: Marc Foster – FFD Trust
APPLICANT'S ADDRESS: 90 Carroll St, Portland ME 04102**

**STRUCTURAL ENGINEER OF RECORD
Associated Design Partners, Inc
80 Leighton Rd, Falmouth ME 04105**

CONTRACTOR: Steve Flynn

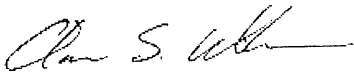
This Statement of Special Construction Monitoring is submitted as a condition for building permit issuance in accordance with Section 1704.0 of the 2009 International Building Code. It includes the Schedule of Special Construction Monitoring and Testing as applicable to this project. Also included is a listing of agents and other approved agencies to be retained for conducting the monitoring and testing applicable to this project.

The Special Construction Monitoring Coordinator shall keep records of all observations listed herein, and shall furnish field reports to the Registered Design Professional of Record. All discrepancies shall be brought to the immediate attention of the Contractor for correction, and to the Registered Design Professional of Record. If the discrepancies are not corrected, the discrepancies shall be brought to the attention of the Registered Design Professional of Record. Interim reports shall be submitted to the Registered Design Professional of Record monthly, unless more frequent submissions are requested.

The Special Construction Monitoring program does not relieve the Contractor of his or her responsibilities. Job site safety is solely the responsibility of the Contractor. Materials and activities covered under the monitoring schedule are not to include the Contractor's equipment and methods used to erect or install the materials listed.

Prepared by:

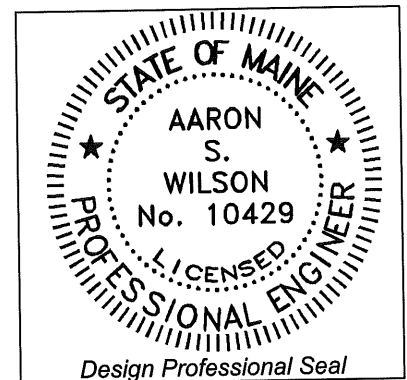
Aaron S. Wilson
(type or print name)



Signature

1-7-11

Date



Owner's Authorization:

Building Official's Acceptance:

Signature

Date

Signature

Date

SPECIAL CONSTRUCTION MONITORING AGENTS

This Statement of Special Construction Monitoring / Quality Assurance Plan includes the following building systems:

- | | |
|---|--|
| <input type="checkbox"/> Soils and Foundations
<input checked="" type="checkbox"/> Cast-in-Place Concrete
<input type="checkbox"/> Precast Concrete
<input type="checkbox"/> Masonry
<input checked="" type="checkbox"/> Structural Steel
<input type="checkbox"/> Cold-Formed Steel Framing | <input type="checkbox"/> Spray Fire Resistant Material
<input type="checkbox"/> Wood Construction
<input type="checkbox"/> Exterior Insulation and Finish System
<input type="checkbox"/> Mechanical & Electrical Systems
<input type="checkbox"/> Architectural Systems
<input type="checkbox"/> Special Cases |
|---|--|

AGENT	FIRM	CONTACT INFORMATION
1. Engineer of Record	Associated Design Partners	80 Leighton Rd Falmouth ME 04105 Ph: 878-1751
2. Special Construction Monitoring Coordinator	Associated Design Partners	80 Leighton Rd Falmouth ME 04105 Ph: 878-1751
3. Field Monitor	TBD	
4. Testing Agency	TBD	

Note: The testing agency shall be engaged by the Owner or the Owner's Agent, and not by the Contractor or Subcontractor whose work is to be inspected or tested. Any conflict of interest must be disclosed to the Building Official, prior to commencing work.

QUALITY ASSURANCE FOR LATERAL SYSTEMS

Quality Assurance for Seismic Requirements

Seismic Design Category *B*
Quality Assurance Plan Required (Y/N) *N*

If seismic design category C, and plan is not required, explain (see exceptions to 1705.1)

Description of seismic force resisting system and designated seismic systems:

Ordinary Steel Moment Resisting Frames

Quality Assurance for Wind Requirements

Basic Wind Speed (3 second gust) *98MPH*
Quality Assurance Plan Required (Y/N) *N*

Description of wind force resisting system and designated wind resisting components:
Ordinary Steel Moment Resisting Frames.

Statement of Responsibility

Each contractor responsible for the construction or fabrication of a system or component designated above must submit a Statement of Responsibility in accordance with section 1705.3, and 1706.3 of the 2003 IBC code.

The qualifications of all personnel performing Special Inspection and testing activities are subject to the approval of the Building Official. The credentials of all Inspectors and testing technicians shall be provided if requested.

Key for Minimum Qualifications of Inspection Agents:

When the Registered Design Professional in Responsible Charge deems it appropriate that the individual performing a stipulated test or inspection have a specific certification or license as indicated below, such designation shall appear below the *Agency Number* on the Schedule.

PE/SE	Structural Engineer – a licensed SE or PE specializing in the design of building structures
PE/GE	Geotechnical Engineer – a licensed PE specializing in soil mechanics and foundations
EIT	Engineer-In-Training – a graduate engineer who has passed the Fundamentals of Engineering examination

American Concrete Institute (ACI) Certification

ACI-CFTT	Concrete Field Testing Technician – Grade 1
ACI-CCI	Concrete Construction Inspector
ACI-LTT	Laboratory Testing Technician – Grade 1&2
ACI-STT	Strength Testing Technician

American Welding Society (AWS) Certification

AWS-CWI	Certified Welding Inspector
AWS/AISC-SSI	Certified Structural Steel Inspector

American Society of Non-Destructive Testing (ASNT) Certification

ASNT	Non-Destructive Testing Technician – Level II or III.
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International Code Council (ICC) Certification

ICC-SMSI	Structural Masonry Special Inspector
ICC-SWSI	Structural Steel and Welding Special Inspector
ICC-SFSI	Spray-Applied Fireproofing Special Inspector
ICC-PCSI	Prestressed Concrete Special Inspector
ICC-RCSI	Reinforced Concrete Special Inspector

National Institute for Certification in Engineering Technologies (NICET)

NICET-CT	Concrete Technician – Levels I, II, III & IV
NICET-ST	Soils Technician - Levels I, II, III & IV
NICET-GET	Geotechnical Engineering Technician - Levels I, II, III & IV

Exterior Design Institute (EDI) Certification

EDI-EIFS	EIFS Third Party Inspector
----------	----------------------------

TABLE 1 – SCHEDULE OF SPECIAL CONSTRUCTION MONITORING

MATERIAL / ACTIVITY		EXTENT of MONITORING (Continuous, Periodic, Other, Exempt, None)	COMMENTS	AGENT #	DATE COMPLETED	REV #
1704.3 STEEL CONSTRUCTION						
1. Material Verification of high strength bolts, nuts, and washers.	a. Identification markings to conform to ASTM standards specified in the approved construction documents.	Periodic	Provide inspection reports for field installed bolts to Agent 1 also.	3		
	b. Manufacturers Certificate of Compliance required.	Other	Fabricator to provide Certificate to Agent 1.	1		
2. Inspection of High – Strength Bolting	a. Bearing type connections	Periodic	Provide inspection reports to Agent 1 also.	3		
	b. Slip – critical connections	None	No S-C connections in building			
3. Material Verification of structural steel	a. Identification marking to conform to ASTM standards specified in the contract documents.	Exempt	Fabricator is AISC certified.			
	b. Manufacturers certified mill test Reports.	Other	Fabricator to provide Certificate to Agent 1.	1		
4. Material Verification of weld filler materials:	a. Identification marking to conform to AWS standards specified in the contract documents.	Exempt	Fabricator is AISC certified.			
	b. Manufacturers Certificate of Compliance required.	Exempt	No field welding. Shop welding performed by AISC certified fabricator			
5. Inspection of Welding – Structural Steel	a. Single Pass fillet welds < 5/16"	Periodic	Inspect Field welds only. Shop welding performed by AISC certified fabricator	3		
	b. Roof deck attachment	None	Provide inspection reports to Agent 1 also.			
6. Inspection of Steel Frame Joint details for compliance with approved documents.	a. Bracing / moment frame connections	None	Provide inspection reports to Agent 1 also.			
	b. Member locations	Periodic	Provide inspection reports to Agent 1 also.	3		
	c. Application of joint details at each connection.	Periodic	Provide inspection reports to Agent 1 also.	3		

TABLE 1 – STATEMENT OF SPECIAL INSPECTIONS, cont.

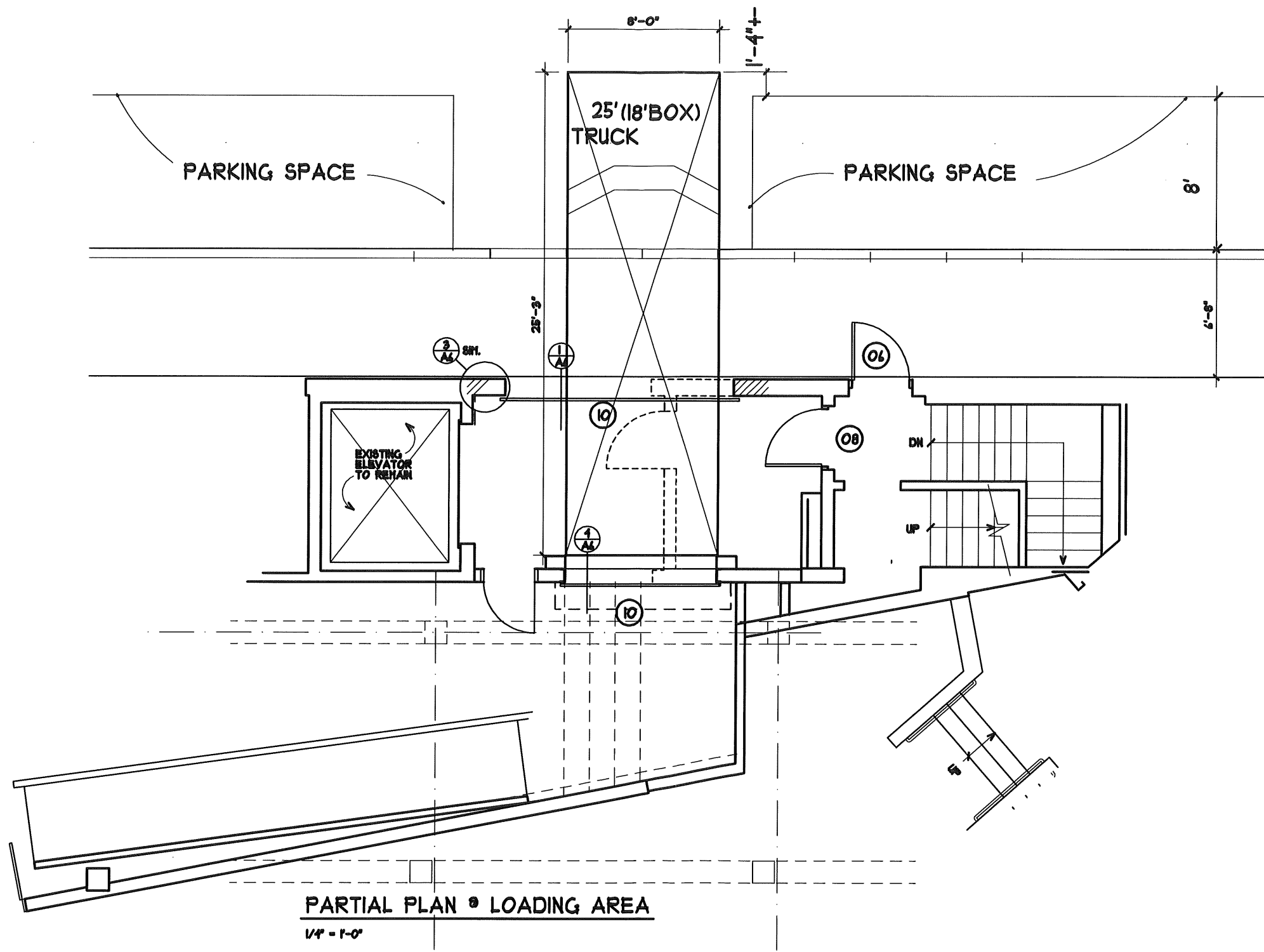
MATERIAL/ACTIVITY	EXTENT of INSPECTION (Continuous, Periodic, Other, None)	COMMENTS	AGENT #	DATE COMPLETED	REV #
1704.4 CONCRETE CONSTRUCTION					
1. Inspection of reinforcing steel, including placement.	Periodic		1		
2. Inspection of reinforcing steel welding	None	No welding of rebar specified in contract drawings			
3. Inspect bolts embedded into concrete prior to and during placement of concrete where allowable loads have been increased.	None	Allowable loads have not been increased for lateral loads.			
4. Verify concrete mix design(s)	Periodic	SER to review and approve mix design(s) prior to delivery.	1		
5. Sample fresh concrete for strength tests, perform slump and air content tests, and determine temperature of concrete.	Periodic		3,4		
6. Inspection of concrete placement for proper techniques.	Periodic		3		
7. Inspection for maintenance of specified curing temperature and techniques.	Periodic		3		
1704.5 MASONRY CONSTRUCTION - Level 1 Special Inspection for non-essential facility – 1704.5.2					
1. As Masonry Construction begins, the following shall be verified to ensure conformance	a. Proportions of site-prepared mortar	None			
	b. Construction of mortar joints	None			
	c. Location of reinforcement	None			
	d. Pre-stressing technique	None	No pre-stressing in building		
	e. Grade and size of pre-stressing tendons.	None	No pre-stressing in building		
2. The Inspection program shall verify the following:	a. Size and location of structural elements.	None			
	b. Type, size, and location of embedded anchors.	None			
	c. Size, grade, and type of reinforcing	None			
1704.5 MASONRY CONSTRUCTION - Level 1 Special Inspection for non-essential facility – 1704.5.2					

TABLE 1 – STATEMENT OF SPECIAL INSPECTIONS, cont.

MATERIAL/ACTIVITY		EXTENT of INSPECTION (Continuous, Periodic, Other, None)	COMMENTS	AGENT #	DATE COMPLETED	REV #
2. The Inspection program shall verify the following, cont:	d. welding of reinforcing bars	None				
	e. Protection of Masonry during cold weather (temp. below 40 deg F.)	None				
	f. Application and measurement of pre-stressing reinforcement	None	No pre-stressing in building			
3. Prior to grouting, the following shall be verified to ensure compliance.	a. Grout space is clean	None				
	b. Placement of reinforcement	None				
	c. Proportions of site-prepared grout	None				
	d. Construction of mortar joints	None				
4. Grout placement shall be verified to ensure compliance with code and construction document provisions.		None				
5. Preparation of any grout specimens, mortar specimens and/or prisms shall be observed		None				
6. Compliance with required inspection provisions of the construction documents and the approved submittals shall be verified.		None				
1704.6 WOOD CONSTRUCTION						
1. Horizontal Diaphragms and Vertical Shearwalls	a. Inspect sheathing size, grade, and thickness for conformance with construction documents.	None				
	b. Inspect sheathing fastener size and pattern for conformance with construction documents.	None				
	c. Verify attachment to supporting elements is per contract documents.	None				
2. Wood truss fabricator certification / quality control procedures	Verify shop fabrication and quality control procedures for wood truss plant.	None				
3. Material Grading	Verify material grading for sawn lumber for compliance with construction documents. Verify manufactured lumber (LVL's, PSL's) for conformance with construction documents.	None				

1704.6 WOOD CONSTRUCTION						
4. Wood Connections	Verify that connections are made as shown in the contract documents. For connections not specifically detailed, verify conformance with IBC 2003 Ch. 23	None				
5. Framing	Verify that framing is installed in accordance with construction documents.	None				
6. Pre-Fabricated Wood Trusses	Inspect truss and all bracing installation. Bracing to be installed per fabricator's recommendations and BCSI 1-03	None				
1704.7 SOILS						
1. Site Preparation	Inspect preparation of site for conformance with Geotechnical recommendations prior to placement of prepared fill.	None				
2. Fill Placement	During Fill Placement verify that material and lift thickness comply with approved Geotechnical report.	None				
3. In-Place Soil Density	Verify compliance of in-place compacted dry density with approved Geotechnical report.	None				
1704.7 PILE FOUNDATIONS	Record installation and testing of procedures of each pile. Submit reports to building official and EOR. Reports to include pile tip cutoff elevation relative to a common benchmark.	None	No Piles on Job			
1704.10 ARCHITECTURAL WALL PANELS AND VENEERS	Verify compliance of attachment of interior and exterior Architectural veneers to supporting structure for building in Seismic Design Category E or F.	None	Building is Seismic Design Category B			
1704.11 SPRAYED FIRE-RESISTANT MATERIAL	a. Verify conformance of the prepared surface with manufacturer's specifications prior to application of material.	None	No Sprayed Fire-Resistant material in building.			
	b. Verify that substrate's ambient temperature meet manufacturer's specifications.	None				
	c. Verify that material thickness meets design specifications.	None				
	d. Verify that the material density meets the design specifications. Test in	None				

	accordance with ASTM E 605.					
	e. Verify that bond strength between material and substrate is greater than or equal to 150 psf. Test in accordance with ASTM E 736 and IBC 2003 1704.11.5.1 – 1704.11.5.2	None				
1704.12 EXTERIOR AND INSULATION AND FINISH SYSTEMS (EIFS)	Verify conformance of EIFS installation with manufacturers and design specifications.	None	No EIFS on building.			
1704.13 SPECIAL CASES COLD FORMED METAL FRAMING						
1. Framing	Verify member size, thickness, material, and spacing is in accordance with design specifications and drawings.	None				
2. Framing Connections	Verify that member connections are in accordance with design specifications and drawings.	None				
3. Welding	Verify welding of cold formed members is in accordance with design specifications and AWS standards.	None				
4. Light Gage Trusses	a. Verify that light gage trusses are design in accordance with the loads specified on the contract documents.	None				
	b. Verify that light gage trusses and truss bracing is installed per manufacturers specifications, contract documents, and BCSI 1-03 guidelines.	None				
1704.10 SMOKE CONTROL						
	a. Test ductwork for leakage and re-code device locations prior to concealment of mechanical systems.	None				
	b. Prior to building occupation, perform pressure difference testing, flow measurements and detection, and control monitoring.	None				



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 City of Portland Maine

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PROJECT MANUAL FOR

**ALTERATIONS AT
540 CONGRESS STREET
PORTLAND, MAINE**

**GEORGE S. PARKER, ARCHITECT
P.O. BOX 1327, 206 ELM STREET
DAMARISCOTTA, MAINE 04543
207-563-8754**

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City of Portland, Maine
**PROJECT NO. 10017
JANUARY 14, 2011**

SECTION 00005

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- M1 MECHANICAL FLOOR PLAN

- FA1 FIRE ALARM PLAN

- E1 ELECTRICAL POWER PLAN
- E2 ELECTRICAL LIGHTING PLAN

SECTION 01000

SPECIAL CONDITIONS

PART 1 GENERAL

1.01 DESCRIPTION:

- A. All work shall be confined to the interior of the building. All delivery of construction materials shall be delivered to the building, unloaded in a manner per the City of Portland regulations and stored inside the building.
- B. Dumpster location shall be coordinated with the City of Portland.
- C. Safety barricades shall be erected and maintained throughout the construction period to segregate the work area from the activity areas. See Section 01530, Barriers, Enclosures and Access, and provide barrier to separate parking areas and pedestrian ways at building from work area.
- D. All materials must be stored inside the building. No outside storage is allowed.
- E. All construction parking shall be off the property.
- F. The Contractor shall obtain Electrical and Plumbing permits.
- G.. Tipping fees for demolition debris are the contractor's responsibility.

PART 2 PRODUCTS : Not applicable

PART 3 EXECUTION: Not applicable

END OF SECTION

SECTION 01028

CHANGE ORDER PROCEDURES

PART 1 GENERAL

1.01 DEFINITIONS

- A. Architect's Supplemental Instructions: Interpretations which may or may not include minor modifications in the Work but which are not significant enough to require a change in Contract Sum and/or Contract Time.
- B. Construction Change Directive: An authorization to proceed with changes based upon a preliminary understanding concerning changes in Contract Sum and/or Contract Time and which is issued expeditiously to avoid delay and later followed up with written Change Order.
- C. Proposal Request: A request for an itemized price quotation for proposed changes in Contract Work.
- D. Change Order: An authorization and agreement among Owner, Architect, and Contractor to proceed with changes in the Contract work for a stipulated sum. It may or may not involve a change in Contract Time.

1.03 ARCHITECT'S SUPPLEMENTAL INSTRUCTIONS

- A. The Architect's clarifications, interpretations, or minor modifications to the Work, with supplementary or revised Drawings and Specifications shall be considered a part of the Contract Documents and supersede previous Drawings and/or Specifications. Supplemental instructions are also intended to confirm, clarify, and supersede any related prior verbal instructions.

1.04 CONSTRUCTION CHANGE DIRECTIVE

- A. Architect may issue a directive signed by Owner, with supplementary or revised Drawings and Specifications, instructing Contractor to proceed immediately with a change in the Work on a "cost-plus" or open, non-fixed basis.
- B. Directive will describe changes and will designate method of determining subsequent Change Order amount.

1.05 CHANGE ORDER PROPOSALS

- A. Architect or Contractor may submit a Proposal Request for changes to the Contract Work.
- B. Contractor may propose a change by submittal of a request to Architect describing proposed change with a statement of reason for change, effect on Contract Sum and/or Contract Time. Contractor shall document any requested substitutions.

- 1.06 DOCUMENTATION OF CHANGE IN CONTRACT SUM AND CONTRACT TIME
- A. Document each quotation for a change in cost or time with sufficient data to allow evaluation of quotation.
 - B. Additional data shall be supplied by the Contractor as requested by the Architect.
- 1.07 CHANGE ORDER WORK EXECUTION
- A. Change Order work shall proceed only after a Change Order form is signed by Owner, Contractor, and Architect (unless a signed Change Order Directive (see above) has also been issued.
- 1.08 FIXED SUM
- A. A fixed sum Change Order will be based on the Contractor's fixed sum quotation.
- 1.09 UNIT PRICE CHANGE ORDER
- A. Where quantities exceed or fall short of quantities included under Allowances (see Section 01020), Change Orders will be executed on a fixed sum basis (to increase or decrease the Contract Sum). Such increase or decrease will be calculated on the basis of the unit prices provided on the Bid Form.
 - B. For Unit Price Change Orders, maintain detailed records of work done, with additional information:
 - 1. Dates and times work was performed.
 - 2. Quantities involved. Clerk and Construction Superintendent shall agree at the end of each day's work on any quantities applied to allowances. See Section 01020 - Allowances.
- 1.10 CORRELATION OF CONTRACTOR SUBMITTALS
- A. General Contractor shall revise next Payment Requisition Form to record each authorized Change Order as a separate line item and adjust Contract Sum.
 - B. General Contractor shall promptly revise overall Project Progress Schedules to reflect any change in Contract Time.
 - C. Where Change Orders involve a change in the Drawings to show "as-built" conditions, the Contractor shall submit revised prints of relevant drawings clearly designating the revisions to the original documents. Payment for Change Orders which include a change to the original drawings will be made after evidence of satisfactory revisions have been made. The Contractor will be supplied with a set of reproducibles upon award of Contract for the express purpose of keeping the Drawings up to date in an "as-built" condition.

PART 2.00 - PRODUCTS

2.01 NOT APPLICABLE

PART 3.00 - EXECUTION

3.01 NOT APPLICABLE

END OF SECTION

SECTION 01150

REMOVALS

PART 1 GENERAL

1.01 DESCRIPTION:

- A. Work included: Removals required for this Work include but are not necessarily limited to work shown on Removal Plans, partitions, floor framing, all electrical devices and wiring, plumbing piping, and other work as indicated on the Drawings.
- B. Definitions: The term "removals" as used herein includes the removal of all existing objects (except for those objects designated to remain), plus such other work as it is described in this Section.

1.02 QUALITY ASSURANCE:

- A. Codes and Standards: In addition to complying with all pertinent codes and regulations, comply with the requirements of those insurance carriers providing coverage for this Work.

1.03 JOB CONDITIONS:

- A. Dust Control: Use all means necessary to prevent the spread of dust during performance of the Work of this Section.
- B. Protection: Use all means necessary to protect existing objects designated to remain and, in the event of damage, immediately make all repairs and replacements necessary to the approval of the Architect at no additional cost to the Owner.

PART 2 PRODUCTS

- 2.01 OTHER MATERIALS: All other materials not specifically described but required for proper completion of the work of this Section shall be as selected by the Contractor subject to the approval of the Architect.

PART 3 EXECUTION

3.01 PREPARATION:

- A. Notification: Notify the Architect at least two full working days prior to commencing the Work of this Section.
- B. Clarification:
 - 1. The Drawings do not purport to show all objects existing in the building.
 - 2. Before commencing the Work of this Section, verify with the Architect all objects to be removed and all objects to be preserved.
- C. Scheduling:
 - 1. Schedule all work in a careful manner with all necessary consideration for neighbors and the public.
 - 2. Avoid interference with the use of and passage to and from adjacent parts of the building.

3.02 REMOVAL OF DEBRIS: Remove all debris from the site, and leave the site in a neat and orderly condition to the approval of the Architect.

END OF SECTION

SECTION 01340

SHOP DRAWINGS, PRODUCT DATA, AND SAMPLES

PART 1 GENERAL

1.01 RELATED WORK

1.02 SHOP DRAWINGS

- A. Present in a clear and thorough manner. Title each drawing with Project name and number; identify each element of shop drawings by reference to sheet number and detail, schedule, or other appropriate identification of Contract Documents.
- B. Identify field dimensions; show relation to adjacent products or elements of the Work; show critical features.

1.03 PRODUCT DATA

- A. Submit only pages which are pertinent; mark each copy of standard printed data to specifically identify only pertinent products; reference each to Specification Section and Article number. Show standards, performance characteristics, and capacities; wiring and piping diagrams; controls; component parts; finishes; dimensions; and required clearances.
- B. Modify manufacturer's standard schematic drawings and diagrams to supplement standard information and to provide information specifically applicable to the Work. Delete information not applicable.

1.04 SAMPLES

- A. Submit full range of manufacturer's standard finishes of the actual product, except when more restrictive requirements are specified, indicate colors, textures, and patterns for Architect selection.
- B. Submit samples to illustrate functional characteristics of products, including parts and attachments.
- C. Label each sample with identification indicating Project name and number, and all other data necessary to connect the sample with the specific element of or location with the Work.

1.05 MANUFACTURER'S PUBLISHED INSTRUCTIONS AND STANDARD WARRANTY

- A. Furnish manufacturer's published instructions for storage, preparation, assembly, installation, start-up, adjusting, balancing, and finishing. Furnish copy of manufacturer's standard warranty.

1.06 CONTRACTOR'S EXAMINATION

- A. Review submittals prior to delivery to Architect; verify quantities, field measurements, field construction criteria, assembly and installation requirements, manufacturer's catalog numbers, and conformance of submittal with requirements of Contract Documents.
- B. Sign or initial each sheet of shop drawings and product data, and each sample label to certify coordination and compliance with requirements of Contract Documents. Notify Architect in writing at time of submittal of any deviations from requirements of Contract Documents.
- C. Do not fabricate products or begin work which requires submittals until return of submittal with Architect acceptance.

1.07 SUBMITTAL REQUIREMENTS

- A. Transmit submittals in such sequence to avoid delay in the Work.
- B. Provide space on each submittal for Contractor and Architect stamps.
- C. Apply Contractor's stamp certifying to review, verification of products, field dimensions, quantities, field construction criteria, and coordination of information with requirements of Work and Contract Documents.
- D. Coordinate submittals into logical groupings to facilitate interrelation of the several items:
 - 1. Finishes which involve Architect selection of colors, textures, or patterns.
 - 2. Associated items which require correlation for efficient function or for installation.

1.08 SUBMITTAL QUANTITIES

- A. Submit one print and marked-up transparency of shop drawings.
- B. Submit number of copies of product data and manufacturer's published instructions Contractor requires, plus three copies for Architect.
- C. Submit one sample if specified in individual Specifications Sections.
- D. Submit under transmittal letter. Identify Project by title and number. Identify Work and product by Specifications section and Article number.

1.09 RESUBMITTALS

- A. Make resubmittals under procedures specified for initial submittals; identify changes since previous submittal.

1.10 ARCHITECT'S REVIEW

- A. Allow time for Architect's review of each submittal.
- B. Architect will stamp reviewed submittals as follows: (Extent and purpose of review and key responsibilities of Architect and Contractor are as indicted on the stamp.)

- C. Architect shall be sole authority for determining whether a product is equal to that specified.

1.11 DISTRIBUTION

- A. Contractor shall duplicate as necessary and distribute to Subcontractors, suppliers, project site, etc., all shop drawings, product data, manufacturer's instructions, but only those which bear Architect's stamp indicating status of review.

PART 2 PRODUCTS

2.01 NOT APPLICABLE

PART 3 EXECUTION

3.01 NOT APPLICABLE

END OF SECTION

SECTION 01530

BARRIERS, ENCLOSURES, AND ACCESS

PART 1 GENERAL

1.01 NOT APPLICABLE

PART 2 PRODUCTS

2.01 BARRIERS

- A. Provide and maintain barriers to route and protect vehicles and persons from hazardous situations.

PART 3 EXECUTION

3.01 PROCEDURES

- A. Maintain protection materials and measures for duration of the Work or for such times as needed to protect persons, the Work, and existing property on and off site.
- B. Restore existing or new facilities and site improvements to specified or original condition.

END OF SECTION

SECTION 01615

TRANSPORTATION, HANDLING, STORAGE, AND PROTECTION

PART 1 GENERAL

1.01 DESCRIPTION

- A. Requirements for the handling, storage, protection, application, installation of materials and equipment.

1.02 MANUFACTURER'S INSTRUCTIONS

- A. Handle, apply, install, connect, clean, condition, and adjust products pursuant to manufacturer's published instructions. Include all preparatory steps.
- B. Follow all instructions to sustain and preserve all expressed or implied warranties and guaranties.

1.03 DELIVERY AND RECEIVING

- A. Arrange deliveries of products pursuant to progress schedules. Allow time for inspection prior to installation.
- B. Deliver products in undamaged, dry condition, in original unopened containers or packaging, with identifying labels intact and legible.
- C. In order to avoid unnecessary delays, immediately upon delivery, inspect shipment to ensure:
 - 1. Product complies with requirements of Contract Documents and reviewed submittals.
 - 2. Quantities are correct.
 - 3. Accessories, and installation hardware are correct.
 - 4. Containers and packages are intact and labels legible.
 - 5. Products are protected and undamaged.

1.04 HANDLING AND PROTECTION

- A. Provide the protection necessary to prevent marring, staining, corrosion, impact, abrasion, and otherwise damaging manufactured products.

1.05 MATERIAL AND EQUIPMENT STORAGE

- A. Store products, immediately upon delivery, pursuant to manufacturer's published instructions, with seals and labels intact. Protect until installed.

- B. Arrange storage in a manner to provide access for maintenance of stored items and for inspection.
- C. Prevent premature or improper mixing of chemicals and materials.

1.06 OFF-SITE STORAGE

- A. In order to be paid for materials and equipment stored off-site, a right-of-entry must be issued to the Owner, and evidence of insurance presented listing the Owner as named insured.

1.07 ENCLOSED STORAGE

- A. Maintain temperature ventilation and humidity within ranges specified by each product manufacturer's published instructions.

1.08 EXTERIOR STORAGE

- A. For products subject to discoloration or deterioration from exposure to the elements, cover with impervious materials. Provide ventilation to avoid condensation.
- B. Provide surface drainage as necessary to prevent erosion and ponding of water.

PART 2 MATERIALS

2.01 NOT APPLICABLE

PART 3 EXECUTION

3.01 PROTECTION OF INSTALLED PRODUCTS

- A. Provide protection of installed products to prevent damage from subsequent operations. Remove when no longer needed, prior to completion of the Work.
- B. Lawns and Landscaping.
 - 1. Prohibit unnecessary traffic across planted lawn and landscaped areas.

END OF SECTION

SECTION 04150

MASONRY ACCESSORIES

PART 1.00 - GENERAL

1.01 SECTION INCLUDES

- A. Metal reinforcement for masonry.

1.02 RELATED SECTIONS

- A. 04100 Mortar.
- B. 04210 Brick Masonry.

1.03 STANDARDS

- A. ASTM A82 "Standard Specification for Steel Wire, Plain, for Concrete Reinforcement".
- B. ASTM A153 "Standard Specification for Zinc Coating (Hot-Dip) on Iron and Steel Hardware".
- C. ASTM A641 "Standard Specification for Zinc-Coated (Galvanized) Carbon Steel Wire".
- D. ASTM D746 "Test Method for Brittleness Temperature of Plastics and Elastomers by Impact".
- E. ASTM D1056 "Standard Specification for Flexible Cellular Materials - Sponge or Extruded Rubber".
- F. ASTM D2000 "Standard Classification System for Rubber Products in Automotive Applications".
- G. ASTM D2287 "Standard Specification for Nonrigid Vinyl Chloride Polymer and Copolymer Molding and Extrusion Compounds".

1.04 SUBMITTALS

- A. Manufacturer's Literature: Provide manufacturer's complete data.

PART 2.00 - PRODUCTS

2.01 HORIZONTAL JOINT REINFORCEMENT WITHOUT TIES OR ANCHORS (Side and Cross Rods of same material)

- A. Provide with out-to-out side rod spacing two in. less than out-to-out total wall system width.
- B. Type: Type A.

1. Side Rods, 2, Cross Rods and Tie Rods: each side rod - 9 gage, cross rods - 9 gage, tie rods - 9 gage.
2. Tie Rods: Adjustable box wire rods fastened 16 inches on center perpendicular to side rods.
3. Finish:
 - a. Side Rods: brite steel.
 - b. Cross Rods: brite steel.
4. Cross Rod Type: truss.
5. Cross Rod Shape: drip crimped.
6. Manufacturer: Dur-O-Wal.

2.03 ADJUSTABLE WALL TIES

- A. Description: tee type of two pieces; an eye section and a . all rods 5% copper coated.
- B. Provide sizes in strict accordance with manufacturer's published instructions.
- C. Materials:
 1. all rods hot-dipped galvanized with a 1.50 oz zinc coating.
 2. Manufacturer: Dur-O-Wal.

2.04 MASONRY ANCHORS

- A. Corrugated wall ties
 1. Materials: hot-dip galvanized.
 2. Width: 7/8 in..
 3. Thickness: 26 gage.
 4. Length: 7 in..

PART 3.00 - EXECUTION

3.01 GENERAL

- A. If more than one value or requirement is specified, see Drawings for location.

3.02 HORIZONTAL JOINT REINFORCEMENT

- A. In solid wall panels, place horizontal joint reinforcement at a vertical spacing of 16 in. on center.
- B. Place horizontal joint reinforcement in
 1. Double wythe walls of concrete and brick unit masonry.
- C. Around openings and other special conditions, place horizontal joint reinforcement as described in manufacturer's published instructions and as illustrated on Drawings.
- D. Lap side rods at each end joint a minimum of 6 in. for normal shrinkage stresses.

- E. Install prefabricated corner and tee assemblies at each wall corner and intersection.
- F. Mitre and butt end joints are prohibited.
- G. Place horizontal joint reinforcement in approximate center of out-to-out wall assembly and assuring a 5/8 in., minimum, mortar coverage on exterior face.
- H. Adjustable anchor assemblies may be offset no more than that which is stated in manufacturer's published instructions. Pintles may be installed either up or down.
- I. Install horizontal joint reinforcement continuous, terminating only at vertical control joints.

3.03 ADJUSTABLE WALL TIES

- A. Install adjustable wall ties pursuant to manufacturer's published instructions.
- B. Offset no more than that which is stated in manufacturer's published instructions. Pintles may be installed either up or down.
- C. Spacing; maximum; zee type
 - 1. Horizontal: 12 in.
 - 2. Vertical: 16 in.

END OF SECTION

SECTION 04210

BRICK MASONRY

PART 1.00 - GENERAL

1.01 STANDARDS

- A. ASTM C62 "Standard Specification for Building Brick (Solid Masonry Units Made from Clay or Shale)".
- B. ASTM C67 "Standard Methods of Sampling and Testing Brick and Structural Clay Tile".
- C. ASTM C216 "Standard Specification for Facing Brick (Solid Masonry Units Made from Clay or Shale)".
- D. BIA Technical Notes on Brick and Tile Construction.

1.02 SUBMITTALS

- A. Submit following pursuant to 01340:
 - 1. Samples: Manufacturer's board for each type of brick showing extremes of variation in color and texture.
 - 2. Certificate: Attesting that brick meet specified qualities and standards.

1.03 QUALITY ASSURANCE

- A. Perform Work in accordance with Technical Notes on Brick and Tile Construction, by Brick Institute of America (BIA), except as more stringently required in the Contract Document.

1.04 STORAGE AND PROTECTION

- A. Store brick off ground, under cover, to prevent wetting and contamination by weather, mud, dust and materials likely to cause staining.

PART 2.00 - PRODUCTS

2.01 FACING BRICK

- A. Utilize existing similar colored brick for all new work. Colors shall match existing as closely as possible.

2.02 MORTAR, GROUT: Provide as specified in 04100.

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- 2.03 JOINT REINFORCING, ANCHORS, TIES: Provide as specified in 04150.
- 2.04 FLEXIBLE WALL FLASHING, EXPANSION JOINT FILLERS: Provide as specified in 04150.
- 2.08 DETERGENT CLEANING AGENT
- A. Qualities: 1/2 cup trisodium phosphate (such as Calgon) plus 1/2 cup powdered household detergent (such as All), dissolved in 1 gal water.
- 2.09 MODIFIED ACID CLEANING AGENT
- A. Qualities: Buffered inorganic acid, such as HCl, with wetting agent. Dissolve in water according to manufacturer's recommendations. Do not use unbuffered, unmodified muriatic acid (HCl).
- B. Source:
1. or Architect-approved substitution.

PART 3.00 - EXECUTION

- 3.01 PREPARATION
- A. Examine other construction which supports or connects with masonry work. Where such construction as footings and shelves is not sound or level, where anchorage devices have not been installed, where interferences exist, or where there are other conditions unsuitable for proper installation or performance of the masonry, do not start masonry work until defective earlier construction has been completed or corrected.
- 3.02 CONDITIONING BRICK
- A. Wet brick with absorption rate greater than 20 grams/min/30 sq.in, as determined by ASTM C67, so that rate of absorption when laid does not exceed this amount.
- B. Do not dip individual brick in water before laying. Instead, play a hose on piled brick until water runs from brick. Wet down 1 day before brick are to be used. In hot weather, wet down 2 to 4 hr before brick are to be used.
- 3.03 COURSING AND BOND
- A. Course brick as shown on Drawings and to match existing.
- B. Lay up Exterior Brick in following pattern and joint: running bond with concave joint.
- C. Lay up brick with approximately 3/8 in. bed joints, uniformly adjusted to produce

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- the specified coursing. Make head joints the same width as bed joints.
- D. Lay up brick in stretcher, header, rowlock, bull header (stretcher rowlock), soldier, or sailor position with only good faces and good ends showing. Cut brick to make headers in veneer and show good end only.
 - E. Finish visible brick joints using non-rusting tools to form hard impervious surface by hard tooling to a concave profile using jointer slightly larger than joint width.
 - F. Compress joints and cut flush in unexposed work except at joints below grade. Hard-tool joints below grade to a concave profile.

3.04 INSTALLATION

- A. Lay brick plumb and true to lines, with level courses. Line up head joints vertically. Use no more than one cut closure in any length of wall. Line up closures vertically.
- B. Lay up brick with completely filled mortar joints. Do not furrow bed joints. Butter end of brick with sufficient mortar to fill head joint, then shove in place. Rock closures in place with head joints thrown against two adjoining brick in place.
- C. Tap each unit to line and level as it is placed. Do not disturb any unit once in place except to completely remove and set in a fresh bed of mortar.
- D. Do not pound corners and jambs to fit stretcher units after they have been set in position. Where an adjustment must be made after mortar has started to harden, remove mortar and replace with fresh mortar.
- E. Make all cuts with a power masonry saw. Do not use saw-cut faces in exposed work.
- F. Lay up only brick which have no chipped, cracked or discolored exposed faces. Lay up with good face showing, lip (if any) always down, frog (if any) always up. Where flat side is shown, provide a brick with flat untorn side matching other brick faces, without frog, or core holes.
- G. Use special bonding mortar for step treads, cap courses and copings as specified in 04100 Mortar.
- H. Use Grade SW brick below grade.
- I. Tool joints when thumbprint hard, compressing mortar tightly against both sides of joint. Make head joints match profile of bed joints.

3.05 COLD WEATHER PROTECTION: See 04100.

3.06 PARGING

- A. Do not slush collar joints between wythes of brick or brick and CMU backup. Always provide a thick enough parge coat that both wythes bond with parging to form a full, hard troweled collar joint.
- B. Make parging watertight where reinforcing, anchors, and ties bond face brick to backup.

3.07 ANCHORING

- A. Anchor exterior brick walls facing or abutting concrete members with dovetail or wire anchors inserted in slots built into concrete. Maximum anchor spacing: 24 in. vertically, 36 in. horizontally.
- B. Maintain at least 1/2 in. space between masonry and structural concrete beam or wall faces. Keep space free of mortar and other rigid material to permit differential movement. Anchor brick with dovetail or wire anchors 16 in. on center, inserted into dovetail slots in concrete.
- C. Maintain at least 1/2 in. space between masonry and steel or concrete columns. Place 1/2 in. semi-rigid fiberglass board over steel before laying masonry. Do not mortar space between masonry and steel or concrete columns.
- D. Where bearing walls or non-bearing partitions abut a concrete or steel column, anchor wall to column with dovetail or wire anchors 16 in. on centers, inserted into dovetail slots in concrete or welded to steel.

3.08 WALL INTERSECTIONS

- A. At intersecting bearing or shear walls which are carried up separately, regularly block vertical joints 3 courses at a time, with 8 in. maximum offsets. Provide joints with rigid steel anchors. Space anchors 48 in. maximum vertically.
- B. At non-bearing partitions which abut or intersect other walls or partitions, anchor with cavity wall ties at 24 in. maximum vertical intervals. Alternative method: carry wall reinforcement through intersection, and lap at least 8 in.

3.09 BUILDING IN HORIZONTAL REINFORCEMENT

- A. Place masonry wall reinforcement in bed joints 16 in. on center vertically, with an additional piece above and below openings, extending at least 24 in. beyond each side of opening.
- B. Embed side rods full length of wall, with 5/8 in. minimum mortar cover on exterior side, 1/2 in. cover elsewhere.
- C. Lap reinforcement 6 in. at ends. Do not carry reinforcement through expansion joints and control joints.
- D. Carry reinforcement around corners by cutting one side rod and bending other rod to form a corner angle.
- E. Where masonry walls or partitions intersect, bond together by lapping wall reinforcement. Exception: Do not bond at expansion or control joints.
- F. Tie plumbing walls together with wall reinforcement 16 in. on center, or hooked steel bars providing equal cross sectional steel area, placed so as not to interfere with plumbing.
- G. At cavity walls place drip pointing downward within cavity.

3.10 BUILDING IN FLEXIBLE WALL FLASHING

- A. Place wall flashing over a thin bed of mortar, always sloping flashing slightly to exterior. Place mortar over flashing to bed brick course above it.
- B. Turn wall flashing at least 5 in. up behind brick and anchor top edge by building into backup or by wedging into reglet.
- C. Tape, or seal with asphalt cement, all penetrations in wall flashing. Extend wall flashing around outside of structural columns. Extend wall flashing at least 4 in. beyond lintels and sills and turn up ends to form a pan which directs moisture to exterior. Lap wall flashing joints at least 4 in. Extend wall flashing to within 1/4 in. of exterior of mortar joint.

3.11 WEEP HOLES

- A. Build weep holes 32 to 36 in. on center in head joints of brick directly above wall flashing, and above other interruptions to downward flow of water such as steel lintels and relief angles.
- B. Construct weep holes by:
 - 1. Pulled cord in bottom of head joint.
- C. Provide weep holes at bottom course of each lift of brick in cavity wall construction.
- D. Keep weep holes free of mortar so as to drain cavity freely.

3.14 BUILDING IN OTHER WORK

- A. Fill steel door frames in masonry walls with mortar.
- B. Provide passage for electrical and mechanical lines. Allow and aid placement in walls where lines would be exposed. Cut neat holes for in-wall switches and cabinets. Make provisions for passage of lines, and other chases and openings, during laying up of masonry so that later cutting is not necessary. Fill holes after lines and boxes are in place.
- C. Maintain sealant clearances at door, window, and other openings.
- D. Provide lintels at all openings in masonry work, as needed to form openings for windows, frames, in-wall equipment, through-wall ducts and piping, and as otherwise needed to support heads of all openings over 8 in. wide.

3.15 CONTROL OF MOVEMENT

- A. Where expansion joints are shown, leave full width of joint free of masonry, mortar and reinforcement, ready for backup material and sealant.
- B. Where control joints are shown, insert control joint material and leave joint free of masonry and reinforcement.
- C. If control joints are not shown, place them vertically not more than 30 ft on center, within 5 ft of building corners, and at lines of weakness such as at steel columns, changes in building height, and at each side of openings over 8 ft high.
- D. Do not butter masonry units to steel members, except where masonry bears on

steel. Maintain 1/2 in. clearance. Fill vertical clearances with 1/2 in. semirigid fiberglass or other sort, incombustible board material.

3.16 PROTECTION

- A. Wall covering:
 - 1. Cover tops of partially completed walls with strong, non-staining, waterproof membrane, securely held in place, extending at least 24 in. down both sides of wall at start of rain, and at end of each day's work on wall.
 - 2. Clamp protective membrane in place using spring wire clamps.
- B. Load application:
 - 1. Do not apply dead, live floor, or roof loading for at least 6 hours after building masonry columns or walls.
 - 2. Do not apply concentrated loads for at least 3 days after building masonry columns or walls.
- C. Staining:
 - 1. Prevent mortar, grout, and cleaning agents from adhering to, staining or deteriorating masonry and other surfaces to be left exposed or painted.
 - 2. Remove mortar, grout, and cleaning agents from masonry and other surfaces daily. Remove them from sensitive surfaces such as aluminum and glass immediately.
 - 3. Protect sills, ledges, and projections from mortar droppings by means of taped paper guards or a layer of sand.
 - 4. Protect door and window frames during masonry construction. Maintain in plumb, square, true position.

3.17 REPAIR OF DEFECTIVE WORK

- A. Remove stained and damaged brick and replace with new units in fresh mortar bed, of color and tooling matching surrounding work. Repair voids and other defects in mortar joints.

3.18 CLEANING BRICK

- A. Start cleaning late in the work, after mortar is thoroughly cured.
- B. Dry clean walls before wetting. Remove large particles of mortar with wood paddles and scrapers. Use chisel or wire brush only when wood implements do not work.
- C. Soak wall with copious amounts of clean water from hose, flushing off loose mortar and dirt in the process.
- D. Scrub walls with detergent cleaning agent, using stiff fiber brush.
- E. Rinse off all detergent, dirt, and mortar crumbs using clean water from hose.
- F. If all mortar is not removed by detergent cleaning, proceed as follows:

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1. Soak wall again, until masonry is saturated. Protect work below from damage.
2. Scrub walls with modified acid cleaning agent, using long handled fiber brush. Dilute as specified. Test a small panel of brick, and rinse, before doing rest of wall.
3. Keep area below soaked with water and flushed free of acid and dissolved mortar. Acid scum, if permitted to dry, can be impossible to remove. Scrub brick, not mortar joints. Use only wood and fiber tools, never metal ones. Clean in small areas, preferably 10 to 20 sq.ft at a time, or smaller if sun or wind cause rapid drying and acceleration of acid reaction.
4. Rinse off all acid, dirt, scum and mortar while wall is still wet. Neutralize areas of brickwork and sensitive surfaces adjoining or below brickwork using spray bottles of weak ammonia. Rinse again.

END OF SECTION

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SECTION 08330

OVERHEAD ROLLING DOOR

ACCEPTABLE MANUFACTURER

Rolling service doors shall be DuraCoil STANDARD as manufactured by Raynor of Dixon, Illinois or equal.

OPERATION

A. Operation Type: Rolling service doors shall be operated (select from list below):

1. Hand Chain(for occasional use): as normally-provided for service doors over 10' (3048 mm) wide and/or 7'- 4" (2235 mm) high. Provide disconnect for powered use.
2. Motor: as optionally-provided by means of a Raynor PowerHoist jack-shaft type electric operator (specified separately).

B. Mounting: Rolling service door shall be (select from list below):

1. Face-Mount: as normally-provided and fastened to the face of the wall opening. See section for guide attachment hardware options.

C. Drive Orientation: for hand-chain, hand-crank or motor operated service doors, the drive shall be oriented (select from list below):

1. Right-hand: as optionally-provided from the right-hand side, when facing the reference side of the door (side with counterbalance of hood exposed).

CURTAIN

A. Material: The curtain shall consist of interlocking steel slats roll-formed from commercial quality hot-dipped galvanized (G-90) steel per ASTM A-653. Steel gauge thickness shall be :

1. 22 Gauge: as normally-provided, doors shall be provided with 22 gauge (.030 minimum steel thickness) steel.

B. Slat Type: The curtain slat configuration shall consist of :

1. Insulated Flat Slat: as optionally-provided, slat shall be filled with poly-isocyanurate foam board insulation and fitted with a galvanized steel back cover.

C. Insulation / Back cover: Rolling service doors that feature insulated flat slats shall achieve an R-value insulation factor of 6.24 and U-value of .160. Insulated doors shall be fitted with galvanized steel back covers comprised of:

1. 24 Gauge Back Covers: as normally-provided, consisting of 24 gauge (.023 minimum steel thickness) steel.

D. Finish/Color: The curtain shall be finished in :

1. Gray: as normally-provided, one coat white epoxy primer and one top coat of gray polyester paint.

2. White: as optionally-provided, one coat white epoxy primer and one top coat of white polyester paint (flat and flat insulated 22-gauge slats only).
 3. Tan: as optionally-provided, one coat white epoxy primer and one top coat of tan polyester paint (flat and flat insulated slats only).
 4. Galvanized: as optionally-provided, (flat and flat insulated 22-gauge slats only).
 5. ArmorBrite™ Powdercoat: as optionally-provided from manufacturer's selection of 187 standard colors (please specify color).
- E. Endlocks: Lateral movement of the slats to be contained by means of zinc-plated malleable cast-iron endlocks fastened with two zinc-plated steel rivets.
- F. Bottom Bar and Seal: Bottom bar shall be two roll-formed galvanized steel angles, minimum 1 ½" x 1 ½" x 1/8" (38.1 mm x 38.1 mm x 3.2 mm). Bottom astragal shall be single-contact type. Structural angle bottom bar shall receive one coat of rust-inhibitive primer.
- G. Windload: Doors shall be designed to withstand 20 pounds per square foot (87.64 kg/sq.m.) windload.
- I. Curtain Wear Straps: Rolling service door may be furnished with polyester wear straps to discourage the curtain from premature wear resulting from coiling of the door .

GUIDES

- A. Guide Assemblies: Guide assemblies shall consist of three structural steel angles, minimum 3" x 2" x 3/16" (76 mm x 51 mm x 4.8 mm) and fitted with removable curtain stops. Steel guides shall receive one coat of rust inhibitive primer.
- B. Jamb Construction: Rolling service door shall be mounted to :
1. Steel Jamb: as normally-provided, and supplied with self-tapping fastener.
- C. Weather Seal: Rolling service door may be provided with guide brush seal or snap-on vinyl seal .

COUNTERBALANCE SYSTEM

- A. Headplates: Mounting brackets shall be made from 3/16" (4.8 mm) steel plate and attached to the wall angle of the guide assembly with ½" (12.7 mm) diameter bolts. The inside of the drive bracket shall be fitted with a sealed ball bearing. Head plates shall receive one coat of rust-inhibitive primer.
- B. Barrel: The barrel shall be made from a minimum 4 ½" (114.3 mm) O.D. x .120" (3.1 mm) wall structural steel pipe. Deflection of pipe under full load shall not exceed .03" (.8 mm) per foot of span.

- C. Counterbalance: The curtain shall be counterbalanced by means of torsion :
1. Torsion Spring: as normally-provided, consisting of oil-tempered, helical torsion springs, grease packed and mounted on a continuous steel torsion shaft.

ENCLOSURES

- A. Hood: Rolling service door may be furnished with a hood :
1. Round Hood: as normally-provided, round hood enclosure comprised of 24 gauge steel and finish-painted to match the curtain.
- B. Hood Baffle: Rolling service doors that are specified to include a hood may be furnished with a hood baffle with a rubber EPDM seal to inhibit air infiltration through hood cavity .
- C.

HARDWARE

- A. Lock: Rolling service door may be provided with an optional lock .
1. Cylinder Lock: Provide and provide an interlock switch with the cylinder lock.

SECTION 08700

FINISH HARDWARE

PART 1 GENERAL

1.01 DESCRIPTION

A. Work Included:

1. "Hardware Groups" have been assigned to the various doors required for this Work, as described in the Door Schedule on the Drawings. The hardware groups are described in detail in this Section.
2. Unless otherwise approved by the Architect, furnish all finish hardware described in the Hardware Schedule and all other finish hardware not described but required for a complete and operable facility.

1.02 MATERIALS LIST

- A. Before any finish hardware is ordered or purchased for this Work, submit to the Architect for his approval a complete list of all finish hardware proposed to be furnished for this Work, giving manufacturer's name and catalog number for each item.
- B. Make all submittals, and resubmittals if necessary, in accordance with the provisions of Section 01300 - Submittals.

1.03 PRODUCT HANDLING

- A. Delivery: Deliver all finish hardware to the installers in a timely manner to ensure orderly progress of the total Work, and store in a locked space.
- B. Templates: The supplier of hardware shall provide the General Contractor with a reasonable number of template diagrams and Hardware Schedules. Contractor shall, in turn, furnish these to the various trades as necessary to ensure full coordination and completion of the Work.

PART 2 PRODUCTS

2.01 FASTENINGS

A. General:

1. Furnish all finish hardware with all necessary screws, bolts, and other fasteners of suitable size and type to anchor the hardware in position for long life under hard use.
2. Furnish fastenings where necessary with expansion shields, toggle bolts, hex bolts, and other anchors approved by the Architect, according to the

material to which the hardware is to be applied and the recommendations of the hardware manufacturer.

- B. Design: All fastenings shall harmonize with the hardware as to material and finish.
- C. Furnish silencers for door frames at the rate of three for each door except weatherstripped doors.

2.02 MATERIALS

- A. Hinges:
 - 1. Type A (Interior):
 - a. Wood and Metal Frames: Stanley FFB-179, Standard weight, ball bearing, 4"x4" full mortise – brushed chrome finish.
- B. Lockset:
 - 1. Cylindrical Locksets:
 - b. Type B (interior): Schlage AL Series, with Levon style lever handles. Locks where required shall be 6 pin tumbler, solid brass. Functions to be as noted on Hardware Sets.
- C. Exit Device: Sargent 8800 Series listed for fire and panic. Rim-type device. Provide trim as follows: cast stainless steel lever handle with cast escutcheon.
- D. Closers:
 - 1. Type A - Interior Handicapped: Provide LCN 4111, that has an adjustable force closer capable of meeting handicapped requirements of 5 lb. opening force.
- E. Kickplates: Kickplates shall be 1/8 inch solid plastic, 8 inches high by 1-1/2 inches less than width of door. Color black. Provide on push side of all doors where noted.

2.02 KEYING: Factory key, masterkey, and grand masterkey locks and cylinders to coordinate with existing keying system as directed by the Architect.

2.03 TOOLS AND MANUALS: With the delivery of permanent keys, deliver to the Owner one complete set of adjustment tools and one set of maintenance manuals for locksets, latchsets, closers, and panic devices.

2.04 ACCEPTABLE PRODUCTS: For each of the required items of finish hardware, provide from the specified manufacturer.

<u>ITEM</u>	<u>MANUFACTURER</u>
Hinges	Stanley
Exit Devices	Sargent
Locksets	Schlage

Closers LCN
Stops, Pulls/Push Plates Ives

2.05 OTHER MATERIALS: Provide other materials, not specifically described but required for a complete and proper installation, as selected by the Contractor subject to the approval of the Architect.

PART 3 EXECUTION

3.01 FINISH HARDWARE SCHEDULE: Furnish the following hardware groups in the amounts indicated on Drawings. All locking functions to be determined with Architect/Owner.

HW-1, : Doors

1-1/2 pr. hinges, type B
1 lockset, type A, egress
1 closer, type B

END OF SECTION

SECTION 09260

GYPSUM BOARD SYSTEMS

PART 1 GENERAL

1.01 RELATED SECTIONS

- A. 06110 Wood Framing
- B. 09510 Acoustical Lay-in Ceilings.

1.02 STANDARDS

- A. GA-216 "Recommended Specifications for the Application and Finishing of Gypsum Board".
- B. GA-600-88 "Fire Resistance Design Manual".
- C. GA-201-85 "Using Gypsum Board for Walls and Ceilings", 6th printing, June 1989.

1.03 SUBMITTALS

- A. Submit pursuant to 01340 Shop Drawings, Product Data, and Samples.
 - 1. Manufacturer's literature: Materials description, recommended installation instructions for systems used, certificates for fire and acoustical tests.

1.04 QUALITY ASSURANCE

- A. Provide gypsum board and joint finish materials and accessories from a single manufacturer.
- B. Execute the Work by a competent, experienced Subcontractor.

1.05 DELIVERY, STORAGE, AND HANDLING

- A. Deliver all materials to job in their original, undamaged, and unopened containers or bundles; store to ensure protection from damage and exposure to the elements. Remove and replace damaged or otherwise unsuitable material.

1.06 ENVIRONMENTAL CONDITIONS

- A. Use precautions recommended by the Gypsum Associates to reduce or eliminate installation problems associated with diverse temperature and humidity conditions.

PART 2 PRODUCTS

2.01 MANUFACTURERS

- A. Rated or tested assemblies: USG Corporation or as specified under the individual partition description in Part 2.

2.02 MATERIALS

- A. Provide materials in quantities and location as shown on the Drawings.
- B. Gypsum panels: ASTM C36. (USG or equal.)
 - 1. 1/2-inch thick regular board at typical, non-fire rated locations.
 - 2. 1/2-inch moisture resistant gypsum board at all walls subject to moisture, i.e., around tubs and at walls with plumbing fixtures.
 - 3. 5/8-inch thick fire rated board at typical, fire rated locations.
- C. Joint finishing materials: ASTM C475. (USG or equal).
- D. Sound Attenuation Blankets: ASTM C665 in thickness and location as shown on the Drawing.
- E. Acoustical sealant: ASTM C919.
- F. Fasteners: ASTM C954; ASTM C1002. (USG or equal)
- G. Accessories: ASTM C1047. (USG or equal)
- H. Trim: LC- 58, USG No. 200-A, galvanized steel.
- I. Corner bead: CB-114, USG No. 103 (1-1/4"x 1-1/4") DUR-A-BEAD, galvanized steel.
- J. Control joint: USG No. 093, zinc.
- K. Joint treatment: USG SHEETROCK Joint Tape. USG SHEETROCK Setting-Type Joint Compound 45, 90, or 210, pursuant to ASTM C475. USG SHEETROCK All Purpose Ready-Mixed Joint Compound PLUS 3 pursuant to ASTM C475 (or equal).

PART 3 EXECUTION

3.01 PARTITION INSTALLATION

- A. Install pursuant to: ASTM C574, ASTM C840, GA-201-85, GA-216, and GA-600-88. See Drawings for description and location of partition assemblies.
- B. Sound attenuation blanket installation:
 - 1. Insert blanket in stud cavity. Butt ends of blankets closely together and fill voids.
- C. Gypsum panel erection:
 - 1. Follow GA-201-85, GA-216, and GA-600-88 for various partition conditions indicated.
 - 2. Erect panels parallel to studs with joints centered over studs.
 - 3. Fastening: Use 1-inch, Type S screws spaced 8 inches on center vertically, 12 inches on center bottom runner, and 12 inches on center in center field.

3.02 ACCESSORY APPLICATION

- A. Accessories shall be applied according to Gypsum Association standards and manufacturer's recommendations.

- B. Corner bead:
 - 1. Reinforce all vertical and horizontal exterior corners with corner bead fastened with 9/16 in. galvanized staples 9 in. o.c. on both flanges along entire length of bead.
- C. Edge trim:
 - 1. Where assembly terminates against other dissimilar material or where shown on Drawings, apply metal trim over panel edge and fasten with 9/16 in. galvanized staples 9 in. o.c.

3.03 FASTENER APPLICATION

- A. Fasteners shall be applied according to Gypsum Association Standards, manufacturer's recommendations, and per 3.01 above.

3.04 PRE-FILL APPLICATION

- A. Pre-fill shall be applied according to Gypsum Association specifications and manufacturer's recommendations.

3.05 JOINT TREATMENT APPLICATION

- A. Joint treatment shall be according to Gypsum Association specifications and manufacturer's recommendations.

3.06 FINISHING FASTENERS

- A. Fasteners shall be finished according to Gypsum Association specifications and manufacturer's recommendations.

3.07 FINISHING BEADS, TRIMS, AND CONTROL JOINTS

- A. Beads, trims, and control joints shall be finished according to Gypsum Association specifications and manufacturer's recommendations.

END OF SECTION

SECTION 09510

ACOUSTICAL LAY-IN CEILINGS (NON-FIRE RATED)

PART 1 GENERAL

1.01 STANDARDS

- A. Ceilings & Interior Systems Contractors Association (CISCA) "Acoustical Ceilings Use & Practice Guide".

1.02 SUBMITTALS

- A. Submit pursuant to 01340 Shop Drawings, Product Data, and Samples.
- B. Product data: Materials description, installation, and maintenance instructions for each type of acoustical ceiling panel and suspension system required.
- C. Extra material: furnish full size units equal to:
 - 1. Acoustical Ceiling Panels: 1.0% of the amount for each type, size, and color installed.
 - 2. Exposed Suspension System Components: 1.0% of the amount for each type, color, and finish installed.

1.03 QUALITY ASSURANCE

- A. Coordination: Coordinate work of this Section with other Work supported by or penetrating through suspended ceiling systems, including partition systems, light fixtures, HVAC equipment, and fire protection systems.

1.04 JOB SITE CONDITIONS

- A. Do not store or begin installation of acoustical ceiling materials until:
 - 1. Dust generating activities have terminated.
 - 2. Overhead work such as mechanical, electrical, fire protection, etc. is completed, tested, and approved.
- B. Comply with published job conditions recommendations of CISCA.

1.05 DELIVERY, STORAGE, AND HANDLING

- A. Deliver materials to Project site in manufacturer's unopened containers, indicating manufacturer's name, brand, type, style, size, color, texture, and other identifying information.
- B. Store materials in a manner consistent with manufacturer's recommendations and pursuant to 01615 - Transportation, Handling, and Storage.

PART 2 PRODUCTS

2.01 ACOUSTICAL PANELS

- A. Mineral fiber lay-in panels/cast or molded: Type A (typical).
 - 1. Armstrong, to match existing tile
 - 2. Panel size and edge detail: 24"48"x 5/8" thick.
 - 3. Physical Data: Manufacturer's listed physical data.
 - 4. Exposed surface color: Manufacturer's standard white finish.
 - 5. Backing: Unbacked.

2.02 SUSPENSION SYSTEMS

- A. Typical Exposed Tee System:
 - 1. System shall be one of the following:
 - a. Match existing
 - 2. Finish shall be manufacturer's baked-on paint to match ceiling panel.
- B. Hanger wire:
 - 1. Galvanized steel wire pursuant to ASTM A641, soft temper, Class 1 coating.
 - 2. Size wire to carry 3 times hanger design load pursuant to ASTM C635, Table 1, Direct Hung, but not less than 24" x 24" x 5/8" gage.

2.03 SUPPLEMENTAL MATERIALS

- A. Anchoring Devices: Provide hot-dipped galvanized steel, ASTM A153, Coating Class C and D, screws, bolts, hooks and eyes, and other devices designed for attachment to wood framing systems, including system indicated, for support of ceiling suspension system. Note that all supports are attached through two layers of 5/8-inch gypsum board to framing members.
- B. Tie Wire: Not less than 16 gage, ASTM A641 soft temper, Class 1 coating.

PART 3 EXECUTION

3.01 INSPECTION

- A. Examine areas to receive materials for conditions which will adversely affect installation.
- B. Do not start work until unsatisfactory conditions are corrected. Application or installation of materials constitutes acceptance of supporting construction.
- C. Work to be Concealed: Verify work above ceiling suspension system is complete and installed in manner which will not affect layout and installation of suspension system components.

3.02 PREPARATION

- A. Field Dimensions: Verify ceiling layouts by actual field dimensions prior to installation.

3.03 INSTALLATION, DIRECT HUNG CEILING SUSPENSION SYSTEM

- A. Install pursuant to CISCA published recommendations, and applicable code requirements in force at time of installation.
- B. Install pursuant to manufacturer's published instructions, where more stringent than standards specified, or where procedure is not covered by standards.
- C. Allowable deflection of main runners and cross runners is limited to 1/360 of the span between supports.
- D. Support system independent of walls, columns, ducts, pipes, and conduit. Maintain face plane with adjacent members, when splicing carrying tee's.
- E. Use properly placed and suspended load carrying bracing channels to maintain hanger vertical when interrupted by mechanical ducts and other horizontally run equipment.
- F. Center suspended ceiling grid on room axis so as to provide equal border units, so arranged that units less than one-half width do not occur unless otherwise shown on Drawings. Follow start-point indications on drawings where tile not centered.
- G. When weight of components supported on main runners and cross runners causes total dead load to exceed deflection capability, provide additional hangers located within 6 in. of each corner, unless otherwise recommended by manufacturer, or support components independently.
- H. Do not load system so as to produce rotation of runners.
- I. Install wall molding at intersection of ceiling and vertical surfaces, using longest practical lengths. Firmly secure moldings to walls with corners neatly mitered.

3.04 INSTALLATION, LAY-IN CEILING PANELS

- A. Install acoustical ceiling materials in compliance with manufacturer's specifications and recommendations, including the following:
 - 1. Fit acoustic units in place, free from damaged edges, soiled surfaces, or other defects detrimental to appearance and function.
 - 2. Lay directional patterned units one way with pattern parallel to longest room axis, unless otherwise shown.
 - 3. Fit border panels neatly against abutting surfaces.
 - 4. Install acoustic units level, in uniform plane, free from twist, warp, and dents.

3.05 TOLERANCES

- A. Maintain tolerances specified in ASTM C635 and C636.

3.06 CLEANING AND PROTECTION

- A. Upon completion of the Work, remove all unused materials, debris, containers, and equipment from the project site. Clean and repair floors, walls, and other surfaces that have been stained, marred, or otherwise damaged by work under this Section.
- B. Protect acoustical ceilings during the construction period so that they will be without any deterioration or damage at the time of acceptance by Owner.

END OF SECTION

SECTION 09660

RESILIENT TILE FLOORING

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Resilient tile flooring and accessories as indicated on the Drawings and specified herein.

1.02 STANDARDS

- A. ASTM E84 "Standard Test Method for Surface Burning Characteristics of Building Materials".
- B. ASTM E648 "Standard Test Method for Critical Radiant Flux of Floor-Covering Systems Using a Radiant Heat Energy Source".
- C. ASTM E662 "Standard Test for Specific Optical Density of Smoke Generated by Solid Materials".
- D. FS SS-T-312 Tile Floor: Asphalt, Rubber, Vinyl, Vinyl Asbestos.
- E. FS SS-W-40A Wall Base: Rubber and Vinyl Plastic.

1.03 SUBMITTALS

- A. Submit the following in accordance with Section 01340:
 - 1. Samples: Manufacturer's full size tile with standard color charts of resilient flooring, and full range of colors and patterns available, including accessories for each specified type and quality.

1.04 QUALITY ASSURANCE

- A. Provide each type of resilient tile flooring and accessories as produced by a single manufacturer, including recommended primers, adhesives, sealants, and underlayment compounds.
- B. Provide resilient tile flooring which complies with the following fire test performance criteria as determined by an approved independent testing laboratory:
 - 1. Critical Radiant Flux: 0.45 watts/sq.cm. or more, per ASTM E648.
 - 2. Flame Spread: 75 or less, per ASTM E84.
 - 3. Smoke Density: 450 or less, per ASTM E662.
 - 4. Smoke Developed: 450 or less, per ASTM E84.

1.05 DELIVERY, STORAGE AND HANDLING

- A. Receive all resilient flooring materials in undamaged condition as packaged by manufacturer with manufacturer's seals and labels intact.

1.06 PROJECT SITE CONDITIONS

- A. Store at the job site within the building and in a dry place at least 48 hr before installing flooring materials.
- B. Install only when space temperatures are not less than 65 degrees F. nor more than 90 degrees F. before, during and after installation for such 48 hour period. Thereafter, maintain a minimum temperature of 55 degrees F. in areas where work has been completed. Immediately remove from the job site damaged or otherwise unsuitable material.

1.07 EXTRA STOCK

- A. Deliver to the Owner approximately 10% of extra stock for each color and pattern provided. Furnish extra stock from same manufactured lot as materials installed. Package each type of material separately, with identifying labels.

PART 2 PRODUCTS

2.01 MANUFACTURERS

- A. Armstrong World Industries, Inc.
- B. Johnson Rubber Co., Inc.
- C. Kentile Floors, Inc.
- D. The R.C. Musson Rubber Company
- E. Roppe Rubber Corp.

2.02 TILE FLOORING

- A. Provide resilient tile as indicated below, or if not otherwise indicated, as selected by Architect from manufacturer's standards.
 - 1. Vinyl Composition Tile: FS SS-T-312, Type IV;
 - a. Size: 12 in. by 12 in..
 - b. Thickness: 1/8 in.
 - c. Manufacturer: Armstrong; pattern: Excellon, or approved equal.

2.03 STAIR TREADS, RISERS, AND EDGES

- A. Stair Treads/Risers/Edges/Landings: shall be Roundel Plus, as manufactured by Rubber Floor System or approved equal. Treads shall be full width of stair and shall have matching risers and vinyl edging of .08 inches thickness at the stringers. Colors to be selected by Architect.

2.05 ACCESSORIES

- A. Adhesives (Cements): Waterproof, stabilized type as recommended by flooring manufacturer to suit material and substrate conditions.

- B. Leveling and Underlayment Compound: Latex types as recommended by flooring manufacturer.

PART 3 EXECUTION

3.01 PREPARATION

- A. Install resilient flooring on surfaces meeting minimum requirements of the manufacturer of the respective floorings. Application of installation of materials constitutes acceptance of the substrates.
- B. Do not commence resilient flooring work until all items that go through the flooring have been installed.
- C. Install no resilient flooring until the installer has ascertained that the chemical treatment on substrates will not interfere with the successful application of the flooring materials.
- D. Close to traffic or other work all spaces in which resilient flooring is being installed.
- E. Before installing resilient flooring, test concrete floor for excessive moisture by taping an 18 inches by 18 inches mat of rubber or vinyl sheet material to floor at edges with masking tape. If condensation is apparent on the underside of the sheet after 24 hours, notify Architect before proceeding with installation.
- F. Before installing resilient flooring, fill all cracks and holes and level depressions with underlayment compound.

3.02 INSTALLATION

- A. Install resilient and cork flooring in accordance with the manufacturer's recommendations. For cork flooring, use adhesive recommended by the manufacturer.
- B. Firmly adhere resilient base to walls and permanent bases. Use longest lengths practical. Corners may be hand formed. Method must be approved prior to installation. Do not use mitered corners. Scribe bases accurately to abutting surfaces. Fit bases accurately to abutting surfaces.
- C. After installation remove excessive adhesive in accordance with flooring manufacturer's recommendations.
- D. After the installation of the resilient flooring, maintain a minimum space temperature of 55 F.

3.03 CLEANING

- A. Not less than 4 days after flooring installation, clean the resilient flooring and base. Clean thoroughly, with a product recommended by the flooring manufacturer, in accordance with flooring manufacturer's recommendations.

END OF SECTION

SECTION 09685

SHEET CARPET

PART 1 GENERAL

1.01 STANDARDS

- A. AATCC 134 "Electrostatic Propensity of Carpets".
- B. ASTM D2859 "Standard Test Method for Flammability of Finished Textile Floor Covering Materials".
- C. ASTM E84 "Standard Test Method for Surface Burning Characteristics of Building Materials".
- D. ASTM E648 "Standard Test Method for Critical Radiant Flux of Floor-Covering Systems Using a Radiant Heat Energy Source".
- E. ASTM E662 "Standard Test for Specific Optical Density of Smoke Generated by Solid Materials".
- F. CRI 104 "Standard for Installation of Textile Floorcovering Materials".
- G. NFPA 101 "Life Safety Code".
- H. NFPA 253 "Standard Method of Test for Critical Radiant Flux of Floor Covering Systems Using a Radiant Heat Energy Source".
- I. NFPA 255 "Standard Method of Test of Surface Burning Characteristics of Building Materials".
- J. NFPA 258 "Standard Research Test Method for Determining Smoke Generation of Solid Materials".

1.02 SUBMITTALS

- A. Submit pursuant to 01340 Shop Drawings, Product Data, and Samples.
- B. Carpet manufacturer's certificate, signed by a corporate officer, attesting that carpet supplied complies with specification requirements.
- C. Samples:
 - 1. Provide one sample of each different carpet manufacturer, product, trade name, series, texture, pattern, and color. Size of each: 18 in. by 18 in.
 - 2. Provide one sample of each different cushion manufacturer, product, material, weight, and thickness. Size of each: 18 in. by 18 in.

1.03 DELIVERY, STORAGE, AND HANDLING

- A. Execute pursuant to CRI 104.

1.04 ENVIRONMENTAL REQUIREMENTS

- A. Test substrates for moisture, temperature, and alkalinity pursuant to CRI 104.
- B. Install when substrate and ambient moisture, temperature, and alkaline conditions occur at or within the acceptable criteria specified in CRI 104.

PART 2 PRODUCTS

2.01 CARPETING

- A. All carpeting shall be new and of domestic manufacture. Carpet is to be of "first" quality and from the same dye lot for this project.
- B. Carpet shall be of the owner's selection.
- C. Colors: All colors shall be as selected by the Architect from the standard range of colors of the manufacturer.

2.02 TRANSITION STRIPS

- A. At intersection of carpet and other flooring material, provide continuous vinyl edge strips as appropriate to flooring material.

2.03 PAD

- A. Pad shall be 20 oz. per square yard synthetic needled fiber, 5/16 inch thick.

2.04 OTHER MATERIALS

- A. All other materials such as adhesives and metal molding, not specifically described but required for a complete and proper installation, shall be new, first quality of their respective kinds, as recommended by the manufacturer of the carpeting and subject to the approval of the Architect.

PART 3 EXECUTION

3.01 PREPARATION

- A. Commencement of installation implies that:
 - 1. Substrate has been tested and results are acceptable pursuant to CRI 104 and carpet manufacturer's published instructions.
 - 2. Installation components and accessories are compatible with site conditions pursuant to carpet manufacturer's published instructions.
 - 3. Ambient environmental conditions are satisfactory pursuant to CRI 104 and carpet manufacturer's published instructions.

3.02 INSTALLATION

- A. Pursuant to carpet manufacturer's published instructions and CRI 104.
- B. At two or more adjacent pieces, install pile in the same direction.
- C. Keep seams to a minimum. At door openings, locate seam beneath door in closed position.
- D. Install molding along terminations not abutting vertical surfaces.
- E. Install free of spots, dirt, or soil; without tears, fraying, raveling, or other defects or damage.

3.03 STRETCH-IN INSTALLATION

- A. Install seam cushion pursuant to cushion manufacturer's published instructions.
- B. Use power stretchers. Install free of buckles and ripples.
- C. Ensure proper seam execution using materials and methods pursuant to carpet manufacturer's published instructions.

3.04 REMNANTS

- A. Deliver to Owner usable remnant carpet(s) and cushion(s).

3.05 CLEANING UP

- A. Upon completion of the carpeting installation in each area, visually inspect all carpet in that area, and immediately remove all dirt, soil, and foreign substance from the exposed face; inspect all adjacent surfaces, and remove all marks and stains caused by the carpet installation; remove all packaging materials, carpet scraps, and other debris from the carpet installation to the area of the job site set aside for its storage.

3.06 PROTECTION

- A. In all public areas, provide a temporary, non-staining, paper pathway in the direction of traffic.

END OF SECTION

GEORGE S. PARKER

ARCHITECT

206 Elm Street
P.O.B. 1327
Damariscotta, Maine 04543

Phone 207-563-8754
Fax 207-563-7029
Email:gparker@gparkerarchitect.com

February 11, 2011

Ms. Tammy Munson
Building Inspections Department
Portland City Hall
389 Congress Street
Portland, ME 04101

Re: 540 Congress Street Building Permit Application

Dear Tammy,

Enclosed are 2 drawings, A2 and A5(which was not sent originally) that reflect changes to in the plan to include 2 ADA compliant restrooms and a drinking fountain to replace those that were removed.

I am hoping that will allow you to issue the building permit.

Many thanks for your help.

Sincerely,



George Parker, Architect

RECEIVED
FEB 10 2011
Dept. of Building Inspections
City of Portland Maine

DISPLAY THIS CARD ON PRINCIPAL FRONTAGE OF WORK



CITY OF PORTLAND BUILDING PERMIT

This is to certify that

Located At 540 CONGRESS

Job ID: 2011-01-315-ALTCOMM

CBL: 037 - - H - 002 - 001 - - - -

has permission to Add Fire Alarm to Reny's Space

provided that the person or persons, firm or corporation accepting this permit shall comply with all of the provisions of the Statues of Maine and of the Ordinances of the City of Portland regulating the construction, maintenance and use of the buildings and structures, and of the application on file in the department.

Notification of inspection and written permission procured before this building or part thereof is lathed or otherwise closed-in. 48 HOUR NOTICE IS REQUIRED.

A final inspection must be completed by owner before this building or part thereof is occupied. If a certificate of occupancy is required, it must be

Fire Prevention Officer

Code Enforcement Officer / Plan Reviewer

THIS CARD MUST BE POSTED ON THE STREET SIDE OF THE PROPERTY.

PENALTY FOR REMOVING THIS CAR

SCANNED

APR 12 2011

Job No: 2011-1652- Fire Alarm	Date Applied: 3/3/2011	CBL: 037 - - H - 002 - 001 - - - - -	City of Portland
Location of Construction: 540 CONGRESS ST	Owner Name:	Owner Address: 731 Route 1 NEWCASTLE, ME - MAINE 04553	Phone:
Business Name: Reny's	Contractor Name: Flynn, Steve	Contractor Address: P.O. Box 2353 91 Broadturn RD SCARBOROUGHMAINE04070	0306
Lessee/Buyer's Name:	Phone:	Permit Type: BLDG - Building	Zone: B-3
Past Use: Retail - Reny's	Proposed Use: Same: Retail - Reny's To add Fire Alarm System	Cost of Work: 345000.00	CEO District:
		Fire Dept: <input checked="" type="checkbox"/> Approved w/conditions <input type="checkbox"/> Denied <input type="checkbox"/> N/A	Inspection: Use Group: Type:
		Signature: <i>[Signature]</i> (58)	Signature:
Proposed Project Description: Reny's 540 Congress To add Fire Alarm system		Pedestrian Activities District (P.A.D.)	
Permit Taken By:	Zoning Approval		

1. This permit application does not preclude the Applicant(s) from meeting applicable State and Federal Rules.
2. Building Permits do not include plumbing, septic or electrical work.
3. Building permits are void if work is not started within six (6) months of the date of issuance. False informatin may invalidate a building permit and stop all work.

Special Zone or Reviews

- Shoreland
- Wetlands
- Flood Zone
- Subdivision
- Site Plan
- Maj Min MM

Date: *[Signature]*
 3/17/11

CERTIFICATION

Zoning Appeal

- Variance
- Miscellaneous
- Conditional Use
- Interpretation
- Approved

Denied
 Date:

Historic Preservation

- Not in Dist or Landmark
- Does not Require Review
- Requires Review
- Approved
- Approved w/Conditions
- Denied

w/this
 Any exterior work
 requires a separate
 review? Approved

I hereby certify that I am the owner of record of the named property, or that the proposed work is authorized by the owner of record and that I have been authorized by the owner to make this application as his authorized agent and I agree to conform to all applicable laws of this jurisdiction. In addition, if a permit for work described in the appication is issued, I certify that the code official's authorized representative shall have the authority to enter all areas covered by such permit at any reasonable hour to enforce the provision of the code(s) applicable to such permit.

SIGNATURE OF APPLICANT

ADDRESS

DATE

PHONE

BUILDING PERMIT INSPECTION PROCEDURES

Please call 874-8703 or 874-8693 (ONLY)

or email: buildinginspections@portlandmaine.gov

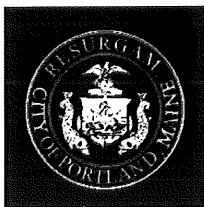
With the issuance of this permit, the owner, builder or their designee is required to provide adequate notice to the city of Portland Inspections Services for the following inspections. Appointments must be requested 48 to 72 hours in advance of the required inspection. The inspection date will need to be confirmed by this office.

- **Please read the conditions of approval that is attached to this permit!! Contact this office if you have any questions.**
- **Permits expire in 6 months. If the project is not started or ceases for 6 months.**
- **If the inspection requirements are not followed as stated below additional fees may be incurred due to the issuance of a "Stop Work Order" and subsequent release to continue.**

1.

The project cannot move to the next phase prior to the required inspection and approval to continue, REGARDLESS OF THE NOTICE OF CIRCUMSTANCES.

IF THE PERMIT REQUIRES A CERTIFICATE OF OCCUPANCY, IT MUST BE PAID FOR AND ISSUED TO THE OWNER OR DESIGNEE BEFORE THE SPACE MAY BE OCCUPIED.



PORTLAND MAINE

Strengthening a Remarkable City, Building a Community for Life • www.portlandmaine.gov

Director of Planning and Urban Development
Penny St. Louis

Job ID: 2011-01-315-ALTCOMM

Located At: 540 CONGRESS

CBL: 037 - - H - 002 - 001 - - - -

Conditions of Approval:

Fire

The sprinkler system shall be installed in accordance with NFPA 13.

System acceptance and commissioning must be coordinated with alarm and suppression system contractors and the Fire Department. Call 874-8703 to schedule.

Building

1. Separate permits are required for any electrical, plumbing, fire alarm HVAC systems, heating appliances, commercial hood exhaust systems and fuel tanks. Separate plans may need to be submitted for approval as a part of this process.
2. Sprinkler systems to be designed and installed per IBC 2009 standards Sec. 903.3.1.

Building

1. Fire Alarm systems shall be installed per Sec. 907 of the IBC 2009.
2. Separate permits are required for any electrical, plumbing, sprinkler, HVAC systems, heating appliances, commercial hood exhaust systems and fuel tanks. Separate plans may need to be submitted for approval as a part of this process.

Fire

The fire alarm system shall comply with the City of Portland Standard for Signaling Systems for the Protection of Life and Property. All fire alarm installation and servicing companies shall have a Certificate of Fitness from the Fire Department.

In field installation shall be installed per code as conditions dictate.

Records cabinet, FACP, annunciator(s), and pull stations shall be keyed alike.

Central Station monitoring for addressable fire alarm systems shall be by point.

All fire alarm records required by NFPA 72 should be stored in an approved cabinet located at the FACP labeled "FIRE ALARM RECORDS".

Installation of a Fire Alarm system requires a Knox Box to be installed per city ordinance.

System acceptance and commissioning must be coordinated with alarm and suppression system contractors and the Fire Department. Call 874-8703 to schedule.

Fire Alarm system shall be maintained. If system is to be off line over 4 hours a fire watch shall be in place. Dispatch notification required 874-8576.

#2011-1652

Job Summary Report
Job ID: 2011-01-315-ALTCOMM

Fire Alarm Permit

Report generated on Mar 4, 2011 1:50:10 PM

Job Type:	Adds/Alter Commercial	Job Description:	Reny's 540 Congress Interior Remodel & Loading Doc	Job Year:	2011
Building Job Status Code:	Approved	Pin Value:	520	Tenant Name:	Reny's
Job Application Date:		Public Building Flag:	N	Tenant Number:	
Estimated Value:	345,000	Square Footage:			
Related Parties:		GEOFFREY GERGLER		PLUMBING CONTRACTOR	
		SEABEE ELECTRIC INC. - SEABEE INC		ELECTRICAL CONTRACTOR	
		Flynn-Z Construction - Steve Flynn		GENERAL CONTRACTOR	
		Eastern Fire Protection Co.,Inc - Eastern Fire Protection Co.,Inc		SPRINKLER CONTRACTOR	

Job Charges

Fee Code Description	Charge Amount	Permit Charge Adjustment	Net Charge Amount	Payment Date	Receipt Number	Payment Amount	Payment Adjustment Amount	Net Payment Amount	Outstanding Balance
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Location ID: 5682

Location Details

Alternate Id	Parcel Number	Census Tract	GIS X	GIS Y	GIS Z	GIS Reference	Longitude	Latitude
004250	037 H 002 001		M				-70.261155	43.655319

Location Type	Subdivision Code	Subdivision Sub Code	Related Persons	Address(es)
1				540 CONGRESS STREET WEST

Location Use Code	Variance Code	Use Zone Code	Fire Zone Code	Inside Outside Code	District Code	General Location Code	Inspection Area Code	Jurisdiction Code
LITERARY & SCIENTIFIC INS		DOWNTOWN BUSINESS			Historic District		DISTRICT 2	CENTRAL BUSINESS DISTRICT

Structure Details

Structure: Loc id 000005681 Alt id 002363

Occupancy Type Code:

Structure Type Code	Structure Status Type	Square Footage	Estimated Value	Address
CONVERSION	6	27137,88		540 CONGRESS STREET WEST

Not in Que

Job Summary Report
Job ID: 2011-01-315-ALTCOMM

Report generated on Mar 4, 2011 1:50:10 PM

Longitude	Latitude	GIS X	GIS Y	GIS Z	GIS Reference	User Defined Property	Value
0	0	M				Fixtures-Fluorescent	0
						Fixtures-Fluorescent	52
						Receptacles	0
						Receptacles	62
						State ID	1111

Structure: Loc id 000046114 Alt id O04250

Occupancy Type Code:

Structure Type Code	Structure Status Type	Square Footage	Estimated Value	Address
CONVERSION	6	27137,88		540 CONGRESS STREET WEST

Longitude	Latitude	GIS X	GIS Y	GIS Z	GIS Reference	User Defined Property	Value
0	0	M				Fixtures-Fluorescent	0
						Fixtures-Fluorescent	52
						Receptacles	0
						Receptacles	62
						State ID	1111

Structure: Loc id 000046120 Alt id O04250

Occupancy Type Code:

Structure Type Code	Structure Status Type	Square Footage	Estimated Value	Address
Stores & Customer Services (Mercantile)	6	27137,88		540 CONGRESS STREET WEST

Longitude	Latitude	GIS X	GIS Y	GIS Z	GIS Reference	User Defined Property	Value
0	0	M				Fixtures-Fluorescent	0
						Fixtures-Fluorescent	52
						Receptacles	0
						Receptacles	62
						State ID	1111

Permit #: 20111210

Permit Data

Job Summary Report
Job ID: 2011-01-315-ALTCOMM

Report generated on Mar 4, 2011 1:50:10 PM

Location Id	Structure Description	Permit Status	Permit Description	Issue Date	Reissue Date	Expiration Date
5682	Renys	Initialized	Install Water-based suppression system Renys			

Inspection Details						
Inspection Id	Inspection Type	Inspection Result Status	Inspection Status Date	Scheduled Start Timestamp	Result Status Date	Final Inspection Flag

Fees Details								
Fee Code Description	Charge Amount	Permit Charge Adjustment	Permit Charge Adj Remark	Payment Date	Receipt Number	Payment Amount	Payment Adjustment Amount	Payment Adj Comment
Fire Permit Fee	\$120.00			2/11/11	1211	\$120.00		

Permit #: 20111320

Permit Data						
Location Id	Structure Description	Permit Status	Permit Description	Issue Date	Reissue Date	Expiration Date
5682	Renys	Initialized	Renys			

Inspection Details						
Inspection Id	Inspection Type	Inspection Result Status	Inspection Status Date	Scheduled Start Timestamp	Result Status Date	Final Inspection Flag

Fees Details								
Fee Code Description	Charge Amount	Permit Charge Adjustment	Permit Charge Adj Remark	Payment Date	Receipt Number	Payment Amount	Payment Adjustment Amount	Payment Adj Comment
Plumbing Permit Fees	\$40.00			2/16/11	1321	\$40.00		

Permit #: 20111377

Permit Data						
Location Id	Structure Description	Permit Status	Permit Description	Issue Date	Reissue Date	Expiration Date
5682	Renys	Initialized	Renys			

Inspection Details						
Inspection Id	Inspection Type	Inspection Result Status	Inspection Status Date	Scheduled Start Timestamp	Result Status Date	Final Inspection Flag

Fees Details								
Fee Code Description	Charge Amount	Permit Charge Adjustment	Permit Charge Adj Remark	Payment Date	Receipt Number	Payment Amount	Payment Adjustment Amount	Payment Adj Comment
Electric Commercial Permit Fee	\$55.00			2/18/11	1378	\$55.00		

Job Summary Report
Job ID: 2011-01-315-ALTCOMM

Report generated on Mar 4, 2011 1:50:10 PM

Page 4

Permit #: 20111652

Permit Data

Location Id	Structure Description	Permit Status	Permit Description	Issue Date	Reissue Date	Expiration Date
5682	Renys	Initialized	Add Fire Alarm to Reny's Space			

Inspection Details

Inspection Id	Inspection Type	Inspection Result Status	Inspection Status Date	Scheduled Start Timestamp	Result Status Date	Final Inspection Flag

Fees Details

Fee Code Description	Charge Amount	Permit Charge Adjustment	Permit Charge Adj Remark	Payment Date	Receipt Number	Payment Amount	Payment Adjustment Amount	Payment Adj Comment
Fire Permit Fee	\$90.00							

Permit #: BLDG-895

Permit Data

Location Id	Structure Description	Permit Status	Permit Description	Issue Date	Reissue Date	Expiration Date
5682	Renys	Final Insp Comp	Interior renovations and Loading Dock work	2/10/11		8/9/11

Inspection Details

Inspection Id	Inspection Type	Inspection Result Status	Inspection Status Date	Scheduled Start Timestamp	Result Status Date	Final Inspection Flag

Fees Details

Fee Code Description	Charge Amount	Permit Charge Adjustment	Permit Charge Adj Remark	Payment Date	Receipt Number	Payment Amount	Payment Adjustment Amount	Payment Adj Comment
Certificate of Occupancy Fee	\$75.00			1/24/11	896	\$75.00		
Job Valuation Fees	\$3,470.00			1/24/11	896	\$3,470.00		



Fire Alarm Permit

If you or the property owner owes real estate or property taxes or user charges on any property within the city, payment arrangements must be made before permits of any kind are accepted.

Installation address: 540 Congress Street CBL: _____

Exact location: (within structure) First Floor retail space

Type of occupancy(s) (NFPA & ICC): Mercantile

Building owner: Reny's

System Designer (point of contact): John Kempton Nicet Level III #109385

Designer phone: 207-784-1507 E-mail: _____

Installing contractor: Eastern Fire Services Certificate of Fitness No: _____

Contractor phone: 207-784-1507 E-mail: bairdbw@teameastern.com

This is a new application: YES NO New AES Master Box: YES NO
(Include Master Box approval form)

Amendment to an existing permit: YES NO Permit no: _____

The following documents shall be provided with this application:

- Floor plans
- Wiring diagram
- Annunciator details
- Input/ Output Matrix
- Equipment data sheets
- Electrical Permit Pulled (check alarm/com)
- Scope of Work
- 11 1/2 x 17s
- pdf copy (may be e-mailed)
- Designer qualifications
- Battery/ voltage drop calcs

COST OF WORK: \$6500.⁰⁰

PERMIT FEE: 90
(\$10 PER \$1,000 + \$30 FOR THE FIRST \$1,000)

RECEIVED
MAR - 3 2011
Dept. of Building Inspections
City of Portland Maine

Master box approval only: YES NO
(If yes check *New AES Master Box* above)

The designer shall be the responsible party for this application. Download a new copy of this application at www.portlandmaine.gov/fire for every submittal. Submit all plans in electronic PDF in addition to readable 11 1/2 x 17s to the Building Inspections Department, 389 Congress Street, Room 315, Portland, Maine 04101.

Prior to acceptance of any fire alarm system, a complete commissioning and acceptance test must be coordinated with all fire system contractors and the Fire Department, and proper documentation of such test(s) provided.

All installation(s) must comply with the *City of Portland Technical Standard for Signaling Systems for the Protection of Life and Property*, available at www.portlandmaine.gov/fire.

* Applicant signature: John Kempton Date: 3/3/11

Fire conditions

The fire alarm system shall comply with the City of Portland Standard for Signaling Systems for the Protection of Life and Property. All fire alarm installation and servicing companies shall have a Certificate of Fitness from the Fire Department.

In field installation shall be installed per code as conditions dictate.

Records cabinet, FACP, annunciator(s), and pull stations shall be keyed alike.

Central Station monitoring for addressable fire alarm systems shall be by point.

All fire alarm records required by NFPA 72 should be stored in an approved cabinet located at the FACP labeled "FIRE ALARM RECORDS".

Installation of a Fire Alarm system requires a Knox Box to be installed per city ordinance.

System acceptance and commissioning must be coordinated with alarm and suppression system contractors and the Fire Department. Call 874-8703 to schedule.

Fire Alarm system shall be maintained. If system is to be off line over 4 hours a fire watch shall be in place. Dispatch notification required 874-8576.

**EASTERN
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Reny's

**FIRE SUPPRESSION AND DETECTION
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170 KITTY HAWK AVE. • P. O. BOX 1582 • AUBURN, ME 04211-1582*

Preliminary test report

DATE: 3/31/11

ATT: Lt. Benjamin Wallace

MESSAGE: This is to certify we have tested and left in normal working condition the Fire alarm System at the Reny's Department store, Congress St., Portland, Me. Includes all pull stations, smoke detectors, duct smoke detectors, remote annunciators, horn/strobe appliances, strobe appliances, sprinkler flow devices, and sprinkler valve tamper devices.

The following items are incomplete: 1. Basement devices 2. Second Floor hallway devices. 3. (1) manual station at Renys rear loading dock area(waiting for wall to be completed).

The system is currently being monitored by CentraLarm Acct. # 19601099

Formal Certificate of Completion to be forwarded upon final completion.

Thank You,

Brian W. Baird
Eastern Fire Protection / Eastern Fire Services
170 Kitty Hawk Ave.
Auburn, ME. 04210
207-784-1507
bairdbw@teameastern.com



EASTERN FIRE PROTECTION

FIRE SPRINKLER CONTRACTORS AND DESIGNERS
P.O. Box 1390 Auburn, Maine 04211-1390

207-784-1507 Fax: 207.782.0566

DATE: 04/4/11

SUBJECT: Reny's Department Store - Free & Congress St's, Fire Sprinkler Letter of Compliance

Steve,

This letter is to inform you that the sprinkler system that was designed and installed for the newly renovated area on Free & Congress Streets in Portland Maine, has been done in accordance with NFPA #13, state, and local codes.

The remolded area of the building is protected with two existing NFPA 13 wet sprinkler systems. Sprinkler heads and piping have been added, removed and or relocated to accommodate the new tenant fit-up layout. At this time the 'Loading Dock' area is still under construction and no sprinkler rework has been completed at this time.

Please do not hesitate to call with any questions you may have.

Sincerely,

Robert A. Taylor
Eastern Fire Protection Co. - Field Superintendent

Cc: Ben Wallace, Portland Fire Department
Cc: Keith Gautreau, Portland Fire Department

Electric Fire Pump:

- (e) _____ Fire Pump Power
- (f) _____ Fire Pump Running
- (g) _____ Phase Reversal

Engine-Driven Fire Pump:

- (h) _____ Selector in Auto Position
- (i) _____ Engine or Control Panel Trouble
- (j) _____ Fire Pump Running

Engine-Driven Generator:

- (k) _____ Selector in Auto Position
- (l) _____ Control Panel Trouble
- (m) _____ Transfer Switches
- (n) _____ Engine Running

Other Supervisory Function(s) (specify): _____

6. Alarm Notification Appliances and Circuits

Quantity of indicating appliance circuits connected to the system: _____

Types and quantities of alarm indicating appliances installed:

- (a) _____ Bells _____ Inch
- (b) _____ Speakers
- (c) _____ Horns
- (d) _____ Chimes
- (e) _____ Other: _____
- (f) XX Visual Signals Type: STROBE
_____ 32 with audible _____ 5 w/o audible
- (g) 2 Local Annunciator

7. Signaling Line Circuits

Quantity and Style (see NFPA 72, Table 3-6) of signaling line circuits connected to system:

Quantity: 1 Style: 4

8. System Power Supplies

- (a) Primary (Main): Nominal Voltage: 120VAC Current Rating: _____
Overcurrent Protection: Type: CIRCUIT BREAKER Current Rating: 20A
Location: RENY'S ELECTRICAL PANEL

- (b) Secondary (Standby):
XX Storage Battery: Amp-Hour Rating 12
XX Calculated capacity to drive system, in hours: _____ X 24 _____ 60
Engine-driven generator dedicated to fire alarm system:

Location of fuel storage: _____

- (c) Emergency or Standby System used as backup to Primary Power Supply, instead of using a Secondary Power Supply:

_____ Emergency System described in NFPA 70, Article 700

_____ Legally Required Standby System described in NFPA 70, Article 702, which also meets the performance requirements of Article 700 or 701

9. System Software

- (a) Operating System Software Revision Level(s): _____
- (b) Application Software Revision Level(s): FS-CT2 7.6.27
- (c) Revision Completed by: JK EASTERN FIRE
(name) (firm)

A contract, dated _____, for test and inspection in accordance with NFPA standard(s)
No(s). _____, dated _____, is in effect.

2. Record of System Installation

(Fill out after installation is complete and wiring checked for opens, shorts, ground faults, and improper branching, but prior to conducting operational acceptance tests.)

This system has been installed in accordance with the NFPA standards as shown below, was inspected by JK on 4/6/2011, includes the devices shown below, and has been in service since since 4/6/2011

NFPA 72, Chapters 1 3 4 5 6 7 (circle all that apply)

NFPA 70, National Electrical Code, Article 760

Manufacturer's Instructions

Other (specify): _____

Signed: John Kempton Date: 4/6/2011

Organization: EASTERN FIRE SERVICES

3. Record of System Operation

All operational features and functions of this system were tested by JK on 4/6/2011 and found to be operating properly in accordance with the requirements of:

NFPA 72, Chapters 1 3 4 5 6 7 (circle all that apply)

NFPA 70, National Electrical Code, Article 760

Manufacturer's Instructions

Other (specify): _____

Signed: John Kempton Date: 4/6/2011

Organization: EASTERN FIRE SERVICES

4. Alarm-Initiating Devices and Circuits (use blanks to indicate quantity of devices)

MANUAL

(a) 7 Manual Stations _____ Noncoded, Activating 7 _____

(b) _____ Combination Manual Fire Alarm and Guard's Tour Coded Stations

AUTOMATIC

Coverage: Complete: _____ Partial: XXX

(a) XX Smoke Detectors _____ Ion 5 Photo

(b) xx Duct Detectors _____ Ion 5 Photo

(c) _____ Heat Detectors _____ FT _____ RR _____ FT/RR _____ RC

(d) XX Sprinkler Waterflow Switches: _____ Transmitters 2 Noncoded, Activating _____ Coded

(e) _____ Other (list): _____

5. Supervisory Signal-Initiating Devices and Circuits (use blanks to indicate quantity of devices)

SPRINKLER SYSTEM

(a) _____ Coded Valve Supervisory Signaling Attachments
2 Valve Supervisory Switches, Activating _____

(b) _____ Building Temperature Points

(c) _____ Site Water Temperature Points

(d) _____ Site Water Supply Level Points

Record of Completion

Name of Protected Property: Reny's Dept. Store
Address: Congress St. Portland, ME
Rep. of Protected Prop. (name/phone): _____
Authority Having Jurisdiction: Portland Fire Dept.
Address/Phone Number: Portland, ME.

1. Type(s) of System or Service

xx NFPA 72, Chapter 3 -- Local
If alarm is transmitted to location(s) off premises, list where received:
x CentraLarm Monitoring 1-800-639-2066 acct: 19601099
NFPA 72, Chapter 3 -- Emergency Voice/Alarm Service
Quantity of voice/alarm channels: _____ Single: _____ Multiple: _____
Quantity of speakers installed: _____ Quantity of speaker zones: _____
Quantity of telephones or telephone jacks included in system: _____
NFPA 72, Chapter 4 -- Auxiliary
Indicate type of connection:
Local energy: _____ Shunt: _____ Parallel telephone: _____
Location and telephone number for receipt of signals: _____

NFPA 72, Chapter 4 -- Remote Station
Alarm: _____
Supervisory: _____
NFPA 72, Chapter 4 -- Proprietary
If alarms are retransmitted to public fire service communications center or others, indicate location and telephone number of the organization receiving alarm:

Indicate how alarm is retransmitted:

NFPA 72, Chapter 4 -- Central Station
The Prime Contractor: _____
Central Station Location: _____

Means of transmission of signals from the protected premises to the central station:
_____ McCulloh _____ Multiplex _____ One-Way Radio
_____ Digital Alarm Communicator _____ Two-Way Radio _____ Others

Means of transmission of alarms to the public fire service communication center:
(a) _____
(b) _____

System Location: _____
Organization Name/Phone _____ Representative Name/Phone _____
Installer _____
Supplier _____
Service Organization _____
Location of Record (As-Built) Drawings: _____

Location of Owners Manuals: _____

Location of Test Reports _____

10. Comments: System installed per approved drawings

<i>John Kempton</i>	Technician	4/7/2011
(signed) for Central Station or Alarm Service Company	(title)	(date)

Frequency of routine tests and inspections, if other than in accordance with the referenced NFPA standard

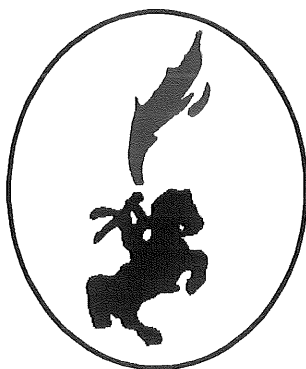
System deviations from the referenced NFPA standard(s) are:

System installed per approved drawings

<i>John Kempton</i>	Technician	4/7/2011
(signed) for Central Station or Alarm Service Company	(title)	(date)

Upon completion of the system(s) satisfactory test(s) witnessed (if required by the authority having jurisdiction):

(signed) representative of the authority having jurisdiction	(title)	(date)
--	---------	--------



SUBMITTAL DOCUMENTS

FOR

RENY'S
540 CONGRESS STREET
PORTLAND, MAINE

Serving Maine Since 1942

Eastern Fire Protection Co. Eastern Fire Services, Inc.

RESIDENTIAL * COMMERCIAL * INDUSTRIAL
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800-866-8014

408 Harlow St.

ENMET

Gas Detection

CONTRACT: FLYNN-Z COMPANY, WEST SCARBOROUGH, MAINE

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2	INITIATION DEVICES HFP-11 – SMOKE DETECTOR AD2-XHR – DUCT SMOKE DETECTOR HMS-D – MANUAL FIRE ALARM PULL STATION HTRI-R/S – INTERFACE MODULES
3	NOTIFICATION DEVICES ZH-MC-R – HORN/STROBE ZR-MC-R – STROBE
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End of Table of Contents

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Renys

SCOPE OF WORK

- 1 Replace existing FACP with new Addressable panel and devices in Reny's space
- 2 Install new Ann's at Reny's main entrance and 1st fl entry to Apartments
- 3 Reuse (1) existing nac power supply for basement horn/strobes
- 4 Reuse 2nd existing power supply for upstairs apartment area nac devices
- 5 Install conventional zone module for existing apartment area initiating devices
- 6 Install new horn/strobes in basement to provide adequate coverage
- 7 Provide new addressable modules to connect existing sprinkler flow devices to system
- 8 Provide new devices in Renys space per drawings submitted
- 9 Reuse or provide new digital communicator for connection to Central Station Monitoring

SIEMENS

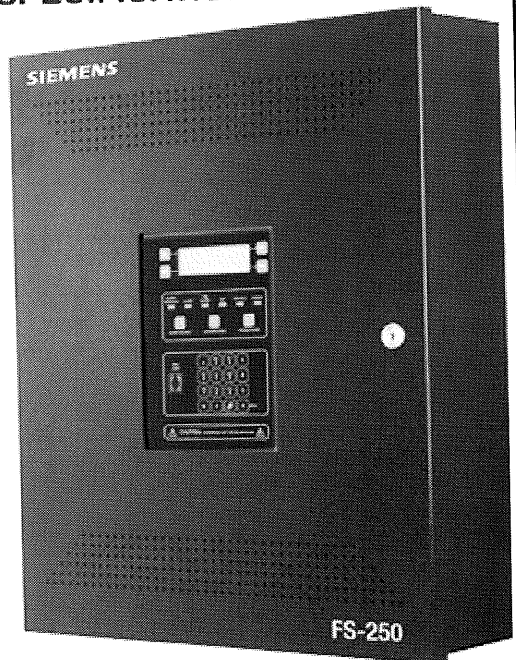
Catalog Sheet
Fire Safety & Security Products

FireSeeker Fire Alarm System

Addressable Fire Alarm Control Panel
Model FS-250

ARCHITECT AND ENGINEER SPECIFICATIONS

- One (1) Intelligent Signaling Line Circuit (Style 4 or Style 6)
- SLC loop supports up to 252 addressable Inputs and signal / relay outputs
— 504 total inputs / outputs
- *SureWire™* polarity insensitive addressable-device loop wiring
- Devices operate on standard wire; no twist or shield required
- *FirePrint™* application-specific fire detection
- Four (4) Class B – Style Y / Two (2) Class A – Style Z notification-appliance circuits
- Up to 6 Amps. – NAC Power
- Built-in strobe synchronization protocol
- 80-character backlit LCD display
- One-man walk test (Silent or Audible)
- Auto Program Feature makes system commissioning more efficient
- Up to four (4) remote LCD displays with control capabilities
- Easily programmable from front keypad or Windows®-based PC configuration tool (not required)
- Maintenance and technician-level passwords for added security
- Optional internal DACT and city-tie module
- Up to 2,000-event history log
- Manual fan-restart feature



- Made in the USA, ISO 9001 quality crafted
- Three (3) on-board, programmable relays, plus one (1) non-programmable *Fail / Safe* relay for *Trouble* events
- [®]UL 864 9th Edition Listed; FM, CSFM & NYMEA Approved

Product Overview

The Model FS-250 Addressable Fire Alarm Control Panel is a low-cost, small panel suited for standalone operation in small-to-medium-sized facilities. Model FS-250 features a single, addressable input-device circuit and four (4) notification-appliance circuits. The Model FS-250 system is available in either a black or red enclosure, with operating controls and indicators behind a locked door. Model FS-250 is [®]UL 864 9th Edition Listed by Underwriters Laboratories.

Specifications

Model FS-250 indicates *Alarm*, *Trouble* and *Supervisory* conditions with an 80-character backlit LCD display and integral system status LEDs. *Acknowledge*;

Alarm Silence and *System Reset* commands are accomplished with built-in membrane control buttons. Basic user and maintenance-level functions, such as *Viewing History* or *System Enable / Disable*, are also accomplished through the membrane control buttons. Maintenance-level functions are password protected.

The main system for Model FS-250 can support up to 38 AH battery sets – up to 12 AH will fit inside the enclosure.

The basic Model FS-250 fire alarm control panel features a single, addressable signaling line circuit (Style 4 or 6); capable of supporting up to 252 addressable input devices – whether they are detectors, manual pull stations, or contact monitoring points.

FireSeeker Fire Alarm Control Panel (FS-250) **4306**

Specifications — (continued)

Each detector can also have an optional, audible-detector base, relay-detector base or remote lamp. These auxiliary devices are completely controlled through logic, and are not required to activate simultaneously with the detector.

The Model FS-250 system also has four (4) Class B notification-appliance circuits built into the main board, which can be configured as two (2) Class A circuits. Each circuit has a capacity of 1.5 amps of 24VDC for powering horns, strobes, chimes, and other notification appliances, and the total base-system capacity for the four (4) circuits is 3.0 amps — expandable to 6A max. Each NAC is fully programmable, and supports standard and custom-coded outputs of audible devices.

Model FS-250 control panel has three (3) programmable 'Form C' dry-contact relays. One (1) additional non-programmable 'Form C' dry-contact relay is provided that activates only on *Trouble* events — operating in *Fail / Safe* mode in order to activate if there is a system power failure. Each relay is rated at 1 amp @ 28VDC. Up to 0.5A auxiliary 24VDC power is also available on the Model FS-250 main board.

Minimum Control Unit Configuration

Intelligent Signaling Line Circuit (SLC)

The main termination board for Model FS-250 has addressable-loop interface circuitry supporting one (1) SLC loop. Devices are polarity insensitive, and can operate on untwisted, unshielded wire.

Notification Appliance Circuits (NAC)

The Model FS-250 base panel has four (4) independent NACs. Each circuit can be configured to give continuous output, or one (1) of five (5) sounding patterns. NACs can be configured as: two (2) 'Class A — Style Z' or four (4) 'Class B — Style Y.'

Dry Contacts

Three (3) programmable 'Form C' dry-contact relays are provided on the Model FS-250 fire alarm control panel. One (1) additional 'Form C' dry-contact relay is provided that activates only on *Trouble* events. This relay operates in *Fail / Safe* mode, in order to activate if there is a power failure of the Model FS-250 system.

Power Supply

This component provides all operating power to the Model FS-250 panel for *Standby* and *Alarm* conditions.

Optional Control Unit Configuration

Digital-Alarm Communication Transmitter (FS-DACT)

Communication between the FS-250 fire alarm control panel and a monitoring station is accomplished with Model FS-DACT, which supports two (2) lines and two (2) accounts, and can transmit serial data, by point, to the central or remote station.

Communication protocols available include:

- SIA DCS 8
- SIA DCS 20
- Ademco Contact ID
- 3/1 1400 Hz
- 3/1 2300 Hz
- 4/2 1400 Hz
- 4/2 2300 Hz

Model FS-DACT mounts within the Model FS-250 fire alarm control panel. Neither an external enclosure nor wires are required between the panel and the dialer. Programming of account and dialing data is done as part of the system configuration, and no external programmer for the dialer is required.

Municipal Tie / Leased Line (FS-MT)

For installations that require connection to a municipal call box or a leased line, the municipal tie module (Model FS-MT) is used. Model FS-MT provides a local-energy output for municipal call-box connection, and gives a reverse-polarity output for lease-line connection. Model FS-MT mounts within the FS-250 enclosure. Model FS-MT parameters are programmed at the time of system configuration.

Auxiliary Devices

Model FS-250 panel supports up to four (4) remote LCD displays and eight (8) serial annunciators or serial relay units.

Remote LCD Annunciator (FS-RD2)

Model FS-250 supports a remote LCD display — Model FS-RD2, which uses the same 80-character, backlit LCD display found on the main FS-250 fire alarm control panel. Model FS-RD2 has remote *Acknowledge*, *Alarm Silence*, and *System Reset* capability that is secured with a keyswitch. User-level functions are accessible from Model FS-RD2.

Model FS-RD2 communicates with Model FS-250's main system board, via a RS-485 communication network. Up to four (4) Model FS-RD2 remote displays can be supported on a single FS-250 fire alarm control panel. Model FS-RD2 mounts in a 2"-deep, 6-gang electrical box, and the plate on the display is suitable for flush mounting.

Programmable Remote Relays (FS-RU2)

Programmable relays are available on the Model FS-250 control panel. A remote processor board (Model FS-RU2) communicates with the main system board, via a RS-485 communication network. Model FS-RU2 processor board controls a relay board mounted adjacent to it.

Specifications – (continued)

The relay board has eight (8) Form C relay contacts – rated at 1 amp at 28VDC maximum. Model FS-RU2 relay unit contains one (1) processor board and one (1) relay board, totaling eight (8) relays.

Each processor board can support up to three (3) relay boards simultaneously, totaling 24 programmable relays per processor board. Additional relay extender boards are available, Model FS-RE8. A total of eight (8) processor boards can be supported simultaneously by each FS-250 control panel.

Programmable Serial Annunciator Drivers (FS-SAU2)

Programmable serial annunciator drivers are available on the Model FS-250 control panel. A remote processor board communicates with the main system board, via a RS-485 communication network. This processor board controls a serial-annunciator driver board mounted adjacent to the remote processor board. The driver board has 16 outputs for LEDs. All serial-annunciator outputs are supervised.

Model FS-SAU2 serial-annunciator unit contains one (1) processor board and one (1) serial-annunciator driver board to add 16 LED drivers. Each processor board can support up to four (4) additional driver boards simultaneously, totaling 64 programmable serial-annunciator drivers per processor board.

Additional serial annunciator extender boards are available as Model FS-SAE16. A total of eight (8) processor boards can be supported simultaneously by each Model FS-250 control panel.

Programming / Configuration Options

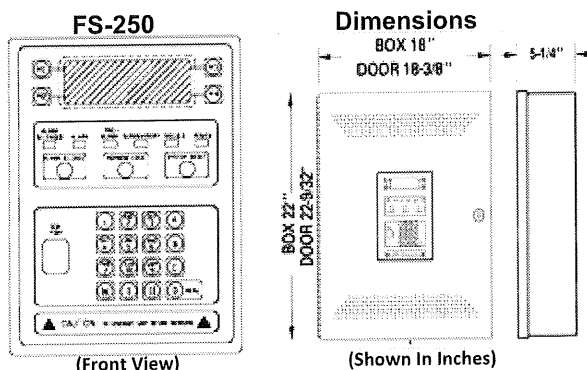
Configuration of the FS-250 control panel can be accomplished in two ways: First, the operator interface includes a 16-button keypad. This keypad can be used to configure all system parameters – including custom messages and logic – directly at the panel with no other configuration tools. Secondly, the Model FS-CT2 configuration tool can be used on a laptop computer to upload, download, and edit the system configuration.

Model FS-CT2 configuration tool includes a connection cable for use between the FS-250 fire alarm control panel and a 9-pin serial connection on a laptop computer running Model FS-CT2 software. Use of Model FS-CT2 software requires a computer that runs on a Windows®-based PC operating system. Model FS-CT2 configuration tool can be used to generate configuration reports and download and print history.

Custom messages for system addresses consist of two (2) lines – 20 characters per line. The characters include upper and lower case letters as well as numbers, punctuation marks, and control characters. This 40-character custom message will be displayed for all events at that address.

Technical Data

Environmental:	Operating Temperature: 32-120°F (0-49°C) Relative Humidity: up to 93% @ 90°F (32°C)
Primary Power Supply:	Primary Input Voltage: 120 VAC (60 Hz.) Maximum Primary Input Current: 2.4 Amps. @ 120 VAC
Secondary Power Supply:	24-volt, lead-acid battery with 7AH - 38AH capacity
Auxiliary Power Outputs:	Current - 0.5 Amp with resettable and non-resettable power outputs
System Status Relays:	Four (4) relays rated @ 1 Amp, 28 VDC resistive
Notification Appliance Circuits:	Rating per NAC circuit, 1.5A each, 6A max.
Battery:	Base cabinet accommodates a 12 AH battery set. Larger batteries require separate enclosures.



SIEMENS Industry, Inc.
Building Technologies Division

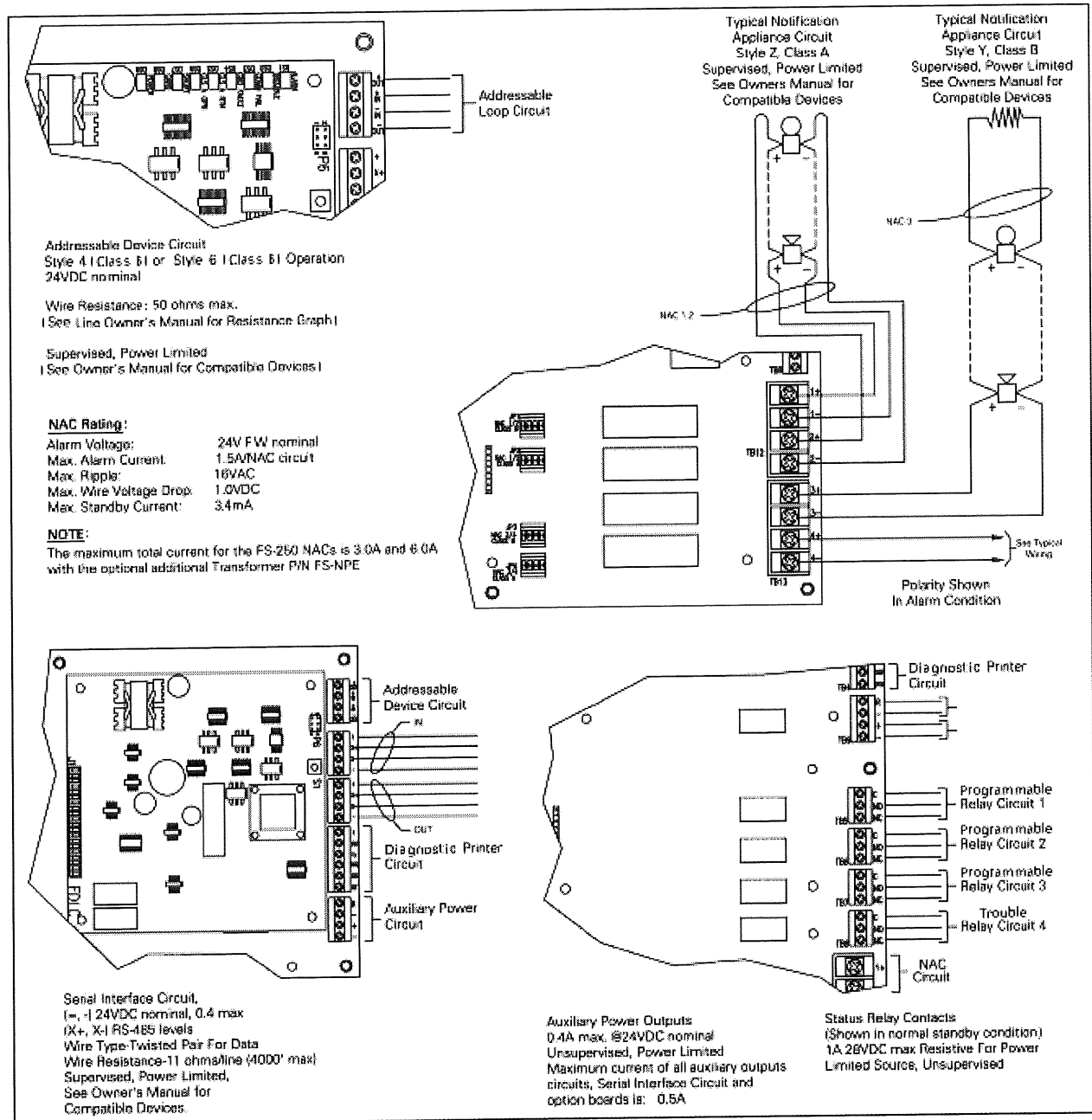
Details for Ordering

Model Number	Part Number	Description
FS-250-EKIT	599-050586	FS-250 Electronics Package Includes: FS-250-CON (1 Qty.) FS-NPE (2 Qty.)
FS-250-ENCL	500-648952	FS-250 Enclosure, Black
FS-250-ENCL-R	500-648953	FS-250 Enclosure, Red

Optional Accessories

Model Number	Part Number	Description
FS-RD2-R	500-649400	Remote Annunciator, Red
FS-RD2	500-648980	Remote Annunciator, Black
FS-RU2	500-649308	Relay Processor Card
FS-RE8	500-699467	8-Relay Extender
FS-SAU2	500-649307	Serial Annunciator Processor Card
FS-SAE16	500-699469	16-Output Annunciator Extender
FS-DACT	500-699464	Serial Digital Alarm Comm. Transmitter (DACT)
FS-MT	500-699462	Municipal Tie Module
FS-SFT-R	500-648955	Semi-Flush Trim, Red
FS-SFT	500-648954	Semi-Flush Trim, Black
FS-NPE	500-649120	NAC Power Expander Transformer
HFPO-11	500-034800	Photo-Only Detector

Wiring Diagram Main Termination Board



Notice: This marketing catalog sheet is not intended to be used for system design or installation purposes. For the most up-to-date information, refer to each product's installation instructions.


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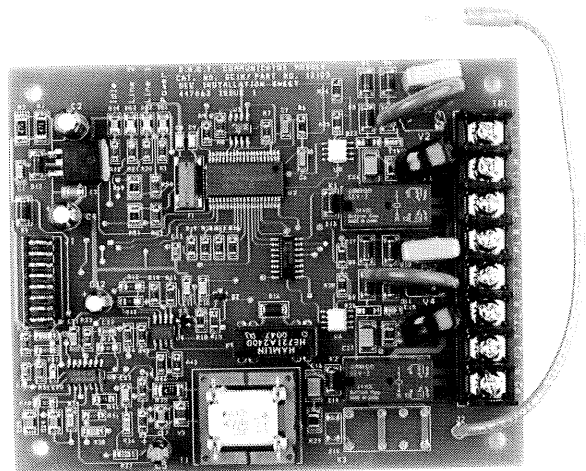
Fire Safety

FS-DACT

Digital Alarm Communication Transmitter for the FireSeeker FS-250 System

ENGINEER AND ARCHITECT SPECIFICATIONS

-  UL Listed for Central Station/Remote Station Monitoring (NFPA 72 Chapter 4)
- Four separate monitoring accounts available
- Two phone lines available
- Can send serial information to monitoring station
- Reports in 8 standard communication formats
- Automatic 24 hour test available
- Mounts within the FS-250 enclosure directly on the main processor board
- All programming is done as part of the FS-250 configuration



The Model FS-DACT Digital Alarm Communication Transmitter is used to provide communication between the FS-250 and a central or remote monitoring station. The FS-DACT supports two lines and four accounts, and can transmit serial information (including the address of the event) to the monitoring station. Any of the accounts can send alarm, supervisory, trouble, reset, or trouble restore information (or any combination) as required. Communication protocols available include SIA DCS 8, SIA DCS 20, Ademco Contact ID, 3/1 1400 Hz, 3/1 2300 Hz, 4/2 1400 Hz and 4/2 2300 Hz. The FS-DACT can perform the automatic 24 hour test required by NFPA.

The FS-DACT mounts within the FS-250 enclosure on an 8-pin connection point on the main board. No external enclosure is required, and no wires are required between the panel and the dialer. Programming of account and dialing information is done as part of the system configuration. No external programmer for the dialer is required, and dialer information can be downloaded as part of the system configuration.

Ordering Information

Model Number	Description	Part Number
FS-DACT	Digital dialer for the FS-250	500-699464

NOTICE: The use of other than Fire Safety detectors and bases with Fire Safety equipment will be considered a misapplication of Fire Safety equipment and as such voids all warranties either expressed or implied in regard to loss, damage, liabilities and/or service problems.

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January 2004
Supersedes sheet dated 6/03


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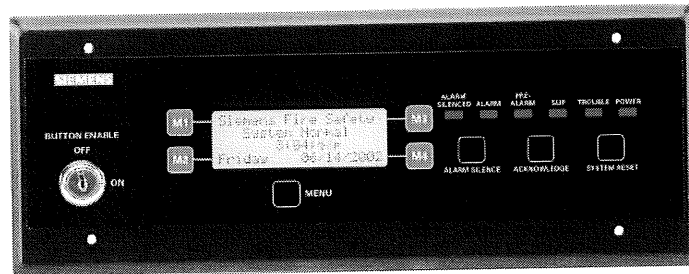
Fire Safety

FS-RD2

Remote LCD Annunciator for the FireSeeker FS-250 System

ENGINEER AND ARCHITECT SPECIFICATIONS

- 4 x 20 Character Backlit Display
- System Status LEDs
- Optional local sounder
- Built-in lamp test button
- Integral System Control Capabilities (with keyswitch)
- Integral System Maintenance access (with keyswitch and password)
-  UL Listed



The Model FS-RD2 Remote Display is used for annunciating system events remotely from the fire alarm control panel on the FireSeeker FS-250 system. The FS-RD2 will mimic the system status LEDs and the 80-character event message found on the main system panel. The 4 x 20 LCD backlit display will illuminate upon receiving any event from the system, or upon pressing any button on the FS-RD2.

System Acknowledge, Silence and Reset Capabilities are available on the FS-RD2. The control functions must be enabled using the integral keyswitch. Up to sixteen supervised FS-RD2 annunciators can be used simultaneously on the FireSeeker FS-250 system.

Mounting is accomplished using a standard 6 gang 2" deep electrical box. The FS-RD2 requires a 2-wire data connection from the RS-485 port on the FS-250, as well as 24VDC power. Maximum wire loop resistance is 25 ohms.

Ordering Information

Model Number	Description	Part Number
FS-RD2	Remote LCD display for the FS-250	500-648980

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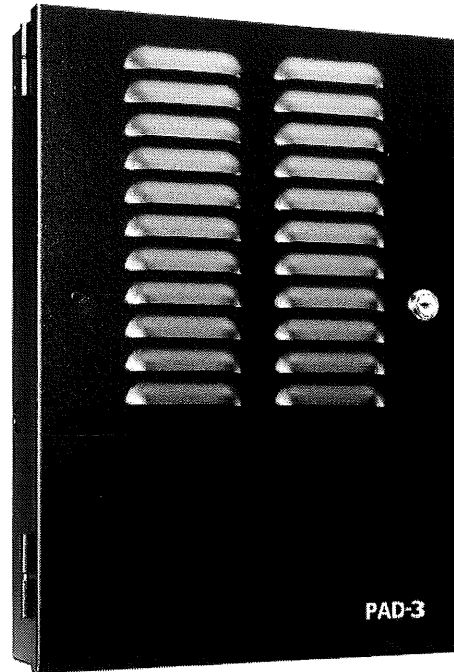
Fire Safety

PAD 3

Auxiliary Power Supply - Notification Appliance Extender

ENGINEER AND ARCHITECT SPECIFICATIONS

- 6 amps of Notification Appliance Power
- Advanced Microprocessor Control
- 24 VDC Output Voltage
- Four Power-Limited Notification Outputs
- Strobe Synchronization Option Built In
- Synchronized ANSI Temporal Pattern
- Class 'A' Selectable
- Ground Fault Detection
- Battery Supervision
- 3 Amp Auxiliary Power Output
- Trouble Contact for Monitoring
- Multiple Module Mounting in System 3 Enclosures
- Multiple Modules Share Battery Set
-  UL, ULC Listed, CSFM, NYMEA and FM Approved



Introduction

The Model PAD-3 (PAD-3C for Canada) is a notification appliance circuit expander with a built-in auxiliary power output. It is designed for use with Siemens Building Technologies, Fire Safety Division fire alarm control panels. This power source is designed to provide the extra power required in buildings conforming to the Americans with Disabilities Act.

Features

The PAD-3 provides 6 amps of 24 VDC power for multiple uses. All 6 amps can be directed to 4 Notification Appliance Circuits (NACs). Each is rated at 3 amps and is power limited. Either 1 or 2 inputs can control the four outputs. These outputs are compatible with all Fire Safety 24VDC notification appliances.

The PAD-3 can be configured so that the inputs can be programmed as steady outputs, ANSI temporal outputs, or synchronized strobe outputs. It can also be programmed so that one input will silence U-MHU-Series horn/strobe horns while the strobes remain on using one set of wires.

The PAD-3 also offers a 3 amp auxiliary output for driving other portions of your fire alarm system such as door holders. This 24VDC filtered output is power limited. When using this output, the total power available from the PAD-3 will not exceed 6 amps.

A trouble contact is provided for monitoring the PAD-3 with a fire alarm panel through the input. It also has a Form C dry contact for trouble monitoring. Therefore, the user has the option of connecting it to a conventional fire alarm panel's existing notification circuit, or controlling it with a TRI Series device on intelligent fire systems.

The PAD-3 offers battery supervision and management as is required of fire alarm system components. Ground faults are transmitted as are any other trouble conditions. Trouble conditions not only change the state of the trouble contact in the unit, but they also break the notification circuit input to create a trouble signal in the fire alarm control unit.

CATALOG NUMBER **3362**

This product is packaged in its own sheet metal enclosure with enough space to house the 7 amp-hour battery set required for back-up. The enclosure comes in black or red. System 3 enclosures may also be used to house multiple PAD-3 modules in a single enclosure. Two modules are capable of sharing the same battery set when mounted in the same enclosure.

Options

One or both PAD-3 signal inputs control the notification outputs, depending on the specific configuration setup. Possible configurations for the PAD-3 are:

For Option:	These Inputs:	Control These Outputs:	As:
1	Input 1	All Outputs	Class B Circuits
2	Input 1 Input 2*	All Outputs Silences horns on 1	Class B Circuits
3	Input 1 Input 2	Outputs 1 and 2 Outputs 3 and 4	Class B Circuits Class B Circuits
4	Input 1 Input 2	Output 1 Outputs 2, 3 and 4	Class B Circuits Class B Circuits
5	Input 1	Outputs 1-2, 3 and 4	Class A Circuit Pairs
6	Input 1 Input 2*	Outputs 1-2, 3 and 4 Silences horns on 1	Class A Circuit Pairs
7	Input 1 Input 2	Outputs 1 and 2 Outputs 3 and 4	Class A Circuit Pairs Class A Circuit Pairs
8	Input 1 Input 2	Outputs 1-2 Outputs 3 and 4	Class A Circuit Pairs Class B Circuits

*When used with U-MHU-Series horn/strobe units

Supervision

The Model PAD-3 supervises a variety of functions including:

- Low AC power
- Low battery condition
- Earth ground fault
- Auxiliary output power limit condition
- EOL supervision trouble or power limited condition at an output

When a trouble condition occurs, the PAD-3 creates a trouble condition on the fire control signal circuits to which it is connected. It still maintains the ability to be activated by the fire control. In addition, the PAD-3 provides a Form 'C' trouble relay output as an alternative to using the notification circuit trouble.

Electrical Specifications

AC Input: 120 VAC @ 2.5 amps
 Output: 24VDC @ 6 amps
 Auxiliary Power Circuit: 1
 Notification Circuits: 4
 Output Configuration: 2 Class A or 4 Class B or
 1 Class A & 2 Class B

Amps per Output
 Circuit: 3.0
 Notification Circuit
 Outputs: 24 VDC at 3.0 amps each,
 24K ohm EOL resistor
 required on each Class
 B circuit
 No. of Inputs: 2
 Input Configuration: 2 Class B or 2 Class A
 Input Voltage Range: 9-32 VDC
 Maximum Input Current: 0.006 Amps
 Battery Charging
 Capacity: 15.0 A.H
 Trouble contact rating: 2.5A @250 VAC, 30 VDC
 Ambient Temperature: 32°F to 120°F

Mechanical Specifications

Single Module Enclosure Model EN-PAD
 Dimensions: 12"W x 16"H x 3"D
 Color: Black

Indicator Lights

AC Power On: Green
 Battery Trouble: Yellow
 Ground Fault: Yellow
 Auxiliary Trouble: Yellow
 Output 1 Trouble: Yellow
 Output 2 Trouble: Yellow

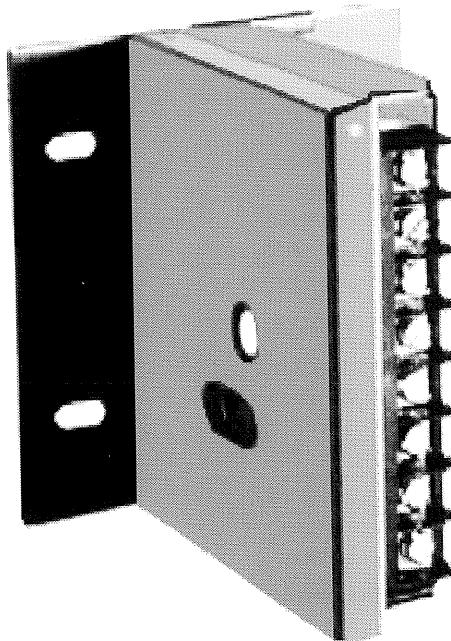
Ordering Information

Model	Description	Part Number
PAD-3	Aux. power supply w/black enclosure	599-699189
PAD-3R	Aux. power supply w/red enclosure	599-699190
PAD-3-MB	Aux. power supply - main board only	500-699080
EN-PAD	Black enclosure for PAD-3	310-099073
EN-PADR	Red enclosure for PAD-3	310-099150

FireFinder XLS Remote Conventional Zone Module Model HZM

ARCHITECT AND ENGINEER SPECIFICATIONS

- Provides distributed conventional zoning
- One (1) conventional initiating device circuit
- Connects to FireFinder XLS circuits
- Powers up to 15 Series 3 or 11 smoke detectors
- Powers one (1) beam detector (PBA-1191) with no additional devices
- Unlimited shorting devices per circuit
- Class A (Style D) or Class B (Style B)
- Multicolor LED for status indication
- 32-character, custom alphanumeric message
- Alarm-verification capability
- *WalkTest* capability
- No mechanical-address programming required
- Includes metal cover plate
- Circuits power limited, per NEC 760
- UL 864 9th Edition Listed and ULC Listed; FM, CSFM & NYMEA Approved



Product Overview

Model HZM is a FireFinder XLS intelligent device that connects a single zone of conventional devices to an analog loop. Model HZM can power up to 15 Series 3 and Series 11, two-wire ionization and photoelectric smoke detectors. Model HZM can power one (1) beam detector (PBA1191) with no additional devices, and can also monitor listed alarm-causing shorting devices, such as: water-flow switches, thermal detectors, manual stations, etc.

Each Model HZM can be assigned a 32-character, custom alphanumeric message. The multicolor LED – visible through the cover plate – indicates the condition of the circuit. The multicolor LED displays 'red' for *Alarm*, 'yellow' for *Trouble* and 'green' for *Normal* operation.

Model HZM supports Class A (Style D) or Class B (Style B) wiring. Model HZM occupies one (1) address on the Model DLC circuit, and does not require any mechanical address programming. Model HZM is programmed and tested using the Siemens Industry, Inc. – Fire Safety Division's Device Program / Test Unit (Model DPU).

Application

Use of Model HZM modules allows a system to be designed using a combination of intelligent and conventional devices with a substantial reduction in wire.

Intelligent devices can be employed in those areas requiring pinpoint annunciation, as well as analog-detection features. Common or other areas can be protected using conventional-zone detection connected to Model HZM circuits.

The method of 'distributed conventional zoning' through the use of modules connected to intelligent circuits can result in a substantial installed cost savings.

Temperature and Humidity Range

Products are UL 864 9th Edition listed for indoor dry locations within a temperature range of 120+/-3°F (49+/-2°C) to 32+/-3°F (0+/-2°C) and at a relative humidity of 93+/-2% at a temperature of 90+/-3°F (32+/-2°C).

Remote Conventional Zone Module **6330**

Technical Data

– HZM Electrical Ratings –

Initiating Device Zone	
Max. Zone Resistance	35 ohms Total
Supervisory Voltage Range	18-24.5VDC
Max. Zone Current	34mA
24VDC Power	
Voltage Range	18.8-28.2VDC
Max. Current	100mA

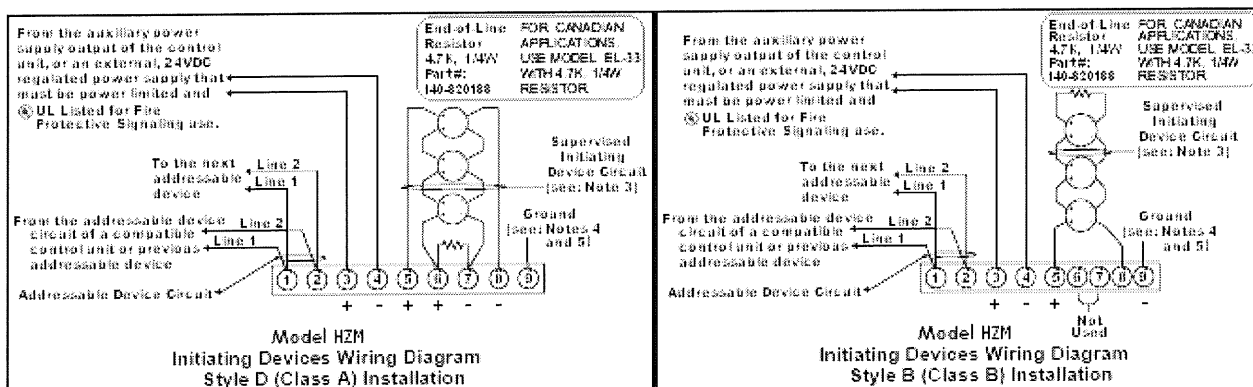
Compatibility Devices

– For use with HZM –

Detector	Base	Installation Instructions
DI-3/3H	DB-3S	315-081943-17
DI-A3/A3H	DB-3S	315-081943-17
DI-B3/B3H	AD-3I	315-093234-6
DT-3P-135	DE-3S	315-017545-3
DT-11	DB-11, DB-3S with DB-ADPT	315-095429-2
PB-1191	PBB-1191	315-095424-3
PE-3	DB-3S AD-3ILP	315-090875-7 315-093234-6
PE-11/11T	DB-11, DB-3S with DB-ADPT AD-11P	315-094198-9 315-095659-8

- ✓ Use up to 15 detectors, any combination of those listed
- ✓ Only one (1) Model PB-1191 and no additional devices can be connected to each Model HZM
- ✓ Detector operated accessories cannot be used with Model HZM
- ✓ Model DT-3P-135 is considered a shorting device. You may use an unlimited number of shorting devices
- ✓ The model numbers listed are the ®UL Listed compatibility identifiers

Wiring Diagrams



NOTES:

1. All circuits are power limited.
2. Initiating Device Circuit cable requirements: Wire size 18 to 14 AWG
3. If Earth Ground is available, the green wire should be connected to earth ground.
4. If Earth Ground is NOT available, the IDC wiring should be limited to the same room.
5. Model HZM draws 1mA from the addressable device circuit.

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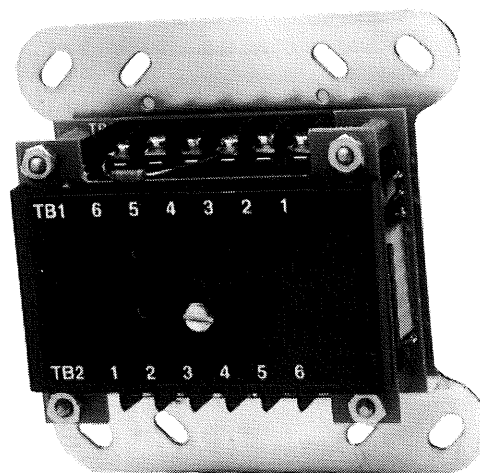
Fire Safety

HCP

FireFinder™ XLS Control Point Module

ENGINEER AND ARCHITECT SPECIFICATIONS

- Intelligent Device for use with FireFinder XLS Control Panel
- Used as a Telephone Zone, Speaker Zone or Notification Appliance Circuit
- Provides either a 25V (35 Watts) or 70.7V (25 Watts) Single Channel Speaker Zone
- Provides 24VDC Notification Appliance Circuits
- Used with Siemens Fire Safety Notification Appliances
- Firefighters Telephone Circuits
- Polarity Insensitive with SureWire™ Technology
- Internally Power Limited Using Self Restoring Solid State Thermal Devices
- Supervised DC Input
- Mounts on Standard Electrical Box (Double Gang or 4" Square)
- No Mechanical Address Programming Required
-  Listed and ULC Listed;
City of Chicago, CSFM, NYMEA (Pending)



Description

The HCP provides an intelligent control point for the FireFinder XLS Control Panel. The HCP can be programmed as an independent, remotely located telephone zone, speaker zone or notification appliance circuit. The HCP is designed to be used with the Siemens Fire Safety notification appliance product line.

The HCP can be programmed for any of the usages mentioned above using the ZEUS programming software and controlled by the systems' output logic. It can be addressed and tested using the DPU device, eliminating the need for any mechanical addressing. The output of the HCP is inherently power limited using solid state, self-restoring thermal devices.

The HCP communicates through the DLC analog loop and can be wired either Class A (Style Z) or Class B (Style Y). The 24 VDC power input comes from either the control panel or from any UL listed power limited, auxiliary power supply.

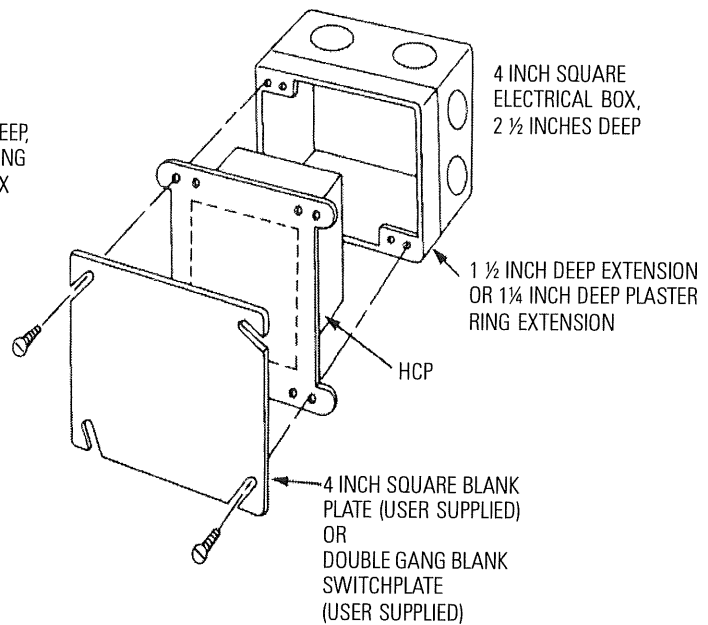
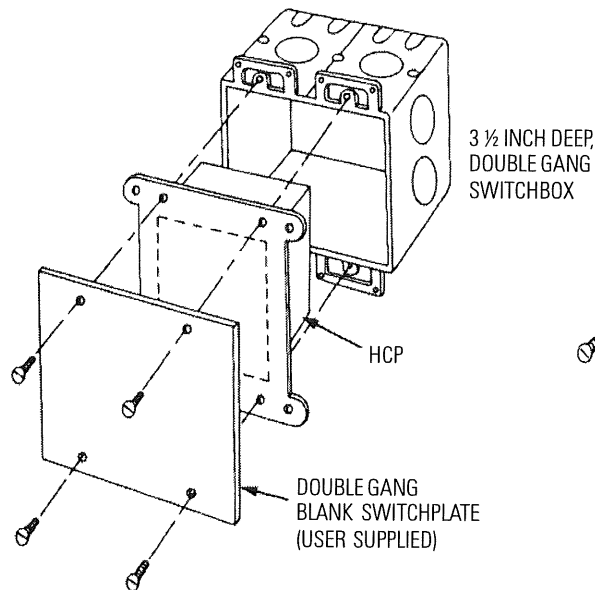
This 24VDC input to the HCP is supervised by the HCP itself so that power wiring may include branch circuits. When programmed as a speaker zone, the high power audio risers are supervised using the ZAC-40 or ZAM-80/180 zone amplifiers. When programmed as a telephone zone, the telephone riser is supervised by the TZC-8 module.

The HCP mounts in a standard double gang or 4" square electrical box.

This equipment is approved for operation over the temperature range of 0°C to 49°C and relative humidity range of 93% RH +/- 2% RH at 40°C +/-2°C.

CATALOG NUMBER **6311**

Mounting Data



1. Use a standard 3 1/2" deep, double gang electrical switchbox or a 4" square electrical box that is 2 1/2" deep with either a 1 1/2" deep extension or a 1 1/4" deep plaster ring extension.
2. Connect the field wiring. Insert the HCP into the box and fasten the module plate to the box.

Note: When using the double gang switchbox or the plaster ring extension, use the same four screws to fasten both the module and the blank plate (user supplied).

3. Cover the module front plate with a 4" blank plate (user supplied) and fasten with two plate screws.



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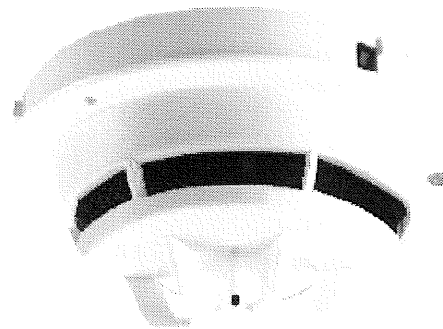
FireFinder XLS & FS-250 Control Panels

Addressable *FirePrint*[™] Detector

Model HFP-11

—ARCHITECT AND ENGINEER SPECIFICATIONS—



- Most sophisticated 'detector intelligence' available
- Multi-criteria fire detection for the price of a photoelectric detector
- *FirePrint*[™] technology to differentiate between deceptive phenomena and an actual fire
- Easily programmed to match specific hazard profiles from the control panel
- Polarity insensitive utilizing *SureWire*[™] technology
- Pre-alarm reporting based on fire profile selected
- Remote sensitivity-measurement capability
- System logic activation based on any of three (3) inputs from the detector (smoke, heat or neural network)
- Detectors are self-testing:
 - complete diagnostics every four (4) seconds
- Two-wire operation
- Multi-color detector status LED
- Field-cleanable chamber with replaceable chamber parts available
- Compatible with Model DPU (device programmer / tester unit)
- Supports software-based automatic environmental compensation
- Optional fully programmable relay base, audible base and duct housing
- UL and ULC Listed;
FM, CSFM & NYMEA Approved



Product Overview

Model HFP-11 utilizes advanced detection technology that allows the detector to distinguish non-threatening deceptive phenomena — such as cigarette smoke, from actual fire hazards, while optimizing detection for the area it is intended to detect. Model HFP-11 uses state-of-the-art microprocessor circuitry with error check, detector self-diagnostics and supervision programs.

Model HFP-11 is compatible with the Siemens — Fire Safety field device program / test unit (Model DPU), which is a compact, portable, menu-driven accessory for electronically programming and testing detectors, easily and reliably. Model DPU eliminates the need for cumbersome, unreliable mechanical programming methods — such as dials or switches, and reduces installation and service costs by electronically programming and testing the detector prior to installation. Model HFP-11 is compatible with FS-250 and Fire Finder XLS-series control panels.

Model HFP-11 is Underwriters' Laboratory and Underwriters' Laboratory of Canada listed.

Specifications

Model HFP-11 is a plug-in, two-wire and multi-sensor detector (with both photoelectric and thermal inputs) that is compatible with Fire Finder XLS and FS-250 series of control-panel systems. Each detector consists of a dust-resistant, field-cleanable and photoelectric chamber; a solid state, non-mechanical thermal sensor, and microprocessor-based electronics with a low-profile plastic housing. Model HFP-11 utilizes state-of-the-art ASIC circuitry and surface-mount technology for maximum reliability.

Every Model HFP-11 fire detector is shipped with a protective dust cover. Model HFP-11 utilizes an infrared light emitting diode (IRLED), and light-sensing photodiode. Under normal conditions, light transmitted by the LED is directed away from the photodiode and scattered through the smoke chamber in a controlled pattern.

FS-250 and FireFinder XLS Control Panels **6301**

Specifications – (continued)

The smoke chamber is designed to manage light dissipation and extraneous reflections from dust particles or other non-smoke, airborne contaminants in such a way as to maintain stable, consistent detector operation. When smoke enters the detector chamber, light emitted from the IRLED is scattered by the smoke particles, and is received by the photodiode.

Model HFP-11 also utilizes a modern, accurate and shock-resistant thermistor to sense temperature changes. The 'on-board' *FirePrint*[™] technology allows the detector to first gather smoke and thermal data, and then analyze this information in the detector's 'neural network.' By comparing data received with the common characteristics of fires or fire fingerprints, Model HFP-11 can compare these 'fire prints' to those of deceptive phenomena that cause other detectors to false alarm.

FirePrint

The advanced *FirePrint* technology allows Model HFP-11 to accurately determine a true fire hazard from unthreatening, deceptive phenomena. Further, the advanced *FirePrint* technology will not require a need to use alarm-delaying verification and confirmation techniques, which can increase the probability of losses due to fire. Model HFP-11 provides the highest level of detector intelligence available today with a detector / control panel link that allows the user to program the detector for the specific hazard profile, using a simple software menu selection.

Model HFP-11's *FirePrint* application monitors input from both the photo chamber and the thermal sensor, evaluating this information with sophisticated mathematical formulas or algorithms, comparing this input to characteristics of both threatening fires and deceptive phenomena that would mislead any ordinary detector.

Detectors are optimized by selecting one (1) of the following 11 applications:

- Office / Retail
- Lobby
- Computer room
- Dormitory
- Healthcare
- Parking garage
- Utility / Transformer room
- Hostile environment
- Precious storage
- Air Duct
- Warehouse / Light Manufacturing

The control panel programs Model HFP-11 detector for the protected area without hassle and without confirmation delays. Once optimized for the hazards in the protected area, Model HFP-11 provides the best detection. Should the operator or installer forget to program the detector, Model HFP-11 will revert to a default setting, allowing operation as an office-environment detector.

The *FirePrint* technology was developed over years of research and reviewing the results of over 20 years of fire test data in one of the world's most advanced fire-research centers.

The results of this research are the mathematical models that form the algorithms used in *FirePrint*. No other fire detector has this level of intelligence or this amount of research and development supporting its design. The microprocessor's software can identify and disregard false input caused by radio frequency (RFI) and electromagnetic (EMI) interference, while validating all *Trouble* conditions before annunciating or reporting to the control panel.

Model HFP-11

The Model HFP-11 detector's microprocessor uses an integral EEPROM to store the detector's address and other critical operating parameters, which include the assigned program values for *Alarm* and *Trouble* thresholds.

Communication within the detector, as well as between Model HFP-11 and the control panel, or with Model DPU (field device programmer / test unit), are supervised and safe-guarded against disruption by reliable, microprocessor-based error checking routines.

Additionally, the micro-processor supervises all EEPROM memory locations, and provides a high degree of EEPROM-failure fault tolerance. Model HFP-11 determines its operating status to be *Normal* in *Alarm* or in *Trouble* modes, depending on the difference between the alarm threshold values stored in the detector's memory and the detector's latest analog measurement.

The detector then communicates changes in its status to the control panel. In addition, the FireFinder XLS control panel will sample the value of the analog signal for Model HFP-11 over a period of time, in order to determine if those values indicate excessive buildup in the photo chamber. If such is the case, the FireFinder XLS control panel will indicate the particular detector requires maintenance.

Model HFP-11 is listed as a self-testing device. The visible light emitting diode (LED) for Model HFP-11 flashes 'green' every four (4) seconds to indicate it is communicating with the control panel, as well as to indicate it has passed its internal self-test. Should the detector sense a fault or failure within its systems, the LED will flash 'amber,' and the detector will transmit that data to the control panel.

A quick visual inspection is enough to indicate the condition of the detector at any time. If more detailed information is required, a printed report can be provided from the Fire Finder XLS panel, indicating the status and settings assigned to each individual detector. When Model HFP-11 moves to the *Alarm* mode, it will flash 'red,' and will continue flashing until the system is reset at the control panel. Simultaneously, any user-defined, system-alarm functions programmed into the system are activated.

Specifications – (continued)

Detector sensitivity, calibration and identification are dynamically supervised by the fire-alarm control panel (FACP). Detector sensitivity and pre-alarm levels are a function of the application chosen at the control panel, and are controlled by the panel. If an alternate, non-*FirePrint* mode is selected, then the sensitivity can be changed from the control panel.

All Model HFP-11 detectors use a surface mounting base, Model DB-11, which mounts on a 4-inch octagonal, square or single gang electrical box. The base utilizes screw-clamp contacts for electrical connections and self-wiping contacts for increased reliability. Model DB-11 can be used with the optional Model LK-11 detector locking kit, which contains 50 detector locks and an installation tool to prevent unauthorized removal of the detector head. Model DB-11 has integral decorative plugs to cover the outer mounting screw holes.

Model HFP-11 may be installed on the same initiating circuit with HMS series manual stations, HTRI series interfaces, HCP output control devices, or HZM series of addressable, conventional zone modules. All Model HFP-11 detectors can be cleaned in the field, when required, by simply removing the detector cover and unsnapping the photo chamber. There is also the option of cleaning the interior of the detector with a clean, soft cloth or brush, or by replacing the labyrinth and bug screen included in the detector maintenance kit, Model DMK-11.

All Model HFP-11 detectors are approved for operation within the UL -specified temperature range of 32 to 100°F (0 to 38°C).

Model DPU

The Device Program / Test Unit accessory is used to program and verify the address of the detector. The technician selects the accessory's program mode, and enters the desired address. Model DPU automatically sets and verifies the address and tests the detector.

Model DPU operates on AC power or rechargeable batteries, providing flexibility and convenience in programming and testing equipment from practically any location.

When in the test mode, Model DPU will perform a series of diagnostic tests without altering the address or other stored data, allowing technicians to determine if the detector is operating properly.

Application Data

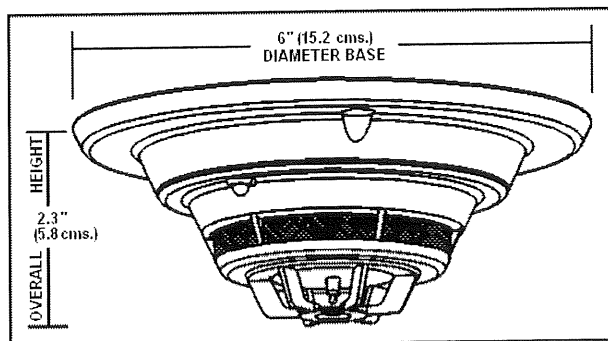
Installation of the Model HFP-11 series of fire detectors requires a two-wire circuit. In many retrofit cases, existing wiring may be used. 'T-tapping' is permitted only for Style 4 (Class B) wiring. Model HFP-11 is polarity insensitive, which can greatly reduce installation and debugging time. Model HFP-11 fire detectors can be applied within the maximum 30 foot center spacing (900 sq. ft. areas,) as referenced in NFPA 72. This application guideline is based on ideal conditions, specifically, smooth ceiling surfaces, minimal air movement, and no physical obstructions between potential fire sources and the actual detector. Do not mount detectors in close proximity to ventilation or heating and air conditioning outlets. Exposed joints or beamed ceilings may also affect safe spacing limitations for detectors.

Should questions arise regarding detector placement, observe NFPA 72 guidelines. Good fire-protection system engineering and common sense dictate how and when fire detectors are installed and used. Contact your local Siemens Industry – Fire Safety distributor or sales office whenever you need assistance applying *FirePrint* in unusual applications. Be sure to follow NFPA guidelines and UL Listed / ULC Listed installation instructions – included with every Siemens – Fire Safety detector – and local codes as for all fire protection equipment.

Technical Data

Operating Temperatures:	+32°F (0°C) to 100°F (38°C), per UL 268 / 268A
Humidity:	0-93% Relative Humidity
Non-condensing Maximum Spacing:	30-foot Centers (900 Square Feet), per NFPA 72 Chapter 5 and ULC -S524

Mounting Diagram



Details for Ordering

Model Number	Part Number	Description
HFP-11	500-033290	Addressable <i>FirePrint</i> ™ Fire Detector
DB-11	500-094151	Detector Mounting Base for Series 11
DB-11E	500-094151E	Detector Base {small}
AD2-P	500-649706	Air-Duct Housing
AD2-XHR	500-649708	Air-Duct Housing {with relay}
DB-HR	500-033220	Relay Base for H-Series Intelligent Detectors
ADBH-11	500-033210	Audible Base
RL-HC	500-033230	Remote Alarm Indicator: 4" octagon-box mount, red
RL-HW	500-033310	Remote Alarm Indicator: single-gang box mount, red
LK-11	500-695350	Base Locking Kit for Series 11 Detectors
DMK-11	500-695338	Series 11 Maintenance Kit {replacement labyrinth and bug screen}

In Canada, order:

Model Number	Part Number	Description
DB-11C	500-095687	Detector Mounting Base for Series 11 Detectors (ULC)

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October 2010
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(Rev. 3)

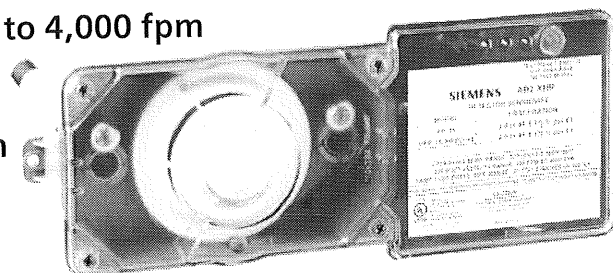
Air-Duct Housings and Detectors

Air-Duct Housings — AD2 Series

Models AD2-P, AD2-PR, AD2-XHR, AD2-4W, ST(s): 10, 25, 50 and 100

ARCHITECT AND ENGINEER SPECIFICATIONS

- For use with Series 11 detectors
- Relay models available
- Design for air-velocity range of 100 to 4,000 fpm
- Alarm LED visible from front
- Self-contained model available with 'on-board' power supply
- Clear housing cover for quick identification of detector type; removable with only four (4) captive screws
-  UL and  ULC Listed; FM, CSFM & NYMEA Approved



Product Overview


The Siemens Industry, Inc. — Fire Safety Air-Duct Detector Housings are designed to be used with the Series 11 detectors. Designed for installation directly to heating, ventilating and air-conditioning duct systems, they comply with National Fire Protection Association Standard No. 90A. When equipped, the air-duct detector housing will signal the presence of smoke being carried through the duct system. Air-duct detectors are not intended to be substituted for open-area detection.

Air-duct housings can be equipped with optional relays, which are utilized to operate any supplementary equipment when smoke is detected.

Notes: Most conventional time-control equipment guarantee only one (1) detector per zone when the detector operated relay function is critical. The connection of a remote lamp and a remote relay per detector is allowed with PXL or System 3™ only; other conventional systems may use either a remote lamp or a relay.

Notes - (cont.'d): With the MXL series of control panels, up to 60 detectors (per circuit) having relays may be used. The connection of a remote lamp or a remote relay is allowed for each detector, but not simultaneously.

With the FireFinder XLS series of control panels, up to 252 detectors (per circuit) having relays may be used. The connection of an intelligent remote lamp (ILED) and a remote Relay is allowed for each detector simultaneously.

Air-duct housings (see: **Details for Ordering**) are  Underwriters' Laboratories, Inc. listed.

Specifications

The air-duct housings are uniquely designed to use with the photoelectric detector. Sensitivity of PE-11 detectors can be checked by viewing the LED or a RSAW- 11 or RSAC-11 multicolor remote lamp. A green flash indicates the detector has passed its self test.

Amber indicates a 'Trouble' condition, and red indicates an 'Alarm' state. HFP-11, HFPO-11 and FP-11 sensitivity may be viewed from the multi-color LED on the detector or, preferably, may be printed by command on an optional printer from the MXL control panel.

Air-Duct Housings and Detectors **6185**

Specifications – (continued)

The detector unit employs a cross-sectional sampling principle of operation. Inlet sampling tubes are available in four (4) lengths (see: **Sampling Tube Selection Table**). Outlet sampling tubes are one (1) common length and draw. A continuous, cross-sectional sample of air moves through the duct. Stratification or skin affect phenomenon that occurs in the duct can prevent smoke (especially in large ducts) from reaching a spot-type detector.

In addition, the unique design of the sampling chamber insures uniform sensitivity in air velocities, ranging from a low of 10- feet-per-minute to as high as 4,000- feet-per-minute. Each housing comes with three (3) wiring entry ports:

- Two (2) 3/4" conduit knockouts
- One (1) 1/2" conduit opening

The inlet sampling tube length is determined by the width of the air duct being protected. The inlet tube – greater than and nearest to the duct width – should be used (see: **Sampling Tube Selection Table**). The inlet tube can then be trimmed at the job site to the exact width of the duct. The outlet sampling tube for all ducts – irrespective of width – has a fixed length of approximately 5.5 inches (14cm.), and is supplied with the air-duct housing.

Note: When the use of a remote relay is required, order model AD2-PR for conventional systems; AD2-XHR for addressable systems. When required the WP-2000 weatherproof enclosure for duct housing is available.

(For full details, refer to installation instructions part number 315-049708.)

Note: When a self-contained duct detector with power supply is required, order model AD2-4W.

(For full details, refer to installation instructions part number 315-049708.)

Sampling Tube Selection Table

Duct Width	Sampling Tube (Model No.)
For duct widths 6" to 1'	ST-10
For duct widths 1' to 3'	ST-25
For duct widths 3' to 5' (requires support)	ST-50
For duct widths 5' to 10' (requires support)	ST-100

Maintenance of the detector is easily accomplished by the removal of the Series 11 duct-housing sampling chamber cover. The detector, which plugs into the housing, is easily removed for cleaning by a trained technician.

Notice: This marketing catalog sheet is not intended to be used for system design or installation purposes. For the most up-to-date information, refer to each product's installation instructions.

All that is necessary for installation of the air-duct detector is the cutting of three (3) small holes for the Sampling Tube installation (template included), and the drilling of two (2) holes for mounting the air-duct housing. The unit is then easily mounted in place, and connection made to the existing wires or terminals – if optional accessories are utilized.

(For full details, refer to installation instructions part number 315-049708-4.)

ST-50 and ST-100 require support. ST-100 is shipped in two (2) 5-ft. (152 cm.) pieces with a coupling for field assembly.

Technical Data

Temperature Range:	32°F (0°C) -100°F (38°C)
Altitude Range:	No Altitude Limitations
Relative Humidity:	10 - 85% (non-condensing / non-freezing)
Air-Duct Velocity Range:	100 - 4,000 Ft. /Min.
Sampling Tube Pressure Range of Differences:	Greater than 0.01 inches; less than 1.2 inches of water column

Note to Architect: When building codes regulate the location of detectors within ventilating systems, make sure the number and locations of detectors is in accordance with the code regulations.

Details for Ordering

Model Number	Part Number	Description
AD2-P	500-649706	Air-Duct Housing for use with FP-11, HFP-11, HFPO-11 and PE-11
AD2-PR	500-649707	Air-Duct Housing for use with PE-11 relay
AD2-XHR	500-649708	Air-Duct Housing for use with FP-11, HFP-11 and HFPO-11, with relay
AD2-4W	500-649709	Self-contained Air-Duct Housing with 'on board' power supply and relay
ST-10	500-649710	Sampling tube for Ducts 6" to 1'
ST-25	500-649711	Sampling tube for Ducts over 1' to 3'
ST-50	500-649712	Sampling tube for Ducts 3' to 5'
ST-100	500-649713	Sampling tube for Ducts 5' to 10'



Product Includes:

- (1) short-return (outlet) tube
- (1) stopper
- (2) #12 + 3/4" sheet-metal screws
- (1) mounting template

Note: Detector and sampling tube to be purchased separately. Minimum hardware required is: one (1) air-duct housing assembly; one (1) sampling tube and one (1) detector.

FireFinder XLS HMS Series Intelligent Initiating Devices Manual Fire Alarm Boxes

ARCHITECT AND ENGINEER SPECIFICATIONS

- Durable design
- Shock-and-vibration resistant
- Pull-down lever is down, until manually reset
 - Reset with Allen Key
 - No break rods necessary
- Custom microcomputer-chip technology
- Dynamic supervision to the fire-alarm control panel (FACP)
- Polarity insensitive via *SureWire™* technology
- Two-wire operation
- Surface or semi-flush installation
- Model DPU programs and verifies address and tests functionality of the each device
 - Electronic-address programming is easier, more efficient and more dependable
- Comes in single-action (Model HMS-S) and double-action (Model HMS-D) stations
-  UL Listed and  ULC Listed; FM, CSFM & NYMEA Approved



Model HMS-D
Dual-Action Station



Model HMS-S
Single-Action Station

Product Overview

Models HMS-S and HMS-D intelligent manual fire-alarm boxes provide the most advanced method of address programming and supervision; combined with sophisticated control-panel communication. Each HMS-series manual fire-alarm box achieves the state of an 'intelligent-initiating device' by incorporating custom microcomputer-chip technology with sophisticated, bi-directional communication capabilities with the FACP.

Specifications

Models HMS-S and HMS-D are constructed of durable, molded polycarbonate material that is matte finished in red with raised white lettering. The housing accommodates a 'pull-down' lever, which — when operated — locks into position; indicating the manual fire-alarm box has been activated.

The pull down lever remains down / in the 'locked' position, until the fire-alarm box is manually reset. The manual fire alarm box can only be reset by opening the hinged housing cover with an Allen key; followed by closing and locking the cover.

Models HMS-S and HMS-D operate with FireFinder XLS-series control panels. The microcomputer chip to the manual fire-alarm box has the capacity of storing — in memory — identification information; as well as important operating-status data.

Innovative technology from Siemens Industry Inc. — Fire Safety also allows all HMS-series intelligent manual fire-alarm boxes to be programmed by using the Programmer / Test Unit (Model DPU). Model DPU is a compact, portable and menu-driven accessory that makes programming and testing of a manual fire-alarm box device faster, easier and more dependable than previous methods.

Model DPU eliminates the need for mechanical-addressing mechanisms of a device because Model DPU electronically sets the address of the manual fire-alarm box into its microcomputer chip, non-volatile memory. Hence, vibration, corrosion and other conditions that can compromise or even deteriorate mechanical-addressing mechanisms are no longer a cause for concern.

Specifications — (continued)

Models HMS-S and HMS-D are fitted with screw terminals for connection to an addressable circuit, and can be either surface or semi-flush mounted.

The HMS Series manual fire-alarm boxes derive their power, communicate information and receive commands over a single pair of wires.

The HMS Series is compatible on the same circuit with all 'H'-series detectors, interfaces or addressable, conventional zone modules.

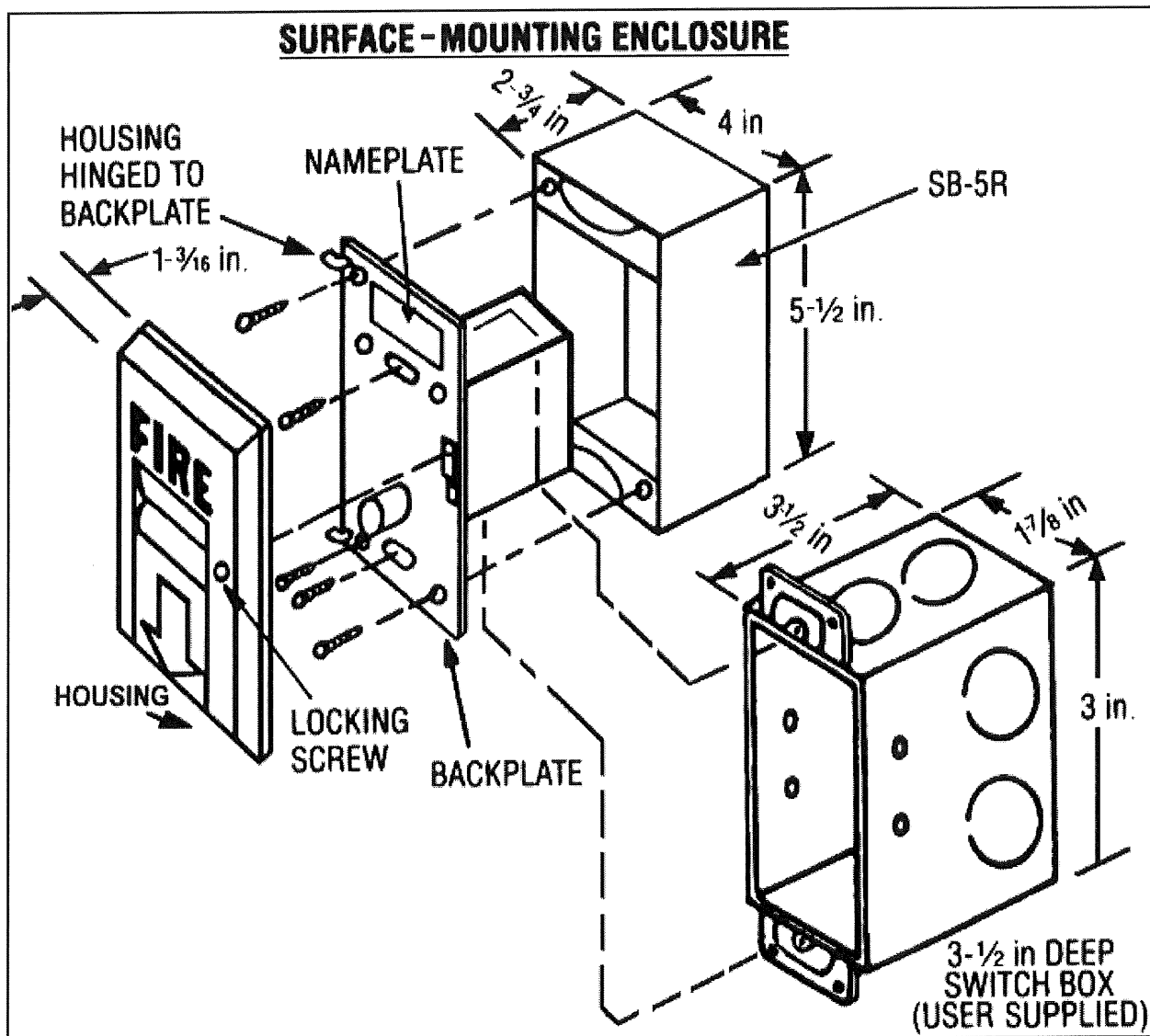
Details for Ordering

Model Number	Part Number	Shipping Lbs.	Weight kg.	Description
HMS-S	500-033200	2.0	.90	Addressable Manual Fire Alarm Box Single Action
HMS-D	500-033400	2.5	1.13	Addressable Manual Fire Alarm Box, Double Action
SB-SR	310-019860	1.5	.68	Surface Mounting Box
LTP	500-620490	.5	.23	Reset Tool Package (Contains 2 tools)

Electrical Ratings

Current Draw (Active or Standby): 1.5mA

Mounting Diagram



Notice: This marketing catalog sheet is not intended to be used for system design or installation purposes. For the most up-to-date information, refer to each product's installation instructions.

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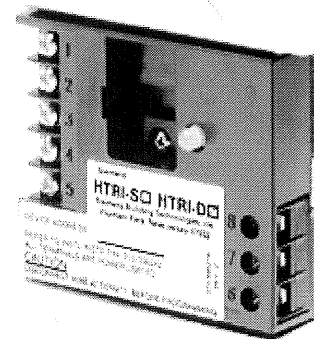
Catalog Sheet
Fire Safety & Security Products

FireFinder XLS and FS-250 Panels

HTRI Series Interface Modules Models HTRI-D, HTRI-R and HTRI-S

ARCHITECT AND ENGINEER SPECIFICATIONS

- Interfacing and supervising normally open (NO) or normally closed (NC) contacts
- Integral SPDT relay on Model HTRI-R (up to 4 amps)
- Dual input on Model HTRI-D, using a single address
- Polarity insensitive with *SureWire™* technology
- Multi-color light-emitting diode (LED) indicates status [green / amber / red]
- Easy front access to programming port and wiring terminals
- Mounts 4-inch square, 2-1/4"-deep box (or double-gang box)
- Dynamic supervision
- Comes with 5-x-5" faceplate
- Two-wire operation
- Model DPU programs and verifies address of the device and tests for proper functionality
- Electronic address programming is easy and dependable
-  UL Listed &  ULC Listed;
FM, CSFM and NYMEA Approved



Product Overview

The Siemens Industry, Inc. — Fire Safety HTRI Series Intelligent interface modules are designed to provide the means of interfacing direct shorting devices to the FireFinder XLS and FS-250 Fire Alarm Control Panel loop circuit.

The HTRI Series modules provide the most advanced method of address programming and supervision on the market — combined with sophisticated control panel communication. Each HTRI Series interface module incorporates a microcomputer chip. The HTRI Series microcomputer chip technology and its sophisticated bi-directional communication capabilities with the control panel, achieve the state of an 'intelligent device.'

Specifications

The HTRI Series intelligent interface modules are available in three (3) models. Models HTRI-S and HTRI-R are designed to monitor a (NO) or (NC) dry contact.

The interface module reports the status of the (NO) or (NC) contact to the control panel. Model HTRI-S can only monitor and report the status of the contact, while Model HTRI-R incorporates an addressable Form C relay.

The Model HTRI-R relay and contact device input are controlled at the same address. For the control panel system, the relay and input contact can be controlled as a separate function. The relay is typically used where control or shunting of external equipment is required.

The Model HTRI-D is a dual-input module that is designed to supervise and monitor two (2) sets of dry contacts. Model HTRI-D only requires one (1) address, but responds independently to each input. Model HTRI-D is ideal for monitoring a water-flow switch and its respective valve tamper switch.

Model HTRI has a multi-color LED that flashes 'green' when operating in *normal*; 'amber' if unit is in *trouble* condition, and 'red' to indicate a change of state.

FireFinder XLS and FS-250 Panels **6304**

Specifications (continued)

Model HTRI-D flashes twice — once for each address, and Model HTRI-R LED indicates a change of state in the relay. The device's microcomputer chip has the capacity of storing, in memory, identification information; as well as important operating-status information.

Siemens Industry, Inc., — Fire Safety innovative technology allows all HTRI Series intelligent interface modules to be programmed by using the Device Programming / Test Unit. Model DPU is a compact, portable and menu-driven accessory that makes programming and testing an interface device faster, easier and more dependable than previous methods.

Model DPU eliminates the need for mechanical addressing mechanisms, such as: program jumpers, DIP switches or rotary dials, since Model DPU electronically sets the HTRI Series interface address into the interface microcomputer-chip non-volatile memory. Vibration, corrosion and other conditions that deteriorate mechanical addressing mechanisms are no longer a cause for concern.

The HTRI Series is fitted with screw terminals for connection to an addressable circuit. The HTRI Series is fully compatible on the same FireFinder XLS and FS-250 circuits with all intelligent H-Series detectors, HMS Series addressable manual stations, or any other addressable intelligent modules, such as Model HZM or Model HCP.

All HTRI Series intelligent interface modules are @UL listed. Environmental operating conditions for all HTRI Series modules are 32°F (°C) to 120°F (49°C) with a relative humidity of no greater than 93%, non-condensing.

Electrical Ratings

Current Draw
(Active or Standby) 1mA

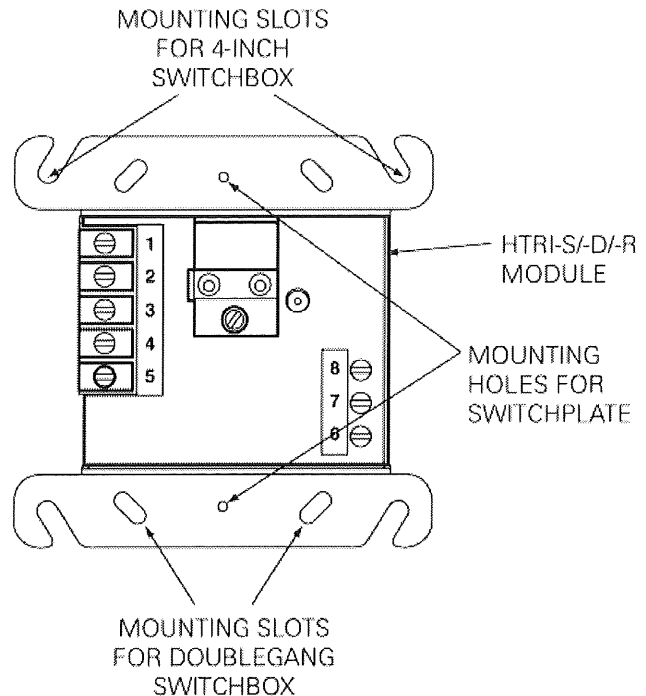
Model HTRI-R Relay Ratings

Resistive: 4 Amps, 125 VAC
4 Amps, 30 VDC

Inductive: 3.5A, 120 VAC (0.6P.F.)
3.0A, 30 VDC (0.6P.F.)
2.0A, 120 VAC (0.4P.F.)
2.0A, 120 VAC (0.35P.F.)
2.0A, 30 VDC (0.35P.F.)

Mounting Diagram

Models HTRI-S, HTRI-D and HTRI-R mount directly into a 4-inch square, 2 ¼-inch deep box or a double-gang box (user supplied). A 5-inch square, off-white faceplate is included with each HTRI Series module.



Details for Ordering

Model Number	Part Number	Description	Shipping Wgt.	
			Lb.	Kg.
HTRI-S	500-033370	Single Input	7 oz.	2
HTRI-R	500-033300	Single Input w/Relay	7 oz.	2
HTRI-D	500-033360	Dual Input	7 oz.	2

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SIEMENS Industry, Inc.
Building Technologies Division

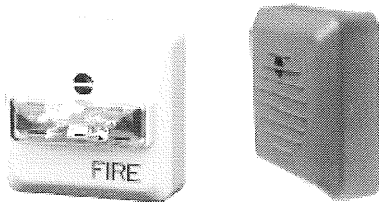
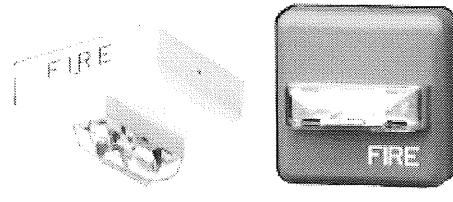
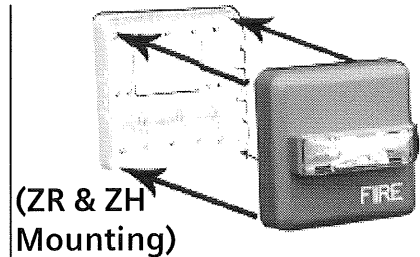
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June 2010
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'08 Series Notification Appliances

ZH & ZR – Strobes, Horns, & Horn / Strobes**Application: Indoor****ZH Series****ZR Series**

Product Overview

- Strobes can be synchronized using the Siemens DSC sync modules, FS-250 panel, XLS panel, or PAD-3 power supply with built-in sync protocol
- Selectable Continuous Horn or Temporal (Code-3) Tones with 90 or 95 dBA selectable setting (ZH)
- Ceiling-mount models feature field-selectable Candela settings of 15/30/75/95cd and 115/177cd
- Wall-mount models feature field-selectable Candela settings of 15/30/75/110cd and 135/185cd
- Base plate is protected by a disposable cover, and the appliances can quickly snap onto the base after the walls are painted
- Strobes produce 1 flash per second
- "Special Applications" listed with Siemens panels
- EZ Mount Universal Mounting Plate (ZBB) – uses single plate for ceiling and wall mount installations
- EZ Mount design – with separate base plate – provides ability to pre-wire the base and test the circuit wiring before the walls are covered
- UL Listed & ULC Listed;
FM, CSFM & NYMEA Approved
- ADA / NFPA compliant

Specifications

- **General**
 - Audible/Visual notification appliances shall be listed for indoor use only
 - Appliances shall be listed under UL Standard 1971 (Standard for Safety Signaling Devices for Hearing Impaired) and UL Standard 464 (Fire Protective Signaling)
 - Appliances shall use a universal back plate, which shall allow mounting to a single-gang, double-gang, 4-inch-square, 4"-octal, or a 3-1/2"-octal backbox
 - Two-wire appliance wiring shall be capable of directly connecting to the mounting back plate
 - Continuity check shall occur for entire NAC circuit prior to attaching any audible / visual-notification appliances
 - Dust cover shall fit and protect the mounting plate
 - Dust cover shall be easily removed when the appliance is installed over the back plate
 - Removal of an appliance shall result in a trouble condition by the Fire Alarm Control Panel (FACP)

Specifications – (continued)

- **Strobes**

- Strobe appliances shall produce a minimum flash rate of 60 flashes per minute (1 flash per second) over the Regulated Input Voltage Range, and shall incorporate a Xenon flashtube enclosed in a rugged Lexan® lens
- Strobes shall be available with two or four field-selectable settings in one unit, and shall be rated – per ®UL 1971 – for up to:
 - 15/30/75/110cd for wall mounted
 - 135/185cd for wall mounted
 - 15/30/75/95cd for ceiling mounted
 - 115/177cd for ceiling mounted
- Strobes shall operate over an extended temperature range of 32°F to 120°F (0°C to 49°C), and be listed for maximum humidity of 95% RH
- Strobe inputs shall be polarized for compatibility with standard reverse-polarity supervision of circuit wiring by a Fire Alarm Control Panel (FACP)

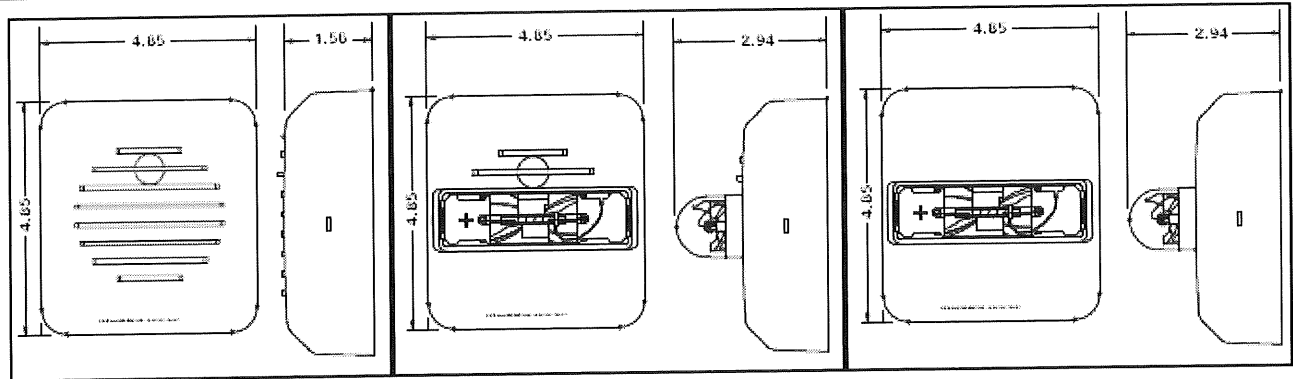
- **Audibles and Audible / Strobe Combinations**

- Horns and horn / strobes shall be listed for Indoor use under ®UL Standard 464
- Horns shall be able to produce continuous synchronized output or a temporal code-3 synchronized output
- Horns shall have at least 2 sound-level settings of 90 and 95 dBA

- **Synchronization Modules**

- The strobe portion, when synchronization is required, shall be compatible with DSC sync modules, FS-250 panel, XLS panel, or PAD-3 power supply with built-in sync protocol
- The strobes shall not drift out of synchronization at any time during operation
- Audibles and strobes shall be able to synchronize on a 2-wire circuit with the capability to silence the audible, if required
- Strobes shall revert to a non-synchronized flash-rate, if the sync module or Power Supply should fail to operate (i.e. – contacts remain closed)
- All notification appliances shall be listed for Special Applications:
 - Strobes are designed to flash at 1-flash-per-second minimum over their “Regulated Input Voltage Range”
 - **Note:** NFPA-72 specifies a flash rate of 1-to-2 flashes per second, and ADA Guidelines specify a flash rate of 1-to-3 flashes per second
 - All candela ratings represent minimum-effective Strobe intensity, based on ®UL Standard 1971
 - Series ZH Strobe products are listed under ®UL Standards 1971 and 464 for indoor use with a temperature range of 32°F to 120°F (0°C to 49°C) and maximum humidity of 93% (± 2%)
 - Series ZH horns are listed under ®UL Standard 464 for audible signal appliances (Indoor use only)

Mounting Diagram



(Shown In Inches)

Mounting Options

Figure 3: Installation

Figure 4: Removal (See step 8 below)

1. Install mounting plate as shown in figure 1 to a single-gang, double-gang, 4" square, 4" octagon, or a 3 1/2" octagon backbox with the provided pan head screws. To remove dust cover, place thumb and index finger on top edges of cover and pull off cover.
2. Connect field wiring per figures 2 and 3.
3. Address wires back into backbox.
4. Place dust cover over mounting plate to protect the terminals while performing wiring continuity check.
5. Remove dust cover before snapping or installing the appliance onto the mounting plate per fig 3.
6. Important: Device only has one mounting orientation. Match the top of the base to the top of the device.
7. If it is desired to further secure the device to the base, then two optional screws are provided. To install these screws punch out the screw holes located at the top and bottom of the device.
8. To remove the appliance, push a small flat-bladed screwdriver into the side opening. The screwdriver must clear the snap release opening by 1/4" to disengage the snap. Do not pry off housing with the screw driver. Apply pressure with screw driver, inserted in either side opening, as shown in Fig 4 to release the housing.

Technical Data

		ZH and ZH-MC Horn Reverberant dBA per UL464 [ZH-MC and ZH at 24V]		
		16.0V	24V	33.0V
Continuous Horn	High	83	87	90
	Low	77	81	83
Code 3 Horn or March Time*	High	79	82	86
	Low	72	76	79

*Available in sync mode only

In (Amps)	ZH Horn Current Draw	
	Horn Setting	16-33 Volts
DC	High*	0.044
	Low*	0.018
FWR	High*	0.075
	Low*	0.045

*Current Draw is the same for the Continuous Horn, Code 3 Horn, and March Time Settings.

Technical Data – (continued)

UL Listed Models and Ratings					
Models*	Operating Voltage (Special Application) [Per UL 1971] (VDC/RMS)	Voltage Range [Per UL C-5526-02] (VDC/RMS)	Horn	Mounting	Strobe Candela (cd)
ZR-MC	16.0-33.0	20.0-31.0	—	Wall	15/30/75/110
ZR-HMC	16.0-33.0	20.0-31.0	—	Wall	135/185
ZR-MC-C	16.0-33.0	20.0-31.0	—	Ceiling	15/30/75/95
ZR-HMC-C	16.0-33.0	20.0-31.0	—	Ceiling	115/177
ZH-MC	16.0-33.0	20.0-31.0	X	Wall	15/30/75/110
ZH-HMC	16.0-33.0	20.0-31.0	X	Wall	135/185
ZH-MC-C	16.0-33.0	20.0-31.0	X	Ceiling	15/30/75/95
ZH-HMC-C	16.0-33.0	20.0-31.0	X	Ceiling	115/177
ZH	16.0-33.0	20.0-31.0	X	Wall or Ceiling	—

*Available in red and white

UL Current Ratings (ZR Strobe Only)													
Maximum RMS Current (AMPS)													
		MC				HMC		MC-C				HMC-C	
		15cd	30cd	75cd	110cd	135cd	185cd	15cd	30cd	75cd	95cd	115cd	177cd
DC	16-33VDC	0.064	0.098	0.175	0.233	0.318	0.445	0.069	0.111	0.200	0.264	0.318	0.445
FWR	16-33VRMS	0.108	0.164	0.288	0.368	0.482	0.684	0.117	0.180	0.297	0.398	0.482	0.684

UL Current Ratings ZH Horn/Strobe														
Maximum RMS Current (AMPS)														
		Horn Setting	MC				HMC		MC-C				HMC-C	
			15cd	30cd	75cd	110cd	135cd	185cd	15cd	30cd	75cd	95cd	115cd	177cd
DC	16-33VDC	High*	0.078	0.113	0.195	0.259	0.371	0.506	0.087	0.131	0.222	0.292	0.371	0.506
		Low*	0.070	0.107	0.188	0.246	0.324	0.455	0.075	0.121	0.213	0.277	0.324	0.455
FWR	16-33VRMS	High*	0.141	0.200	0.302	0.406	0.521	0.722	0.149	0.216	0.331	0.436	0.521	0.722
		Low*	0.123	0.179	0.290	0.391	0.497	0.699	0.131	0.195	0.319	0.421	0.497	0.699

* Current Draw is the same for the Continuous Horn; Code 3 Horn and March Time Settings

Details for Ordering – (Including Mounting Options & Agency Approvals)

Agency Approvals

Model Number	Part Number	Description	Mounting Options*	UL	ULC	FM	CSFM
ZH-R	500-636159	Z Horn: Red	B,D,E,F	X	X	X	X
ZH-W	500-636160	Z Horn: White	B,D,E,F	X	X	X	X
ZH-MC-R	500-636161	Z Horn: Multi Candela (Wall), Red	B,D,E,F	X	X	X	X
ZH-MC-W	500-636162	Z Horn: Multi Candela (Wall), White	B,D,E,F	X	X	X	X
ZH-HMC-R	500-636163	Z Horn: Hi Multi Candela (Wall), Red	B,D,E,F	X	X	X	X
ZH-HMC-W	500-636164	Z Horn: Hi Multi Candela (Wall), White	B,D,E,F	X	X	X	X
ZH-MC-CR	500-636165	Z Horn: Multi Candela (Ceiling), Red	B,D,E,F	X	X	X	X
ZH-MC-CW	500-636166	Z Horn: Multi Candela (Ceiling), White	B,D,E,F	X	X	X	X
ZH-HMC-CR	500-636167	Z Horn: Hi Multi Candela (Ceiling), Red	B,D,E,F	X	X	X	X
ZH-HMC-CW	500-636168	Z Horn: Hi Multi Candela (Ceiling), White	B,D,E,F	X	X	X	X
ZR-MC-R	500-636169	Z Strobe: Multi Candela (Wall), Red	B,D,E,F	X	X	X	X
ZR-MC-W	500-636170	Z Strobe: Multi Candela (Wall), White	B,D,E,F	X	X	X	X
ZR-HMC-R	500-636171	Z Strobe: Hi Multi-Candela (Wall), Red	B,D,E,F	X	X	X	X
ZR-HMC-W	500-636172	Z Strobe: Hi Multi-Candela (Wall), White	B,D,E,F	X	X	X	X
ZR-MC-CR	500-636173	Z Strobe: Multi Candela (Ceiling), Red	B,D,E,F	X	X	X	X
ZR-MC-CW	500-636174	Z Strobe: Multi Candela (Ceiling), White	B,D,E,F	X	X	X	X
ZR-HMC-CR	500-636175	Z Strobe: Hi Multi Candela (Ceiling), Red	B,D,E,F	X	X	X	X
ZRS-HMC-CW	500-636176	Z Strobe: Hi Multi Candela (Ceiling), White	B,D,E,F	X	X	X	X
ZBB-R	500-636193	Accessory – (Includes base, dust cover, mounting screws and installation sheet)					
ZBB-W	500-636194	Accessory – (Includes base, dust cover, mounting screws and installation sheet)					

X = listed / approved

* = Refer to catalog sheet #: 2585 for detailed mounting options

Notice: This marketing catalog sheet is not intended to be used for system design or installation purposes. For the most up-to-date information, refer to each product's installation instructions.

NAC Circuit Voltage Drop Calculation

Project Name	RENYS		
Date	2/24/2011		
Circuit Number	NAC1		
Area Covered			
NAC Source Alarm Voltage	20.4	Wire Gauge	Resistance
Minimum Device Voltage	16	14	Per MFt Cable
Distance to first appliance	160		5.84
Total Circuit Current	1.295		

Wire Gauge for balance of circuit	14	5.84
-----------------------------------	----	------

Circuit is within limits

	Device Current	Distance from previous device	Voltage at Device	Drop from source	Percent Drop
Appliance 1	0.259		19.19	1.21	5.9%
Appliance 2	0.259	40	18.95	1.45	7.1%
Appliance 3	0.259	40	18.77	1.63	8.0%
Appliance 4	0.259	60	18.58	1.82	8.9%
Appliance 5	0.259	60	18.49	1.91	9.3%
END	0.000	0	18.49	1.91	9.3%
END	0.000	0	18.49	1.91	9.3%
END	0.000	0	18.49	1.91	9.3%
END	0.000	0	18.49	1.91	9.3%
END	0.000	0	18.49	1.91	9.3%
END	0.000	0	18.49	1.91	9.3%
END	0.000	0	18.49	1.91	9.3%
END	0.000	0	18.49	1.91	9.3%
END	0.000	0	18.49	1.91	9.3%
END	0.000	0	18.49	1.91	9.3%
END	0.000	0	18.49	1.91	9.3%
END	0.000	0	18.49	1.91	9.3%
END	0.000	0	18.49	1.91	9.3%
END	0.000	0	18.49	1.91	9.3%
END	0.000	0	18.49	1.91	9.3%
END	0.000	0	18.49	1.91	9.3%
END	0.000	0	18.49	1.91	9.3%
END	0.000	0	18.49	1.91	9.3%
END	0.000	0	18.49	1.91	9.3%
END	0.000	0	18.49	1.91	9.3%
Totals	1.295	360			

Appliance circuit voltage drop calculations start at "end of battery life" as NAC Source Alarm Voltage and use 20% below nameplate rating for Minimum Appliance Voltage.

Note. Wire resistance is based on the 1996 NEC Table 8 Uncoated DC resistance. Solid conductors except gauges 10 and 12 which are for stranded.

NAC Circuit Voltage Drop Calculation

Project Name	RENYS		
Date	2/24/2011		
Circuit Number	NAC 2		
Area Covered			
NAC Source Alarm Voltage	20.4	Wire Gauge	Resistance
Minimum Device Voltage	16	14	Per MFt Cable
Distance to first appliance	110		5.84
Total Circuit Current	1.231		

Wire Gauge for balance of circuit	14	5.84
-----------------------------------	----	------

Circuit is within limits

	Device Current	Distance from previous device	Voltage at Device	Drop from source	Percent Drop
Appliance 1	0.195		19.61	0.79	3.9%
Appliance 2	0.259	30	19.43	0.97	4.8%
Appliance 3	0.259	60	19.16	1.24	6.1%
Appliance 4	0.259	60	18.97	1.43	7.0%
Appliance 5	0.259	60	18.88	1.52	7.4%
END	0.000	0	18.88	1.52	7.4%
END	0.000	0	18.88	1.52	7.4%
END	0.000	0	18.88	1.52	7.4%
END	0.000	0	18.88	1.52	7.4%
END	0.000	0	18.88	1.52	7.4%
END	0.000	0	18.88	1.52	7.4%
END	0.000	0	18.88	1.52	7.4%
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END	0.000	0	18.88	1.52	7.4%
END	0.000	0	18.88	1.52	7.4%
END	0.000	0	18.88	1.52	7.4%
END	0.000	0	18.88	1.52	7.4%
END	0.000	0	18.88	1.52	7.4%
END	0.000	0	18.88	1.52	7.4%
END	0.000	0	18.88	1.52	7.4%
END	0.000	0	18.88	1.52	7.4%
END	0.000	0	18.88	1.52	7.4%
Totals	1.231	320			

Appliance circuit voltage drop calculations start at "end of battery life" as NAC Source Alarm Voltage and use 20% below nameplate rating for Minimum Appliance Voltage.

Note. Wire resistance is based on the 1996 NEC Table 8 Uncoated DC resistance. Solid conductors except gauges 10 and 12 which are for stranded.

NAC Circuit Voltage Drop Calculation

Project Name	RENYS		
Date	2/24/2011		
Circuit Number	NAC 3		
Area Covered			
NAC Source Alarm Voltage	20.4	Wire Gauge 14	Resistance Per MFt Cable 5.84
Minimum Device Voltage	16		
Distance to first appliance	80		
Total Circuit Current	1.231		

Wire Gauge for balance of circuit	14	5.84
-----------------------------------	----	------

Circuit is within limits

	Device Current	Distance from previous device	Voltage at Device	Drop from source	Percent Drop
Appliance 1	0.195		19.82	0.58	2.8%
Appliance 2	0.259	25	19.67	0.73	3.6%
Appliance 3	0.259	60	19.40	1.00	4.9%
Appliance 4	0.259	60	19.22	1.18	5.8%
Appliance 5	0.259	60	19.13	1.27	6.2%
END	0.000	0	19.13	1.27	6.2%
END	0.000	0	19.13	1.27	6.2%
END	0.000	0	19.13	1.27	6.2%
END	0.000	0	19.13	1.27	6.2%
END	0.000	0	19.13	1.27	6.2%
END	0.000	0	19.13	1.27	6.2%
END	0.000	0	19.13	1.27	6.2%
END	0.000	0	19.13	1.27	6.2%
END	0.000	0	19.13	1.27	6.2%
END	0.000	0	19.13	1.27	6.2%
END	0.000	0	19.13	1.27	6.2%
END	0.000	0	19.13	1.27	6.2%
END	0.000	0	19.13	1.27	6.2%
END	0.000	0	19.13	1.27	6.2%
END	0.000	0	19.13	1.27	6.2%
END	0.000	0	19.13	1.27	6.2%
END	0.000	0	19.13	1.27	6.2%
END	0.000	0	19.13	1.27	6.2%
END	0.000	0	19.13	1.27	6.2%
END	0.000	0	19.13	1.27	6.2%
END	0.000	0	19.13	1.27	6.2%
Totals	1.231	285			

Appliance circuit voltage drop calculations start at "end of battery life" as NAC Source Alarm Voltage and use 20% below nameplate rating for Minimum Appliance Voltage.

Note. Wire resistance is based on the 1996 NEC Table 8 Uncoated DC resistance. Solid conductors except gauges 10 and 12 which are for stranded.

NAC Circuit Voltage Drop Calculation

Project Name

RENY'S

Date

2/24/2011

Circuit Number

NAC 4

Area Covered

NAC Source Alarm Voltage

20.4

Wire
Gauge

Resistance
Per MFt Cable

14

5.84

Minimum Device Voltage

16

Distance to first appliance

30

Total Circuit Current

1.267

Wire Gauge for balance of circuit

14

5.84

Circuit is within limits		Distance from previous device	Voltage at Device	Drop from source	Percent Drop
Appliance	Device Current				
Appliance 1	0.259		20.18	0.22	1.1%
Appliance 2	0.259	50	19.88	0.52	2.5%
Appliance 3	0.064	50	19.66	0.74	3.6%
Appliance 4	0.078	25	19.56	0.84	4.1%
Appliance 5	0.064	25	19.48	0.92	4.5%
Appliance 6	0.064	35	19.37	1.03	5.1%
Appliance 7	0.064	15	19.32	1.08	5.3%
Appliance 8	0.078	15	19.29	1.11	5.5%
Appliance 9	0.064	15	19.26	1.14	5.6%
Appliance 10	0.078	15	19.23	1.17	5.7%
Appliance 11	0.195	50	19.18	1.22	6.0%
END	0.000	0	19.18	1.22	6.0%
END	0.000	0	19.18	1.22	6.0%
END	0.000	0	19.18	1.22	6.0%
END	0.000	0	19.18	1.22	6.0%
END	0.000	0	19.18	1.22	6.0%
END	0.000	0	19.18	1.22	6.0%
END	0.000	0	19.18	1.22	6.0%
END	0.000	0	19.18	1.22	6.0%
END	0.000	0	19.18	1.22	6.0%
END	0.000	0	19.18	1.22	6.0%
END	0.000	0	19.18	1.22	6.0%
END	0.000	0	19.18	1.22	6.0%
END	0.000	0	19.18	1.22	6.0%
END	0.000	0	19.18	1.22	6.0%
END	0.000	0	19.18	1.22	6.0%
END	0.000	0	19.18	1.22	6.0%
Totals	1.267	325			

Appliance circuit voltage drop calculations start at "end of battery life" as NAC Source Alarm Voltage and use 20% below nameplate rating for Minimum Appliance Voltage.

Note. Wire resistance is based on the 1996 NEC Table 8 Uncoated DC resistance. Solid conductors except gauges 10 and 12 which are for stranded.

Siemens FS-250 Battery Calculations

Job Name: RENY'S
Date: 2/24/2011

	STANDBY	ALARM
TOTAL SYSTEM CURRENT	0.293	2.432

TOTAL FACP BATTERY CALCULATIONS			
TOTAL STANDBY CURRENT	A/H REQ'D		A/H STANDBY
0.293 Amps X	24	HRS.	7.032
TOTAL ALARM CURRENT	A/H REQ'D		A/H ALARM
2.432 Amps X	5	MIN.	0.253

Required Battery Capacity	7.285
Always use a battery with higher AH rating than required.	

BATTERY SUPPLIED: 2x12 AH

**EASTERN
FIRE
SERVICES
INCORPORATED**



**FIRE SUPPRESSION AND DETECTION
SAVE LIVES AND PROPERTY**

*FIRE SPRINKLER * FIRE ALARM * CLEAN AGENT*

*AUBURN PHONE (207) 795-6314 • AUBURN FAX (207) 782-0566
BANGOR PHONE (207) 942-8014 • BANGOR FAX (207) 942-5202
170 KITTY HAWK AVE. • P. O. BOX 1582 • AUBURN, ME 04211-1582*

RENYS

I/O MATRIX

INPUTS

OUTPUTS

SMOKE DETECTOR
MANUAL STATION
WATERFLOW
DUCT SMOKE

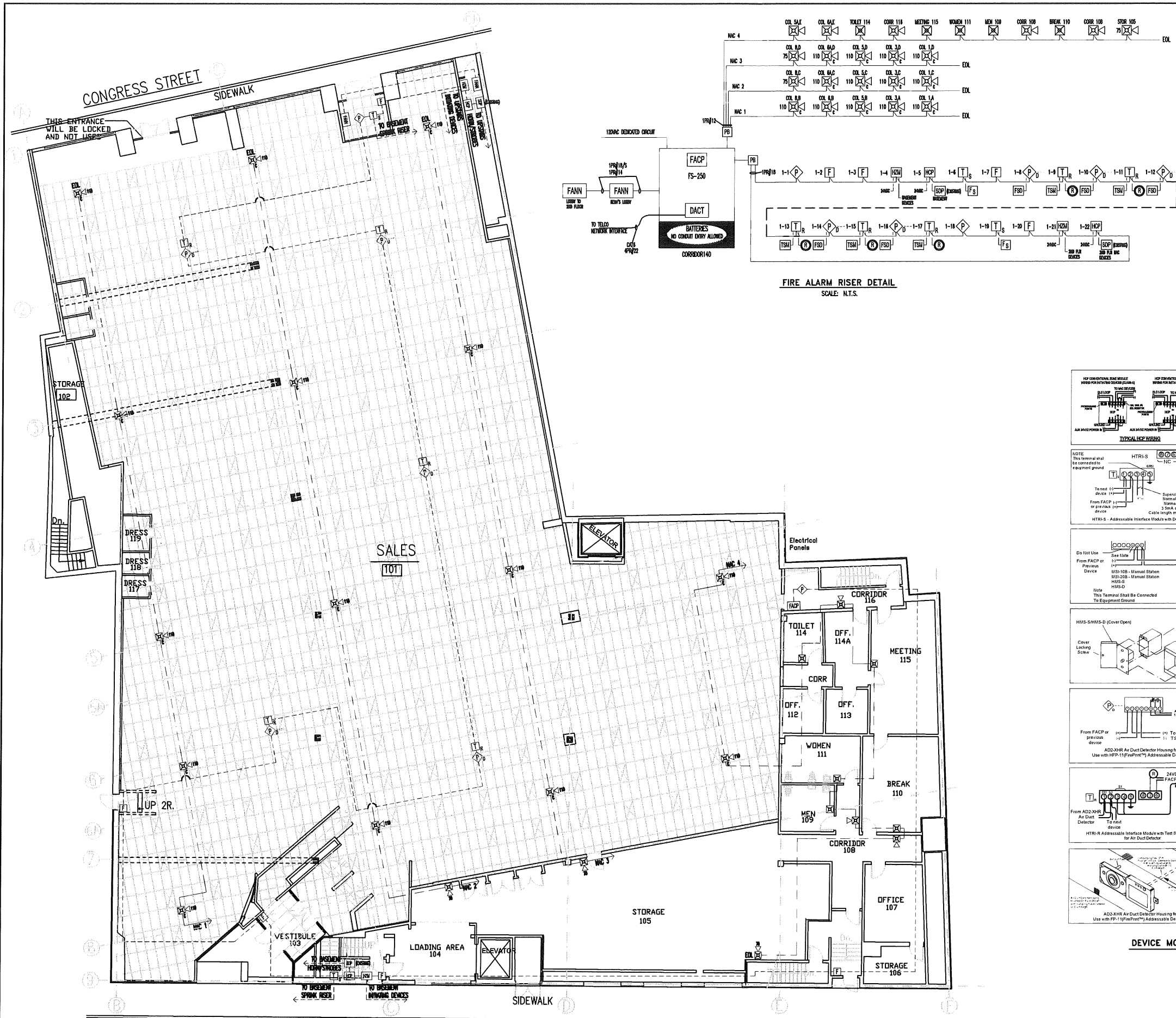
ACTIVATE HORN/STROBES
SHOW ALARM ON FACP/ANN
ACTIVATE DIALER - ALARM

SPRINKLER TAMPER
SPRINKLER LOW AIR

ACTIVATE DIALER - SUPERVISORY
SHOW SUPV. ON FACP/ANN

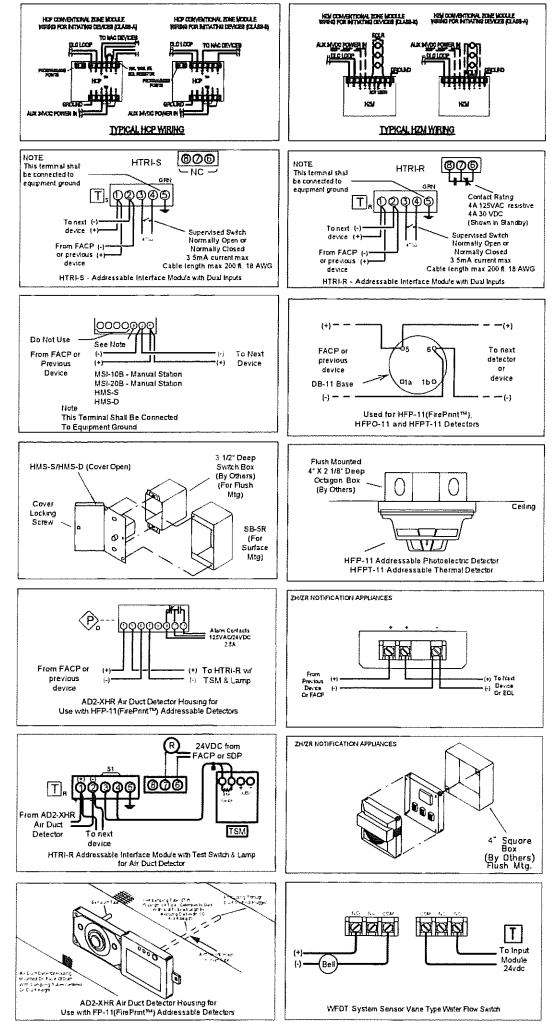
TROUBLE

ACTIVATE DIALER - TROUBLE
SHOW TBL ON FACP/ANN



DEVICE LEGEND					
ITEM	QTY	SYM	ITEM	P/N	NOTE
1	1	FACP	FIRE ALARM CONTROL PANEL	FS-250	WT. TOP 6'-0" AFF.
2	2	FANN	FIRE ALARM ANNUNCIATOR	FS-402	WT. AS DIRECTED (LUSH)
3	1	DACT	DIGITAL ALARM COMMUNICATION/TRANSMITTER	FS-DACT	MOUNTS INSIDE ITEM #1
4	4	F	MANUAL PULL STATION	HMS-D	WT. TOP 48" AFF.
5	2	P	SMOKE DETECTOR	HTP-11	WT. ON CEILING
6	5	P-D	DUCT SMOKE DETECTOR	ADD-SDR	WT. PER MANUFACTURER
7	5	ST	DUCT SAMPLING TUBE	ST-3	LENGTH AS REQUIRED
8	0	T-D	DUAL INPUT INTERFACE MODULE	HTR-D	WT. ON 4" SQ BOX
9	2	T-S	SINGLE INPUT INTERFACE MODULE	HTR-S	WT. ON 4" SQ BOX
10	5	T-R	SINGLE INPUT INTERFACE MODULE WITH RELAY	HTR-R	WT. ON 4" SQ BOX
11	0	T-W	SINGLE INPUT INTERFACE WIRE MODULE	HTR-W	WT. ON 4" SQ BOX
12	21	H	HORN/STROBE	ZH-HD-R	WT. 80" AFF.
13	5	S	STROBE	ZH-SD-R	WT. 80" AFF.
14	0	TS	TAMPER SWITCH		
15	2	FS	WIRE-TYPE FLOW SWITCH	WFS	DESTROY SYSTEM SENSOR
16	0	TBL	TROUBLE		
17	0	PB	PULL BOX	F&O	
18	2	HZM	CONVENTIONAL ZONE MODULE	HZM	SEMGIS
19	2	HCP	CONTROL POINT MODULE	HCP	SEMGIS
20	5	R	REMOTE LAMP		WT. PER EXHAUST
21	5	TSM	TEST SWITCH MODULE	P/N	WT. TOP 6'-0" AFF.
22	5	FSD	FAN SHUT DOWN	P/N	WT. TOP 6'-0" AFF.
23	1	SOP	SIGNAL DRIVER PANEL	PD-3	WT. TOP 6'-0" AFF.

FIRE ALARM RISER DETAIL
SCALE: N.T.S.



DEVICE MOUNTING & WIRING DETAIL
SCALE: N.T.S.

NO.	REVISIONS

REQUIRED APPROVALS	
OWNER / ARCHITECT	STATE FIRE MARSHAL
PORTLAND FIRE DEPARTMENT	
DRAWN BY:	DRS
CHECKED BY:	BWB
CONTRACTOR LICENSE #	101
CONTRACTOR RMS #	368

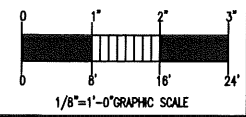
PROJECT:

RENY'S
540 CONGRESS STREET
PORTLAND, MAINE

FIRE ALARM SYSTEM

FIRE SPRINKLER CONTRACTOR:
EASTERN FIRE PROTECTION
AUBURN/LEWISTON INDUSTRIAL AIRPARK, AUBURN, MAINE 04210

CONTRACT WITH:	
FLYNN-Z COMPANY WEST SCARBORO, MAINE	
JOB NUMBER	FIRE SPRINKLER
EPS44117	PLANS AND DETAILS
DWG. NO.	SCALE
FA-1	AS SHOWN
	DATE
	2-23-11



FIRE ALARM SYSTEM LAYOUT
SCALE: 1/8"=1'