

**DISPLAY THIS CARD ON PRINCIPAL FRONTAGE OF WORK**  
**CITY OF PORTLAND**

Please Read  
Application And  
Notes, If Any,  
Attached

**BUILDING INSPECTION**

**PERMIT**

Permit Number: 081173

This is to certify that STATE STREET CONGREGATIONAL CHURCH C/O JR. FA

has permission to Install An Elevator for Floor 3

AT 159 STATE ST

045 A026001

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 buildings and structures, and of the application on file in this department.

Apply to Public Works for street line and grade if nature of work requires such information.

Notification of inspection must be given and when permission procured before this building or part thereof is altered or closed-in. 24 HOUR NOTICE IS REQUIRED.

A certificate of occupancy must be procured by owner before this building or part thereof is occupied.

**OTHER REQUIRED APPROVALS**

Fire Dept. Greg Cass

Health Dept. \_\_\_\_\_

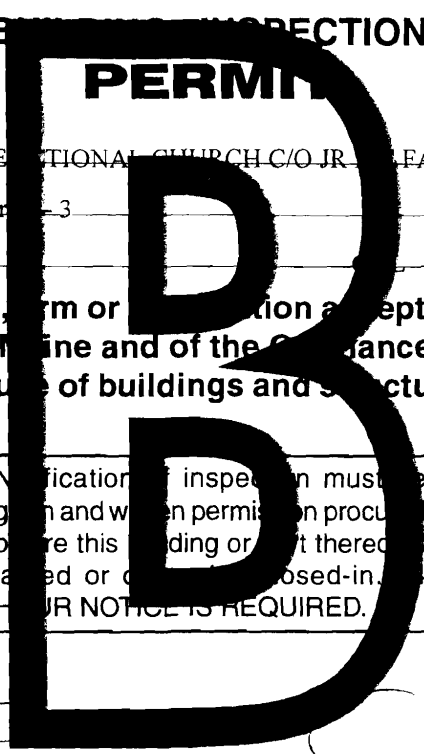
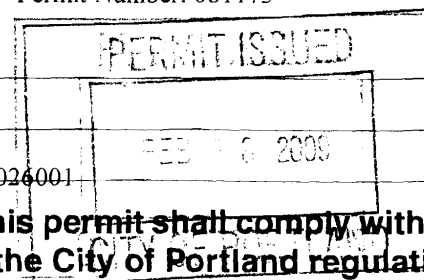
Appeal Board \_\_\_\_\_

Other \_\_\_\_\_

Department Name

Director - Building & Inspection Services

**PENALTY FOR REMOVING THIS CARD**



*[Handwritten Signature]*  
2/18/09

**City of Portland, Maine - Building or Use Permit Application**

389 Congress Street, 04101 Tel: (207) 874-8703, Fax: (207) 874-8716

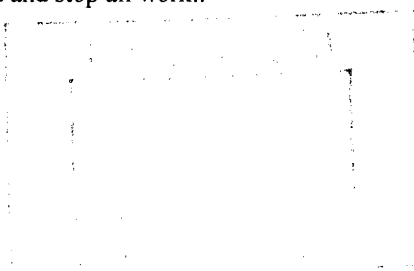
Permit No: 08-1173	Issue Date:	CBL: 045 A026001
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Location of Construction: 159 STATE ST	Owner Name: STATE STREET CONGREGATIO	Owner Address: 159 STATE ST	Phone: 207-774-6396
Business Name:	Contractor Name: Center Line Construction, Inc.	Contractor Address: P.O. Box 1264 Portland	Phone: 2077410290
Lessee/Buyer's Name	Phone:	Permit Type: <i>Institutional</i> <del>Additions - Commercial</del>	Zone: <i>R-6</i>

Past Use: Religious/State Street Church	Proposed Use: Religious/State Street Church - Install An Elevator for Floors 1 - 3	Permit Fee: \$2,820.00	Cost of Work: \$280,000.00	CEO District: 2
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Proposed Project Description: Install An Elevator for Floors 1 - 3	FIRE DEPT: <input checked="" type="checkbox"/> Approved <input type="checkbox"/> Denied INSPECTION: Use Group: <i>A-3</i> Type: <i>3A</i> <i>IBC 2003</i> Signature: <i>[Signature]</i>
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Permit Taken By: lmd	Date Applied For: 09/16/2008	<b>Zoning Approval</b>
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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 information may invalidate a building permit and stop all work.. 	Special Zone or Reviews <input type="checkbox"/> Shoreland <input type="checkbox"/> Wetland <input type="checkbox"/> Flood Zone <input type="checkbox"/> Subdivision <input type="checkbox"/> Site Plan Maj <input type="checkbox"/> Minor <input type="checkbox"/> MM <input type="checkbox"/> Date: <i>9/17/08</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 type="checkbox"/> Denied Date: <i>[Signature]</i>	Historic Preservation <input type="checkbox"/> Not in District or Landmark <input type="checkbox"/> Does Not Require Review <input type="checkbox"/> Requires Review <input type="checkbox"/> Approved <input checked="" type="checkbox"/> Approved w/Conditions <input type="checkbox"/> Denied Date: <i>10/28/08 SEH</i>
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**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 application 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	PHONE

**City of Portland, Maine - Building or Use Permit**

389 Congress Street, 04101 Tel: (207) 874-8703, Fax: (207) 874-8716

Permit No: 08-1173	Date Applied For: 09/16/2008	CBL: 045 A026001
-----------------------	---------------------------------	---------------------

Location of Construction: 159 STATE ST	Owner Name: STATE STREET CONGREGATIO	Owner Address: 159 STATE ST	Phone: 207-774-6396
Business Name:	Contractor Name: Center Line Construction, Inc.	Contractor Address: P.O. Box 1264 Portland	Phone: (207) 741-0290
Lessee/Buyer's Name	Phone:	Permit Type: Institutional	

Proposed Use: Religious/State Street Church - Install An Elevator for Floors 1 - 3	Proposed Project Description: Install An Elevator for Floors 1 - 3
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**Dept:** Historic      **Status:** Approved with Conditions      **Reviewer:** Scott Hanson      **Approval Date:** 10/28/2008

**Note:** **Ok to Issue:**

- 1) Elevator over-run is to extend no further than 4' (four feet) above the parapet on the lower roof.
- 2) Exterior cladding of elevator over-run is to be Firestone Metal Products Una-Clad in Medium Bronze color.

**Dept:** Zoning      **Status:** Approved with Conditions      **Reviewer:** Marge Schmuckal      **Approval Date:** 09/17/2008

**Note:** **Ok to Issue:**

- 1) ANY exterior work requires a separate review and approval thru Historic Preservation. This property is located within an Historic District.
- 2) This permit is being approved on the basis of plans submitted. Any deviations shall require a separate approval before starting that work.

**Dept:** Building      **Status:** Approved with Conditions      **Reviewer:** Tammy Munson      **Approval Date:** 02/18/2009

**Note:** **Ok to Issue:**

- 1) Approval is required from the State Fire Marshall's Office for elevator installations.
- 2) At the completion of the work, a licensed engineer is required to sign off on the construction and installation of the elevator.
- 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) Separate permits are required for any electrical, plumbing, HVAC or exhaust systems. Separate plans may need to be submitted for approval as a part of this process.

**Dept:** Fire      **Status:** Approved with Conditions      **Reviewer:**      **Approval Date:** 10/28/2008

**Note:** **Ok to Issue:**

- 1) Application requires State Fire Marshal approval.

**Comments:**

10/7/2008-sth: Left third message for Sean Boyles requesting additional information necessary for determining whether or not the proposed project meets the HP standards. First message was left on 9-18, second message on 9-25. He replied to second message after business hours with part of the information requested.

10/28/2008-jmb: Received permit from Historic, routed to fire for review

11/4/2008-tmm: left message for construction co. - need to meet table 601 for ratings of elements based on type of construction as 3A.

2/18/2009-tmm: rec'd final drawing - project was on hold - ok to issue permit.

## BUILDING PERMIT INSPECTION PROCEDURES

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

to schedule your inspections as agreed upon

Permits expire in 6 months, if the project is not started or ceases for 6 months.

The Owner or their designee is required to notify the inspections office for the following inspections and provide adequate notice. Notice must be called in 48-72 hours in advance in order to schedule an inspection:

By initializing at each inspection time, you are agreeing that you understand the inspection procedure and additional fees from a "Stop Work Order" and "Stop Work Order Release" will be incurred if the procedure is not followed as stated below.

A Pre-construction Meeting will take place upon receipt of your building permit.

- Footing/Building Location Inspection: Prior to pouring concrete or setting precast piers
- Re-Bar Schedule Inspection: Prior to pouring concrete
- Framing/Rough Plumbing/Electrical: Prior to Any Insulating or drywalling
- Final inspection required at completion of work.

Certificate of Occupancy is not required for certain projects. Your inspector can advise you if your project requires a Certificate of Occupancy. All projects DO require a final inspection.

If any of the inspections do not occur, the project cannot go on to the next phase, REGARDLESS OF THE NOTICE OR CIRCUMSTANCES.

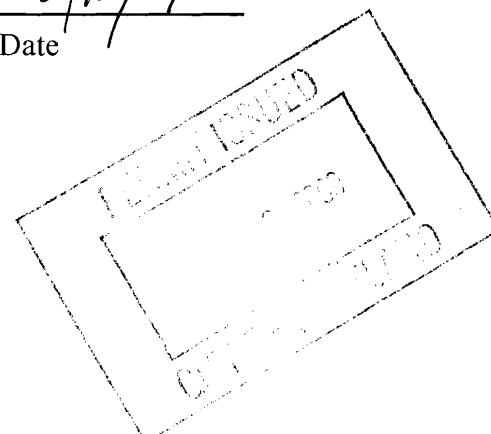
**CERIFICATE OF OCCUPANICES MUST BE ISSUED AND PAID FOR, BEFORE THE SPACE MAY BE OCCUPIED.**

  
Signature of Applicant/Designee

2/12/09  
Date

  
Signature of Inspections Official

2/18/09  
Date





Schedule Inspection	Add	Find	Print Permit	Print C of O	Print Insp	Invoicing	Taxes Due	Close
Prmt	Text93	6738	Constr Type		Num1	81173		
Permit Nbr	08-1173	Location of Construction	159 STATE ST	Appl. Date	09/16/2008			
Status	Hold	Permit Type	Institutional	Issue Date				
CBL	045 A026001	District Nbr	2	Estimated Cost	\$280,000.00	Date Closed		

Comment Date	Comment	Add	Delete	Save	Print
11/04/2008	left message for construction co. - need to meet table 601 for ratings of elements based on type of construction as 3A.				
	Name	tmm	Follow Up Date		Completed <input type="checkbox"/>
10/28/2008	Received permit from Historic, routed to fire for review				
	Name	jmb	Follow Up Date		Completed <input type="checkbox"/>
10/07/2008	Left third message for Sean Boyles requesting additional information necessary for determining whether or not the proposed project meets the HP standards. First message was left on 9-18, second message on 9-25. He replied to second message after business hours with part of the information requested.				
	Name	sth	Follow Up Date		Completed <input type="checkbox"/>

CreatedBy	lmd	CreateDate	09/17/2008	ModBy	tmm	ModDate	11/04/2008
		Time	9:11 AM			Time	10:23 AM



# General Building Permit Application

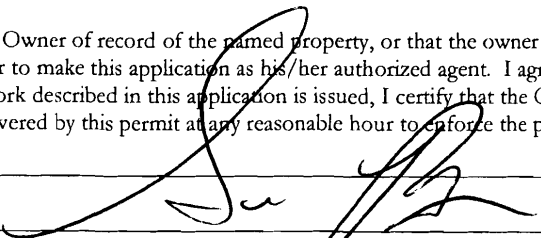
If you or the property owner owes real estate or personal property taxes or user charges on any property within the City, payment arrangements must be made before permits of any kind are accepted.

Location/Address of Construction: <u>159 STATE STREET, PORTLAND, ME</u>		
Total Square Footage of Proposed Structure <u>292 sq ft</u>		Square Footage of Lot
Tax Assessor's Chart, Block & Lot Chart# <u>045</u> Block# <u>A</u> Lot# <u>026</u>	Owner: <u>THE STATE STREET CONGREGATIONAL CHURCH of THE UNITED CHURCH of CHRIST</u>	Telephone: <u>1 207-774-6396</u>
Lessee/Buyer's Name (If Applicable)	Applicant name, address & telephone: <u>SEAN BOYLES</u> <u>CENTER LINE CONSTRUCTION, INC.</u> <u>P.O. 1264</u> <u>PORTLAND, ME 04104</u> <u>(207) 741-0390</u>	Cost Of Work: <u>\$ 280,000</u> Fee: \$ _____ C of O Fee: \$ _____
Current legal use (i.e. single family) <u>CHURCH</u> If vacant, what was the previous use? _____ Proposed Specific use: <u>ELEVATOR - 3 FLOORS SEP 10</u> Is property part of a subdivision? <u>NO</u> If yes, please name _____ Project description:		
Contractor's name, address & telephone: <u>CENTER LINE CONSTRUCTION, INC.</u> <u>P.O. BOX 1264, PORTLAND, ME 04104</u> Who should we contact when the permit is ready: <u>SEAN BOYLES</u> Mailing address: _____ Phone: <u>741-0390</u>		

Please submit all of the information outlined in the Commercial Application 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](http://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 of applicant: 

Date: 9/16/08

This is not a permit; you may not commence ANY work until the permit is issued.

874-8716



390 County Rd Suite #2 Westbrook, Maine 04092

Tel: (207) 773-1276 Fax: (207) 772-1203

September 9, 2008

Mark Hall  
MC Hall  
1039 Riverside St  
Portland, Maine 04103

Dear Mr. Hall;

Please find enclosed for your review and file, the bulk sampling results that were collected by Kyle Rickett, Maine D.E.P. inspector number AI-0349, at the wood yard located on Presumpscott St, Portland, Maine on August 29, 2008.

Four (4) Samples were collected and sent to EMSL in New Jersey where it was analyzed by Polarized Light Microscopy (PLM) (EPA test method #600/M4-82-020) for asbestos content.

All samples were found to contain NO asbestos

Some items that were discovered on site and are assumed to contain asbestos are as follows:

- Circuit breakers in power panels within planer room

The State of Maine Department of Environmental Protection (DEP) considers a material to be an "asbestos containing material" when it is analyzed by PLM and found to contain greater than 1% asbestos

If you have any further questions or need additional information please feel free to contact me at (207)-773-1276.

Sincerely,

A handwritten signature in black ink, appearing to read 'K. Rickett', is written over a horizontal line.

Kyle Rickett  
Vice President

Enclosures



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590 County Rd. Suite #2 Westbrook, Maine 04092

Tel: (207) 773-1276 Fax: (207) 773-1203

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Sample Number	Bulk Sample / Description / Location	Volume
B-1	Rear Storage Shed (covered roof)	1500
B-2	Tower Roof	
B-3	Shed next to Tower	
B-4	Sheetrock within tower	



EMSL Analytical, Inc  
Revised 07/07/99

CHAIN OF CUSTODY

**ASBESTOS**EMSL Rep: Paul Nyfield

Third Party Billing requires written authorization from third party

Your Company Name: Abatement Professionals Corp  
590 County Rd Suite #2  
Westbrook, Maine 04092

EMSL- Bill to: ABAT52

Fax Results: Kyle Rickett  
Telephone #: 207-772-1203



Project  
Name/Number: Presumpscott St

Purchase Order # 140

MATRIX			TURNAROUND			
<input type="checkbox"/> Air	<input type="checkbox"/> Soil	<input type="checkbox"/> Micro-Vac	<input type="checkbox"/> 6 Hrs	<input type="checkbox"/> 12 Hrs *	<input type="checkbox"/> 1 Day	
<input type="checkbox"/> Drinking Water			<input type="checkbox"/> 2 Days	<input type="checkbox"/> 3 Days	<input type="checkbox"/> 4 Days	<input type="checkbox"/> 5 Days
<input type="checkbox"/> Wipe	<input type="checkbox"/> Waste Water		6-10 Days			

Please call ahead to schedule TEM AIR, 3 hours, 6 hours. There is a premium charge for 3 hour TAT; call 1-800-220-3675 for price prior to sending samples

You will be asked to sign an authorization form for this service

\* 12 Hours must arrive by 11:00am Mon-Fri. Please refer to Price Quote

PCM-AIR	TEM-AIR	TEM-WATER
<input type="checkbox"/> NIOSH 7400 (A) Issue 2: August 1994	<input type="checkbox"/> AHERA 40 CFR, Part 763 Subpart E	<input type="checkbox"/> EPA 100.1
<input type="checkbox"/> OSHA w/TWA	<input type="checkbox"/> NIOSH 7402 Issue 2	<input type="checkbox"/> EPA 100.2
<input type="checkbox"/> Other:	<input type="checkbox"/> EPA Level II	<input type="checkbox"/> NYS 198.2
<b>PLM-Bulk</b>	<b>TEM-Bulk</b>	<b>TEM Micro Vac/wipe</b>
<input type="checkbox"/> EPA Point Count 400	<input type="checkbox"/> Drop Mount (Qualitative)	<input type="checkbox"/> ASTM D 5755-95
<input type="checkbox"/> NY Stratified Point Count	<input type="checkbox"/> Chatfield SOP-1988-02	<input type="checkbox"/> Wipe Qualitative
<input type="checkbox"/> PLM NOB (Gravimetric) NYS 198.1	<input type="checkbox"/> TEM NOB (Gravimetric) NY 198.4	
<input type="checkbox"/> NIOSH 9002	<input type="checkbox"/> EMSL Standard Addition	<b>XRD</b>
<input type="checkbox"/> EMSL Standard Addition		<input type="checkbox"/> Asbestos
<b>SEM Air or Bulk</b>	<b>PLM Soil</b>	<input type="checkbox"/> Silica NIOSH 7500
<input type="checkbox"/> Qualitative	<input type="checkbox"/> EPA Protocol Qualitative	
<input type="checkbox"/> Quantitative	<input type="checkbox"/> EPA Protocol Quantitative	<b>OTHER</b>
	<input type="checkbox"/> EMSL MSD 9000 Method fibers/gram	<input type="checkbox"/>

Client Sample # (s) B-1-B-4Total Sample #: 4

Relinquished: \_\_\_\_\_ Date: \_\_\_\_\_ Time: \_\_\_\_\_

Received: \_\_\_\_\_ Date: \_\_\_\_\_ Time: \_\_\_\_\_

Relinquished: \_\_\_\_\_ Date: \_\_\_\_\_ Time: \_\_\_\_\_

Received: \_\_\_\_\_ Date: \_\_\_\_\_ Time: \_\_\_\_\_

**EMSL Analytical, Inc.**

107 Haddon Ave., Westmont, NJ 08108

Phone: (856) 858-4800 Fax: (856) 858-4880 Email: [westmontlab@EMSL.com](mailto:westmontlab@EMSL.com)

Attn: **Kyle Rickett**  
**Abatement Professionals Corp.**  
**590 County Road**  
**Westbrook, ME 04092**

Fax: (207) 772-1203 Phone: (207) 773-1276  
 Project: **PRESUMPCOTT ST.**

Customer ID: ABAT52  
 Customer PO: 140  
 Received: 08/28/08 10:30 AM  
 EMSL Order: 040822589  
 EMSL Proj:  
 Analysis Date: 8/28/2008  
 Report Date: 8/28/2008

### Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

Sample	Location	Appearance	Non-Asbestos		Asbestos
			% Fibrous	% Non-Fibrous	% Type
B-1 040822589-0001	REAR STORAGE SHED	White/Black Fibrous Heterogeneous	50% Cellulose	50% Non-fibrous (other)	None Detected
B-2 040822589-0002	TOWER ROOF	Black Fibrous Heterogeneous	45% Glass	55% Non-fibrous (other)	None Detected
B-3 040822589-0003	SHED NEXT TO TOWER	White/Black Fibrous Heterogeneous	50% Cellulose	50% Non-fibrous (other)	None Detected
B-4 040822589-0004	WITHIN TOWER	Gray/Brown/White Fibrous Heterogeneous	45% Cellulose	55% Non-fibrous (other)	None Detected

MAINE CERT. #BA-0100

Analyst(s)

Debra Beard (4)

Stephen Siegel, CIH, Laboratory Manager  
 or other approved signatory

Due to magnification limitations inherent in PLM, asbestos fibers in dimensions below the resolution capability of PLM may not be detected. The limit of detection as stated in the method is 1%. The above test report relates only to the items tested and may not be reproduced in any form without the express written approval of EMSL Analytical, Inc. EMSL's liability is limited to the cost of analysis. EMSL bears no responsibility for sample collection activities or analytical method limitations. Interpretation and use of test results are the responsibility of the client. Samples received in good condition unless otherwise noted. This report must not be used to claim product endorsement by NVLAP or any agency of the U.S. Government.

Analysis performed by EMSL Westmont (NVLAP #101048-0), NY ELAP 10872

PLM-1

**THIS IS THE LAST PAGE OF THE REPORT.**

1



# Certificate of Design Application

From Designer: LARRY A. WICHROSKI, P.E.  
 Date: SEPT. 10, 2008  
 Job Name: STATE STREET CHURCH ELEVATOR ADDN.  
 Address of Construction: 159 STATE STREET, PORTLAND

**2003 International Building Code**  
 Construction project was designed to the building code criteria listed below:

Building Code & Year 2003-IBC Use Group Classification (s) A-3  
 Type of Construction III A  
 Will the Structure have a Fire suppression system in Accordance with Section 903.3.1 of the 2003 IBC N/A  
 Is the Structure mixed use? N/A If yes, separated or non separated or non separated (section 302.3) \_\_\_\_\_  
 Supervisory alarm System? N/A Geotechnical/Soils report required? (See Section 1802.2) N/A

## Structural Design Calculations

N/A Submitted for all structural members (106.1 - 106.11)

## Design Loads on Construction Documents (1603)

Uniformly distributed floor live loads (7603.11, 1607)

Floor Area Use	Loads Shown
<u>ELEVATOR</u>	<u>100.0 PSF</u>

## Wind loads (1603.1.4, 1609)

N/A Design option utilized (1609.1.1, 1609.6)  
 — Basic wind speed (1609.3)  
 — 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,  $S_D$  &  $S_M$  (1615.1)  
 — Site class (1615.1.5)

N/A Live load reduction  
N/A Roof live loads (1603.1.2, 1607.11)  
N/A Roof snow loads (1603.7.3, 1608)  
50 ~~N/A~~ Ground snow load,  $P_g$  (1608.2)  
45.0 If  $P_g > 10$  psf, flat-roof snow load  $P_f$   
N/A If  $P_g > 10$  psf, snow exposure factor,  $C_e$   
N/A If  $P_g > 10$  psf, snow load importance factor,  $I_s$   
N/A Roof thermal factor,  $C_t$  (1608.4)  
N/A Sloped roof snowload,  $P_s$  (1608.6)  
N/A Seismic design category (1616.3)  
N/A Basic seismic force resisting system (1617.6.2)  
N/A Response modification coefficient,  $R$ , 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)



## Certificate of Design

Date: 9/10/08

From: LARRY A. WICHROSKI, P.E.

These plans and / or specifications covering construction work on:

THE ADDITION OF AN INTERIOR ELEVATOR  
A STATE STREET CHURCH, PORTLAND, ME

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: [Handwritten Signature]

Title: STRUCTURAL ENGINEER

Firm: ENGINEERING DESIGN PROF.

Address: \_\_\_\_\_

FREEPORT, ME.

Phone: 865-4643

For more information or to download this form and other permit applications visit the Inspections Division on our website at [www.portlandmaine.gov](http://www.portlandmaine.gov)

5

Building Inspections Division • 389 Congress Street • Portland, Maine 04101 • (207) 874-8703 • FACSIMILE (207) 874-8716 • TTY (207) 874-8936

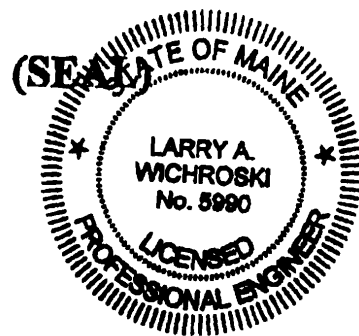




## Accessibility Building Code Certificate

Designer: LARRY A. WICHROSKI, P.E.  
Address of Project: 159 STATE STREET, PORTLAND  
Nature of Project: ADD INTERIOR ELEVATOR  
\_\_\_\_\_  
\_\_\_\_\_

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: [Handwritten Signature]  
Title: STRUCTURAL ENG.  
Firm: ENGINEERING DESIGN PROF.  
Address: \_\_\_\_\_  
FREEMONT, ME.  
Phone: 865-2505

For more information or to download this form and other permit applications visit the Inspections Division on our website at [www.portlandmaine.gov](http://www.portlandmaine.gov)

**2003 International Building Code / CHAPTER 17 STRUCTURAL TESTS AND SPECIAL INSPECTIONS / SECTION 1704 SPECIAL INSPECTIONS / 1704.1 General.**

**1704.1 General.**

Where application is made for construction as described in this section, the owner or the registered design professional in responsible charge acting as the owner's agent shall employ one or more special inspectors to provide inspections during construction on the types of work listed under Section 1704. The special inspector shall be a qualified person who shall demonstrate competence, to the satisfaction of the building official, for inspection of the particular type of construction or operation requiring special inspection. These inspections are in addition to the inspections specified in Section 109.

**Exceptions:**

1. Special inspections are not required for work of a minor nature or as warranted by conditions in the jurisdiction as approved by the building official.
2. Special inspections are not required for building components unless the design involves the practice of professional engineering or architecture as defined by applicable state statutes and regulations governing the professional registration and certification of engineers or architects.
3. Unless otherwise required by the building official, special inspections are not required for occupancies in Group R-3 as applicable in Section 101.2 and occupancies in Group U that are accessory to a residential occupancy including, but not limited to, those listed in Section 312.1.

**2003 International Building Code / CHAPTER 17 STRUCTURAL TESTS AND SPECIAL INSPECTIONS / SECTION 1704 SPECIAL INSPECTIONS / 1704.1 General. / 1704.1.1**

**Building permit requirement.**

**1704.1.1 Building permit requirement.**

The permit applicant shall submit a statement of special inspections prepared by the registered design professional in responsible charge in accordance with Section 106.1 as a condition for permit issuance. This statement shall include a complete list of materials and work requiring special inspections by this section, the inspections to be performed and a list of the individuals, approved agencies or firms intended to be retained for conducting such inspections.

**2003 International Building Code / CHAPTER 17 STRUCTURAL TESTS AND SPECIAL INSPECTIONS / SECTION 1704 SPECIAL INSPECTIONS / 1704.1 General. / 1704.1.2**

**Report requirement.**

**1704.1.2 Report requirement.**

Special inspectors shall keep records of inspections. The special inspector shall furnish inspection reports to the building official, and to the registered design professional in responsible charge. Reports shall indicate that work inspected was done in conformance to

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approved construction documents. Discrepancies shall be brought to the immediate attention of the contractor for correction. If the discrepancies are not corrected, the discrepancies shall be brought to the attention of the building official and to the registered design professional in responsible charge prior to the completion of that phase of the work. A final report documenting required special inspections and correction of any discrepancies noted in the inspections shall be submitted at a point in time agreed upon by the permit applicant and the building official prior to the start of work.

**2003 International Building Code / CHAPTER 17 STRUCTURAL TESTS AND SPECIAL INSPECTIONS / SECTION 1704 SPECIAL INSPECTIONS / 1704.2 Inspection of fabricators.**

**1704.2 Inspection of fabricators.**

Where fabrication of structural load-bearing members and assemblies is being performed on the premises of a fabricator's shop, special inspection of the fabricated items shall be required by this section and as required elsewhere in this code.

**2003 International Building Code / CHAPTER 17 STRUCTURAL TESTS AND SPECIAL INSPECTIONS / SECTION 1704 SPECIAL INSPECTIONS / 1704.2 Inspection of fabricators. / 1704.2.1 Fabrication and implementation procedures.**

**1704.2.1 Fabrication and implementation procedures.**

The special inspector shall verify that the fabricator maintains detailed fabrication and quality control procedures that provide a basis for inspection control of the workmanship and the fabricator's ability to conform to approved construction documents and referenced standards. The special inspector shall review the procedures for completeness and adequacy relative to the code requirements for the fabricator's scope of work.

**Exception:** Special inspections as required by Section 1704.2 shall not be required where the fabricator is approved in accordance with Section 1704.2.2.

**2003 International Building Code / CHAPTER 17 STRUCTURAL TESTS AND SPECIAL INSPECTIONS / SECTION 1704 SPECIAL INSPECTIONS / 1704.2 Inspection of fabricators. / 1704.2.2 Fabricator approval.**

**1704.2.2 Fabricator approval.**

Special inspections required by this code are not required where the work is done on the premises of a fabricator registered and approved to perform such work without special inspection. Approval shall be based upon review of the fabricator's written procedural and quality control manuals and periodic auditing of fabrication practices by an approved special inspection agency. At completion of fabrication, the approved fabricator shall submit a certificate of compliance to the building official stating that the work was performed in accordance with the approved construction documents.

**2003 International Building Code / CHAPTER 17 STRUCTURAL TESTS AND SPECIAL**

**INSPECTIONS / SECTION 1704 SPECIAL INSPECTIONS / 1704.3 Steel construction.**

**1704.3 Steel construction.**

The special inspections for steel elements of buildings and structures shall be as required by Section 1704.3 and Table 1704.3. Where required, special inspection of steel shall also comply with Section 1715.

**Exceptions:**

1. Special inspection of the steel fabrication process shall not be required where the fabricator does not perform any welding, thermal cutting or heating operation of any kind as part of the fabrication process. In such cases, the fabricator shall be required to submit a detailed procedure for material control that demonstrates the fabricator's ability to maintain suitable records and procedures such that, at any time during the fabrication process, the material specification, grade and mill test reports for the main stress-carrying elements are capable of being determined.
2. The special inspector need not be continuously present during welding of the following items, provided the materials, welding procedures and qualifications of welders are verified prior to the start of the work; periodic inspections are made of the work in progress and a visual inspection of all welds is made prior to completion or prior to shipment of shop welding.
  - 2.1. Single-pass fillet welds not exceeding 5/16 inch (7.9 mm) in size.
  - 2.2. Floor and roof deck welding.
  - 2.3. Welded studs when used for structural diaphragm.
  - 2.4. Welded sheet steel for cold-formed steel framing members such as studs and joists.
  - 2.5. Welding of stairs and railing systems.

**2003 International Building Code / CHAPTER 17 STRUCTURAL TESTS AND SPECIAL INSPECTIONS / SECTION 1704 SPECIAL INSPECTIONS / 1704.3 Steel construction. / 1704.3.1 Welding.**

**1704.3.1 Welding.**

Welding inspection shall be in compliance with AWS D1.1. The basis for welding inspector qualification shall be AWS D1.1.

**2003 International Building Code / CHAPTER 17 STRUCTURAL TESTS AND SPECIAL INSPECTIONS / SECTION 1704 SPECIAL INSPECTIONS / 1704.3 Steel construction. / 1704.3.2 Details.**

**1704.3.2 Details.**

The special inspector shall perform an inspection of the steel frame to verify compliance with the details shown on the approved construction documents, such as bracing, stiffening, member locations and proper application of joint details at each connection.

**2003 International Building Code / CHAPTER 17 STRUCTURAL TESTS AND SPECIAL INSPECTIONS / SECTION 1704 SPECIAL INSPECTIONS / 1704.3 Steel construction. / 1704.3.3 High-strength bolts.**

**1704.3.3 High-strength bolts.**

Installation of high-strength bolts shall be periodically inspected in accordance with AISI specifications.

**2003 International Building Code / CHAPTER 17 STRUCTURAL TESTS AND SPECIAL INSPECTIONS / SECTION 1704 SPECIAL INSPECTIONS / 1704.3 Steel construction. / 1704.3.3 High-strength bolts. / 1704.3.3.1 General.**

**1704.3.3.1 General.**

While the work is in progress, the special inspector shall determine that the requirements for bolts, nuts, washers and paint; bolted parts and installation and tightening in such standards are met. For bolts requiring pretensioning, the special inspector shall observe the preinstallation testing and calibration procedures when such procedures are required by the installation method or by project plans or specifications; determine that all piles of connected materials have been drawn together and properly snugged and monitor the installation of bolts to verify that the selected procedure for installation is properly used to tighten bolts. For joints required to be tightened only to the snug-tight condition, the special inspector need only verify that the connected materials have been drawn together and properly snugged.

**2003 International Building Code / CHAPTER 17 STRUCTURAL TESTS AND SPECIAL INSPECTIONS / SECTION 1704 SPECIAL INSPECTIONS / 1704.3 Steel construction. / 1704.3.3 High-strength bolts. / 1704.3.3.2 Periodic monitoring.**

**1704.3.3.2 Periodic monitoring.**

Monitoring of bolt installation for pretensioning is permitted to be performed on a periodic basis when using the turn-of-nut method with match marking techniques, the direct tension indicator method or the alternate design fastener (twist-off bolt) method. Joints designated as snug tight need be inspected only on a periodic basis.

**2003 International Building Code / CHAPTER 17 STRUCTURAL TESTS AND SPECIAL INSPECTIONS / SECTION 1704 SPECIAL INSPECTIONS / 1704.3 Steel construction. / TABLE 1704.3 REQUIRED VERIFICATION AND INSPECTION OF STEEL CONSTRUCTION**

**TABLE 1704.3  
REQUIRED VERIFICATION AND INSPECTION OF STEEL CONSTRUCTION**

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VERIFICATION AND INSPECTION	CONTINUOUS	PERIODIC	REFERENCED STANDARD <sup>a</sup>	IBC REFERENCE
1. Material verification of high-strength bolts, nuts and washers:				
a. Identification markings to conform to ASTM standards specified in the approved construction documents.	—	X	Applicable ASTM material specifications; AISC 335, Section A3.4; AISC LRFD, Section A3.3	—
b. Manufacturer's certificate of compliance required.	—	X	—	—
2. Inspection of high-strength bolting:				
a. Bearing-type connections.	—	X	AISC LRFD, Section M2.5	1704.3.3
b. Slip-critical connections.	X	X		
3. Material verification of structural steel:				
a. Identification markings to conform to ASTM standards specified in the approved construction documents.	—	—	ASTM A 6 or ASTM A 568	1708.4
b. Manufacturers' certified mill test reports.	—	—	ASTM A 6 or ASTM A 568	
4. Material verification of weld filler materials:				
a. Identification markings to conform to AWS specification in the approved construction documents.	—	—	AISC, A3D, Section A3.6; AISC LRFD, Section A3.5	—
b. Manufacturer's certificate of compliance required.	—	—	—	—
5. Inspection of welding:				
a. Structural steel:	—	—		
1) Complete and partial penetration groove welds.	X	—	AWS D1.1	1704.3.1
2) Multipass fillet welds.	X	—		
3) Single-pass fillet welds $> \frac{5}{16}$ "	X	—		
4) Single-pass fillet welds $\leq \frac{5}{16}$ "	—	X		
5) Floor and deck welds.	—	X	AWS D1.3	—
b. Reinforcing steel:	—	—		
1) Verification of weldability of reinforcing steel other than ASTM A 706.	—	X	AWS D1.4 ACI 318: 3.5.2	1903.5.2
2) Reinforcing steel-resisting flexural and axial forces in intermediate and special moment frames, and boundary elements of special reinforced concrete shear walls and shear reinforcement.	X	—		
3) Shear reinforcement.	X	—		
4) Other reinforcing steel.	—	X		
6. Inspection of steel frame joint details for compliance with approved construction documents:				
a. Details such as bracing and stiffening.	—	—	—	1704.3.2
b. Member locations.	—	—		
c. Application of joint details at each connection.	—	—		

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For SI: 1 Inch = 25.4 mm.

a. Where applicable, see also Section 1707.1, Special inspection for seismic resistance.

**2003 International Building Code / CHAPTER 17 STRUCTURAL TESTS AND SPECIAL INSPECTIONS / SECTION 1704 SPECIAL INSPECTIONS / 1704.3 Steel construction. / TABLE 1704.3 REQUIRED VERIFICATION AND INSPECTION OF STEEL CONSTRUCTION / 1704.3.3.3 Continuous monitoring.**

**1704.3.3.3 Continuous monitoring.**

Monitoring of bolt installation for pretensioning using the calibrated wrench method or the turn-of-nut method without matchmarking shall be performed on a continuous basis.

**2003 International Building Code / CHAPTER 17 STRUCTURAL TESTS AND SPECIAL INSPECTIONS / SECTION 1704 SPECIAL INSPECTIONS / 1704.4 Concrete construction.**

**1704.4 Concrete construction.**

The special inspections and verifications for concrete construction shall be as required by this section and Table 1704.4.

**Exception:** Special inspections shall not be required for:

1. Isolated spread concrete footings of buildings three stories or less in height that are fully supported on earth or rock.
2. Continuous concrete footings supporting walls of buildings three stories or less in height that are fully supported on earth or rock where:
  - 2.1. The footings support walls of light frame construction;
  - 2.2. The footings are designed in accordance with Table 1805.4.2; or 2.3. The structural design is based on a  $f_c$  no greater than 2,500 pounds per square inch (psi) (17.2 Mpa).
3. Nonstructural concrete slabs supported directly on the ground, including prestressed slabs on grade, where the effective prestress in the concrete is less than 150 psi (1.03 Mpa).
4. Concrete foundation walls constructed in accordance with Table 1805.5(1), 1805.5(2), 1805.5(3) or 1805.5(4).
5. Concrete patios, driveways and sidewalks, on grade.

**2003 International Building Code / CHAPTER 17 STRUCTURAL TESTS AND SPECIAL INSPECTIONS / SECTION 1704 SPECIAL INSPECTIONS / 1704.4 Concrete construction. / 1704.4.1 Materials.**

**1704.4.1 Materials.**

In the absence of sufficient data or documentation providing evidence of conformance to quality standards for materials in Chapter 3 of ACI 318, the building official shall require

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testing of materials in accordance with the appropriate standards and criteria for the material in Chapter 3 of ACI 318. Weld ability of reinforcement, except that which conforms to ASTM A706, shall be determined in accordance with the requirements of Section 1903.5.2.

2003 International Building Code / CHAPTER 17 STRUCTURAL TESTS AND SPECIAL INSPECTIONS / SECTION 1704 SPECIAL INSPECTIONS / 1704.4 Concrete construction. / TABLE 1704.4 REQUIRED VERIFICATION AND INSPECTION OF CONCRETE CONSTRUCTION

TABLE 1704.4  
REQUIRED VERIFICATION AND INSPECTION OF CONCRETE CONSTRUCTION

VERIFICATION AND INSPECTION	CONTINUOUS	PERIODIC	REFERENCED STANDARD <sup>a</sup>	IBC REFERENCE
1. Inspection of reinforcing steel, including prestressing tendons, and placement.	—	X	ACI 318: 3.5, 7.1-7.7	1903.5, 1907.1, 1907.7, 1914.4
2. Inspection of reinforcing steel welding in accordance with Table 1704.3, Item 5B.	—	—	AWS D1.4 ACI 318: 3.5.2	1903.5.2
3. Inspect bolts to be installed in concrete prior to and during placement of concrete where allowable loads have been increased.	X	—	—	1912.5
4. Verifying use of required design mix.	—	X	ACI 318: Ch. 4, 5.2-5.4	1904, 1905.2-1905.4, 1914.2, 1914.3
5. At the time fresh concrete is sampled to fabricate specimens for strength tests, perform slump and air content tests, and determine the temperature of the concrete.	X	—	ASTM C 172 ASTM C 311 ACI 318: 5.6, 5.8	1905.6, 1914.10
6. Inspection of concrete and shotcrete placement for proper application techniques.	X	—	ACI 318: 5.9, 5.10	1905.9, 1905.10, 1914.6, 1914.7, 1914.8
7. Inspection for maintenance of specified curing temperature and techniques.	—	X	ACI 318: 5.11-5.13	1905.11, 1905.13, 1914.9
8. Inspection of prestressed concrete: a. Application of prestressing forces. b. Grouting of bonded prestressing tendons in the seismic force-resisting system.	X X	—	ACI 318: 18.20 ACI 318: 18.18.4	—
9. Erection of precast concrete members.	—	X	ACI 318: Ch. 16	—
10. Verification of in-situ concrete strength, prior to stressing of tendons in posttensioned concrete and prior to removal of shores and forms from beams and structural slabs.	—	X	ACI 318: 6.2	1906.2

For SI: 1 Inch = 25.4 mm.

a. Where applicable, see also Section 1707.1, Special Inspection for seismic resistance.



**INSPECTIONS / SECTION 1704 SPECIAL INSPECTIONS / 1704.5 Masonry construction.**

**1704.5 Masonry construction.**

Masonry construction shall be inspected and evaluated in accordance with the requirements of this section, depending on the classification of the building or structure or nature of occupancy, as defined by this code (see Table 1604.5 and Section 1617.6).

**Exception:** Special inspections shall not be required for:

1. Empirically designed masonry, glass unit masonry or masonry veneer designed by Section 2109, 2110 or ACI 530/ASCE 5/TMS 402, Chapters 5, 6 or 7, when they are part of nonessential buildings (see Table 1604.5 and Section 1617.6).
2. Masonry foundation walls constructed in accordance with Table 1805.5(1), 1805.5(2), 1805.5(3) or 1805.5(4).

**2003 International Building Code / CHAPTER 17 STRUCTURAL TESTS AND SPECIAL INSPECTIONS / SECTION 1704 SPECIAL INSPECTIONS / 1704.5 Masonry construction. / 1704.5.1 Empirically designed masonry, glass unit masonry and masonry veneer in essential facilities.**

**1704.5.1 Empirically designed masonry, glass unit masonry and masonry veneer in essential facilities.**

The minimum inspection program for masonry designed by Chapter 14, Section 2109 or 2110, or by Chapter 5, 6 or 7 of ACI 530/ASCE 5/TMS 402, in essential facilities listed in Table 1604.5 and Section 1616.2, shall comply with Table 1704.5.1.

**2003 International Building Code / CHAPTER 17 STRUCTURAL TESTS AND SPECIAL INSPECTIONS / SECTION 1704 SPECIAL INSPECTIONS / 1704.5 Masonry construction. / 1704.5.2 Engineered masonry in nonessential facilities.**

**1704.5.2 Engineered masonry in nonessential facilities.**

The minimum special inspection program for masonry designed by Section 2106, 2107 or 2108, or by chapters other than Chapters 5, 6 or 7 of ACI 530/ASCE 5/TMS 402, in nonessential facilities (see Table 1604.5 and Section 1617.6), shall comply with Table 1704.5.1.

**2003 International Building Code / CHAPTER 17 STRUCTURAL TESTS AND SPECIAL INSPECTIONS / SECTION 1704 SPECIAL INSPECTIONS / 1704.5 Masonry construction. / 1704.5.3 Engineered masonry in essential facilities.**

**1704.5.3 Engineered masonry in essential facilities.**

The minimum special inspection program for masonry designed by Section 2106, 2107 or 2108, or by chapters other than Chapters 5, 6 or 7 of ACI 530/ASCE 5/TMS 402, in essential facilities (see Table 1604.5 and Section 1616.2), shall comply with Table 1704.5.3.

**2003 International Building Code / CHAPTER 17 STRUCTURAL TESTS AND SPECIAL INSPECTIONS / SECTION 1704 SPECIAL INSPECTIONS / 1704.6 Wood construction.**

**1704.6 Wood construction.**

Special inspections of the fabrication process of prefabricated wood structural elements and assemblies shall be in accordance with Section 1704.2. Special inspections of site-built assemblies shall be in accordance with Section 1704.1.

**2003 International Building Code / CHAPTER 17 STRUCTURAL TESTS AND SPECIAL INSPECTIONS / SECTION 1704 SPECIAL INSPECTIONS / 1704.6 Wood construction. / 1704.6.1 Fabrication of high-load diaphragms.**

**1704.6.1 Fabrication of high-load diaphragms.**

High-load diaphragms using values from Table 2306.3.2 shall be installed with special inspections as indicated in Section 1704.1. The special inspector shall inspect the wood structural panel sheathing to ascertain whether it is of the grade and thickness shown on the approved building plans. Additionally, the special inspector must verify the nominal size of framing members at adjoining panel edges, the nail or staple diameter and length, the number of fastener lines and that spacing between fasteners in each line and at edge margins agrees with the approved building plans.

**2003 International Building Code / CHAPTER 17 STRUCTURAL TESTS AND SPECIAL INSPECTIONS / SECTION 1704 SPECIAL INSPECTIONS / 1704.7 Soils.**

**1704.7 Soils.**

The special inspections for existing site soil conditions, fill placement and load-bearing requirements shall follow Sections 1704.7.1 through 1704.7.3. The approved soils report, required by Section 1802.2, shall be used to determine compliance.

**Exception:** Special inspections not required during placement of fill less than 12 inches (305 mm) deep.

**2003 International Building Code / CHAPTER 17 STRUCTURAL TESTS AND SPECIAL INSPECTIONS / SECTION 1704 SPECIAL INSPECTIONS / 1704.7 Soils. / 1704.7.1 Site preparation.**

**1704.7.1 Site preparation.**

Prior to placement of the prepared fill, the special inspector shall determine that the site has been prepared in accordance with the approved soils report.

**2003 International Building Code / CHAPTER 17 STRUCTURAL TESTS AND SPECIAL INSPECTIONS / SECTION 1704 SPECIAL INSPECTIONS / 1704.7 Soils. / 1704.7.2 During fill placement.**

**1704.7.2 During fill placement.**

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During placement and compaction of the fill material, the special inspector shall determine that the material being used and the maximum lift thickness comply with the approved report, as specified in Section 1803.5.

**2003 International Building Code / CHAPTER 17 STRUCTURAL TESTS AND SPECIAL INSPECTIONS / SECTION 1704 SPECIAL INSPECTIONS / 1704.7 Soils. / 1704.7.3**

**Evaluation of in-place density.**

**1704.7.3 Evaluation of In-place density.**

The special inspector shall determine, at the approved frequency, that the in-place dry density of the compacted fill complies with the approved report.

**2003 International Building Code / CHAPTER 17 STRUCTURAL TESTS AND SPECIAL INSPECTIONS / SECTION 1704 SPECIAL INSPECTIONS / 1704.8 Pile foundations.**

**1704.8 Pile foundations.**

A special inspector shall be present when pile foundations are being installed and during tests. The special inspector shall make and submit to the building official records of the installation of each pile and results of load tests. Records shall include the cutoff and tip elevation of each pile relative to a permanent reference.

**2003 International Building Code / CHAPTER 17 STRUCTURAL TESTS AND SPECIAL INSPECTIONS / SECTION 1704 SPECIAL INSPECTIONS / 1704.9 Pier foundations.**

**1704.9 Pier foundations.**

Special inspection is required for pier foundations for buildings assigned to Seismic Design Category C, D, E or F in accordance with Section 1616.3.

**2003 International Building Code / CHAPTER 17 STRUCTURAL TESTS AND SPECIAL INSPECTIONS / SECTION 1704 SPECIAL INSPECTIONS / 1704.10 Wall panels and veneers.**

**1704.10 Wall panels and veneers.**

Special inspection is required for exterior and interior architectural wall panels and the anchoring of veneers for buildings assigned to Seismic Design Category E or F in accordance with Section 1616.3. Special inspection of such masonry veneer shall be in accordance with Section 1704.5.

**2003 International Building Code / CHAPTER 17 STRUCTURAL TESTS AND SPECIAL INSPECTIONS / SECTION 1704 SPECIAL INSPECTIONS / 1704.11 Sprayed fire-resistant materials.**

**1704.11 Sprayed fire-resistant materials.**

Special inspections for sprayed fire-resistant materials applied to structural elements and decks shall be in accordance with Sections 1704.11.1 through 1704.11.5. Special inspections shall be

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based on the fire-resistance design as designated in the approved construction documents.

**2003 International Building Code / CHAPTER 17 STRUCTURAL TESTS AND SPECIAL INSPECTIONS / SECTION 1704 SPECIAL INSPECTIONS / 1704.11 Sprayed fire-resistant materials. / 1704.11.1 Structural member surface conditions.**

**1704.11.1 Structural member surface conditions.**

The surfaces shall be prepared in accordance with the approved fire-resistance design and the approved manufacturer's written instructions. The prepared surface of structural members to be sprayed shall be inspected before the application of the sprayed fire-resistant material.

**2003 International Building Code / CHAPTER 17 STRUCTURAL TESTS AND SPECIAL INSPECTIONS / SECTION 1704 SPECIAL INSPECTIONS / 1704.11 Sprayed fire-resistant materials. / 1704.11.2 Application.**

**1704.11.2 Application.**

The substrate shall have a minimum ambient temperature before and after application as specified in the approved manufacturer's written instructions. The area for application shall be ventilated during and after application as required by the approved manufacturer's written instructions.

**2003 International Building Code / CHAPTER 17 STRUCTURAL TESTS AND SPECIAL INSPECTIONS / SECTION 1704 SPECIAL INSPECTIONS / 1704.11 Sprayed fire-resistant materials. / 1704.11.2 Application. / TABLE 1704.5.1 LEVEL 1 SPECIAL INSPECTION**

**TABLE 1704.5.1  
LEVEL 1 SPECIAL INSPECTION**

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INSPECTION TASK	FREQUENCY OF INSPECTION		REFERENCE FOR CRITERIA		
	Continuous during task listed	Periodically during task listed	IBC section	ACI 308/ASCE 5/TMS 402 <sup>a</sup>	ACI 308.1/ASCE 5/TMS 402 <sup>a</sup>
1. As masonry construction begins, the following shall be verified to ensure compliance:					
a. Proportions of site-prepared mortar.		X			Art. 2.6A
b. Construction of mortar joints.	—	X	—	—	Art. 3.3B
c. Location of reinforcement and connectors.		X			Art. 3.4, 3.6A
d. Prestressing technique.	—	X	—	—	Art. 3.6B
e. Grade and size of prestressing tendons and anchorages.	—	X	—	—	Art. 2.4B, 2.4H
2. The inspection program shall verify:					
a. Size and location of structural elements.	—	X	—	—	Art. 3.3G
b. Type, size and location of anchors, including other details of anchorage of masonry to structural members, frames or other construction.	—	X	—	Sec. 1.2.2(e), 2.1.4, 3.1.6	—
c. Specified size, grade and type of reinforcement.	—	X	—	Sec. 1.12	Art. 2.4, 3.4
d. Welding of reinforcing bars.	X	—	—	Sec. 2.1.10.6.2, 3.2.3.4(b)	—
e. Protection of masonry during cold weather (temperature below 40°F) or hot weather (temperature above 90°F).	—	X	Sec. 2104.3, 2104.4	—	Art. 1.8C, 1.8D
f. Application and measurement of prestressing force.	—	X	—	—	Art. 3.6B
3. Prior to grouting, the following shall be verified to ensure compliance:					
a. Grout space is clean.		X		—	Art. 3.2D
b. Placement of reinforcement and connectors and prestressing tendons and anchorages.		X		Sec. 1.12	Art. 3.4
c. Proportions of site-prepared grout and prestressing grout for bonded tendons.	—	X	—	—	Art. 2.6B
d. Construction of mortar joints.		X		—	Art. 3.3B
4. Grout placement shall be verified to ensure compliance with code and construction document provisions.	X	—	—	—	Art. 3.5
a. Grouting of prestressing bonded tendons.	X	—	—	—	Art. 3.6C
5. Preparation of any required grout specimens, mortar specimens and/or prisms shall be observed.	X	—	Sec. 2105.2.2, 2105.3	—	Art. 1.4
6. Compliance with required inspection provisions of the construction documents and the approved submittals shall be verified.	—	X	—	—	Art. 1.5

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For SI: °C = (°F - 32)/1.8.

a. The specific standards referenced are those listed in Chapter 35.

**2003 International Building Code / CHAPTER 17 STRUCTURAL TESTS AND SPECIAL INSPECTIONS / SECTION 1704 SPECIAL INSPECTIONS / 1704.11 Sprayed fire-resistant materials. / 1704.11.3 Thickness.**

**1704.11.3 Thickness.**

The average thickness of the sprayed fire-resistant materials applied to structural elements shall not be less than the thickness required by the approved fire-resistant design. Individual measured thickness, which exceeds the thickness specified in a design by 1/4 inch (6.4 mm) or more, shall be recorded as the thickness specified in the design plus 1/4 inch (6.4 mm). For design thicknesses 1 inch (25 mm) or greater, the minimum allowable individual thickness shall be the design thickness minus 1/4 inch (6.4 mm). For design thicknesses less than 1 inch (25 mm), the minimum allowable individual thickness shall be the design thickness minus 25 percent. Thickness shall be determined in accordance with ASTM E 605. Samples of the sprayed fire-resistant materials shall be selected in accordance with Sections 1704.11.3.1 and 1704.11.3.2.

**2003 International Building Code / CHAPTER 17 STRUCTURAL TESTS AND SPECIAL INSPECTIONS / SECTION 1704 SPECIAL INSPECTIONS / 1704.11 Sprayed fire-resistant materials. / 1704.11.3 Thickness. / 1704.11.3.1 Floor, roof and wall assemblies.**

**1704.11.3.1 Floor, roof and wall assemblies.**

The thickness of the sprayed fire-resistant material applied to floor, roof and wall assemblies shall be determined in accordance with ASTM E 605, taking the average of not less than four measurements for each 1,000 square feet (93m<sup>2</sup>) of the sprayed area on each floor or part thereof.

**2003 International Building Code / CHAPTER 17 STRUCTURAL TESTS AND SPECIAL INSPECTIONS / SECTION 1704 SPECIAL INSPECTIONS / 1704.11 Sprayed fire-resistant materials. / 1704.11.3 Thickness. / 1704.11.3.2 Structural framing members.**

**1704.11.3.2 Structural framing members.**

The thickness of the sprayed fire-resistant material applied to structural members shall be determined in accordance with ASTM E 605. Thickness testing shall be performed on not less than 25 percent of the structural members on each floor.

**2003 International Building Code / CHAPTER 17 STRUCTURAL TESTS AND SPECIAL INSPECTIONS / SECTION 1704 SPECIAL INSPECTIONS / 1704.11 Sprayed fire-resistant materials. / 1704.11.3 Thickness. / TABLE 1704.5.3 LEVEL 2 SPECIAL INSPECTION**

**TABLE 1704.5.3  
LEVEL 2 SPECIAL INSPECTION**

I-Quest 2003 International Codes Designer Collection

INSPECTION TASK	FREQUENCY OF INSPECTION		REFERENCE FOR CRITERIA		
	Continuous during task listed	Periodically during task listed	IBC section	ACI 308/ASCE 6/TMS 402 <sup>a</sup>	ACI 308.1/ASCE 6/TMS 602 <sup>a</sup>
1. From the beginning of masonry construction, the following shall be verified to ensure compliance:					
a. Proportions of site-prepared mortar, grout and prestressing grout for bonded tendons.	—	X	—	—	Art. 2.6A
b. Placement of masonry units and construction of mortar joints.	—	X	—	—	Art. 3.3B
c. Placement of reinforcement, connectors and prestressing tendons and anchorages.	—	X	—	Sec. 1.12	Art. 3.4, 3.6A
d. Grout space prior to grouting.	X	—	—	—	Art. 3.2D
e. Placement of grout.	X	—	—	—	Art. 3.5
f. Placement of prestressing grout.	X	—	—	—	Art. 3.6C
2. The inspection program shall verify:					
a. Size and location of structural elements.	—	X	—	—	Art. 3.3G
b. Type, size and location of anchors, including other details of anchorage of masonry to structural members, frames or other construction.	X	—	—	Sec. 1.2.2(c), 2.1.4.3.1.6	—
c. Specified size, grade and type of reinforcement.	—	X	—	Sec. 1.12	Art. 2.4, 3.4
d. Welding of reinforcement.	X	—	—	Sec. 2.1.10.6.2, 3.2.3.4(b)	—
e. Protection of masonry during cold weather (temperature below 40°F) or hot weather (temperature above 90°F).	—	X	Sec. 2104.3, 2104.4	—	Art. 1.8C, 1.8D
f. Application and measurement of prestressing force.	X	—	—	—	Art. 3.6B
3. Preparation of any required grout specimens, mortar specimens and/or prisms shall be observed.	X	—	Sec. 2105.2.2, 2105.3	—	Art. 1.4
4. Compliance with required inspection provisions of the construction documents and the approved submittals shall be verified.	—	X	—	—	Art. 1.5

For SI:  $C = (F - 32)/1.8$ .

a. The specific standards referenced are those listed in Chapter 35.

2003 International Building Code / CHAPTER 17 STRUCTURAL TESTS AND SPECIAL INSPECTIONS / SECTION 1704 SPECIAL INSPECTIONS / 1704.11 Sprayed fire-resistant materials. / 1704.11.4 Density.

1704.11.4 Density.

I-Quest 2003 International Codes Designer Collection

The density of the sprayed fire-resistant material shall not be less than the density specified in the approved fire-resistant design. Density of the sprayed fire-resistant material shall be determined in accordance with ASTM E 605.

**2003 International Building Code / CHAPTER 17 STRUCTURAL TESTS AND SPECIAL INSPECTIONS / SECTION 1704 SPECIAL INSPECTIONS / 1704.11 Sprayed fire-resistant materials. / 1704.11.5 Bond strength.**

**1704.11.5 Bond strength.**

The cohesive/adhesive bond strength of the cured sprayed fire-resistant material applied to structural elements shall not be less than 150 pounds per square foot (psf) (7.18 kN/m<sup>2</sup>). The cohesive/adhesive bond strength shall be determined in accordance with the field test specified in ASTM E 736 by testing in-place samples of the sprayed fire-resistant material selected in accordance with Sections 1704.11.5.1 and 1704.11.5.2.

**2003 International Building Code / CHAPTER 17 STRUCTURAL TESTS AND SPECIAL INSPECTIONS / SECTION 1704 SPECIAL INSPECTIONS / 1704.11 Sprayed fire-resistant materials. / 1704.11.5 Bond strength. / 1704.11.5.1 Floor, roof and wall assemblies.**

**1704.11.5.1 Floor, roof and wall assemblies.**

The test samples for determining the cohesive/adhesive bond strength of the sprayed fire-resistant materials shall be selected from each floor, roof and wall assembly at the rate of not less than one sample for every 10,000 square feet (929 m<sup>2</sup>) or part thereof of the sprayed area in each story.

**2003 International Building Code / CHAPTER 17 STRUCTURAL TESTS AND SPECIAL INSPECTIONS / SECTION 1704 SPECIAL INSPECTIONS / 1704.11 Sprayed fire-resistant materials. / 1704.11.5 Bond strength. / 1704.11.5.2 Structural framing members.**

**1704.11.5.2 Structural framing members.**

The test samples for determining the cohesive/adhesive bond strength of the sprayed fire-resistant materials shall be selected from beams, girders, joists, trusses and columns at the rate of not less than one sample for each type of structural framing member for each 10,000 square feet (929 m<sup>2</sup>) of floor area or part thereof in each story.

**2003 International Building Code / CHAPTER 17 STRUCTURAL TESTS AND SPECIAL INSPECTIONS / SECTION 1704 SPECIAL INSPECTIONS / 1704.12 Exterior insulation and finish systems (EIFS).**

**1704.12 Exterior Insulation and finish systems (EIFS).**

Special inspections shall be required for all EIFS applications.

**Exceptions:**



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1. Special inspections shall not be required for EIFS applications installed over a water-resistive barrier with a means of draining moisture to the exterior.
2. Special inspections shall not be required for EIFS applications installed over masonry or concrete walls.

**2003 International Building Code / CHAPTER 17 STRUCTURAL TESTS AND SPECIAL INSPECTIONS / SECTION 1704 SPECIAL INSPECTIONS / 1704.13 Special cases.**

**1704.13 Special cases.**

Special inspections shall be required for proposed work that is, in the opinion of the building official, unusual in its nature, such as, but not limited to, the following examples:

1. Construction materials and systems that are alternatives to materials and systems prescribed by this code.
2. Construction materials and systems that are alternatives to materials and systems prescribed by this code.. Unusual design applications of materials described in this code.
3. Materials and systems required to be installed in accordance with additional manufacturer's instructions that prescribe requirements not contained in this code or in standards referenced by this code.

**2003 International Building Code / CHAPTER 17 STRUCTURAL TESTS AND SPECIAL INSPECTIONS / SECTION 1704 SPECIAL INSPECTIONS / 1704.14 Special inspection for smoke control.**

**1704.14 Special inspection for smoke control.**

Smoke control systems shall be tested by a special inspector.

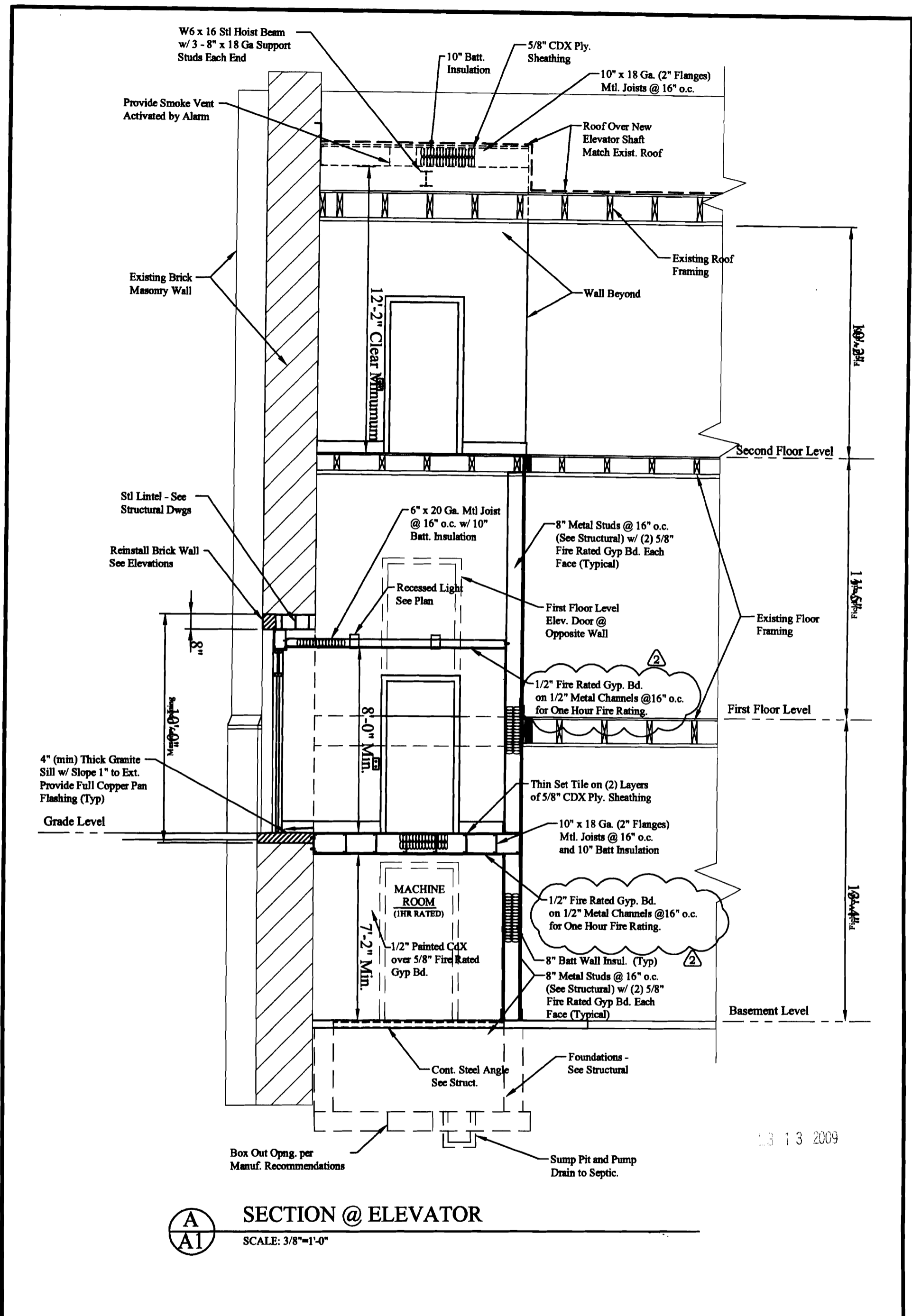
**2003 International Building Code / CHAPTER 17 STRUCTURAL TESTS AND SPECIAL INSPECTIONS / SECTION 1704 SPECIAL INSPECTIONS / 1704.14 Special inspection for smoke control. / 1704.14.1 Testing scope.**

**1704.14.1 Testing scope.**

The test scope shall be as follows:

1. During erection of duct work and prior to concealment for the purposes of leakage testing and recording of device location.
2. During erection of duct work and prior to concealment for the purposes of leakage testing and recording of device location.. Prior to occupancy and after sufficient completion for the purposes of pressure difference testing, flow measurements and detection and control verification.

**2003 International Building Code / CHAPTER 17 STRUCTURAL TESTS AND SPECIAL INSPECTIONS / SECTION 1704 SPECIAL INSPECTIONS / 1704.14 Special inspection for smoke control. / 1704.14.2 Qualifications.**



A  
A1

**SECTION @ ELEVATOR**

SCALE: 3/8"=1'-0"

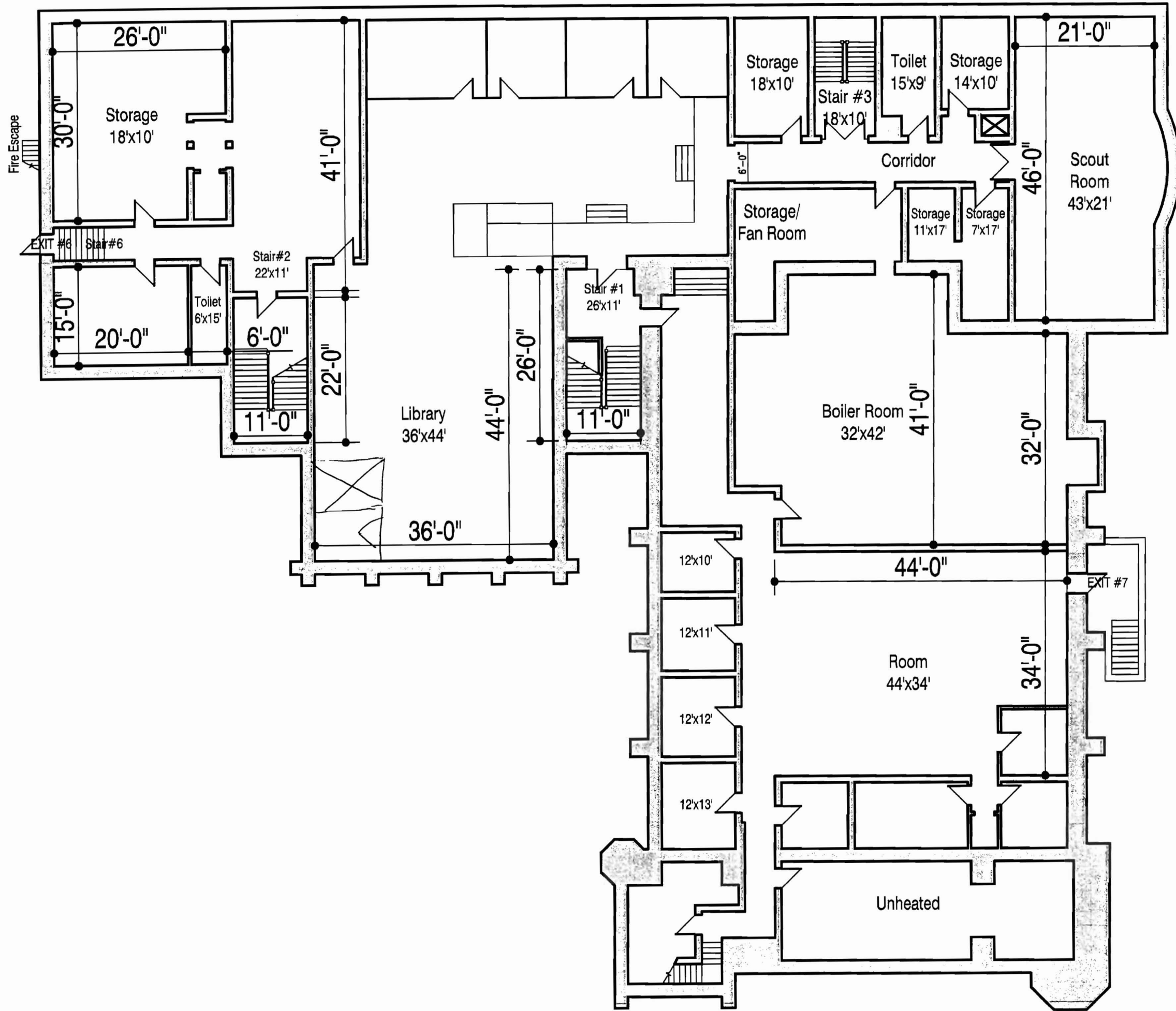
SK1	Design By: Larry Wichroski, P.E.
	Project No: 02206      Date: 02-10-09
	Revisions: ② 02-10-09



**STATE STREET CHURCH**  
159 State Street \* Portland \* Maine

EDP

**ENGINEERING DESIGN PROFESSIONALS**  
Consulting Engineers  
P.O. BOX 576, FREEPORT, MAINE 04032 (207) 866-8805



PROGRESS SET NOT FOR CONSTRUCTION

State Street Church  
Portland Maine

Fire Egress Basement Floor Plan

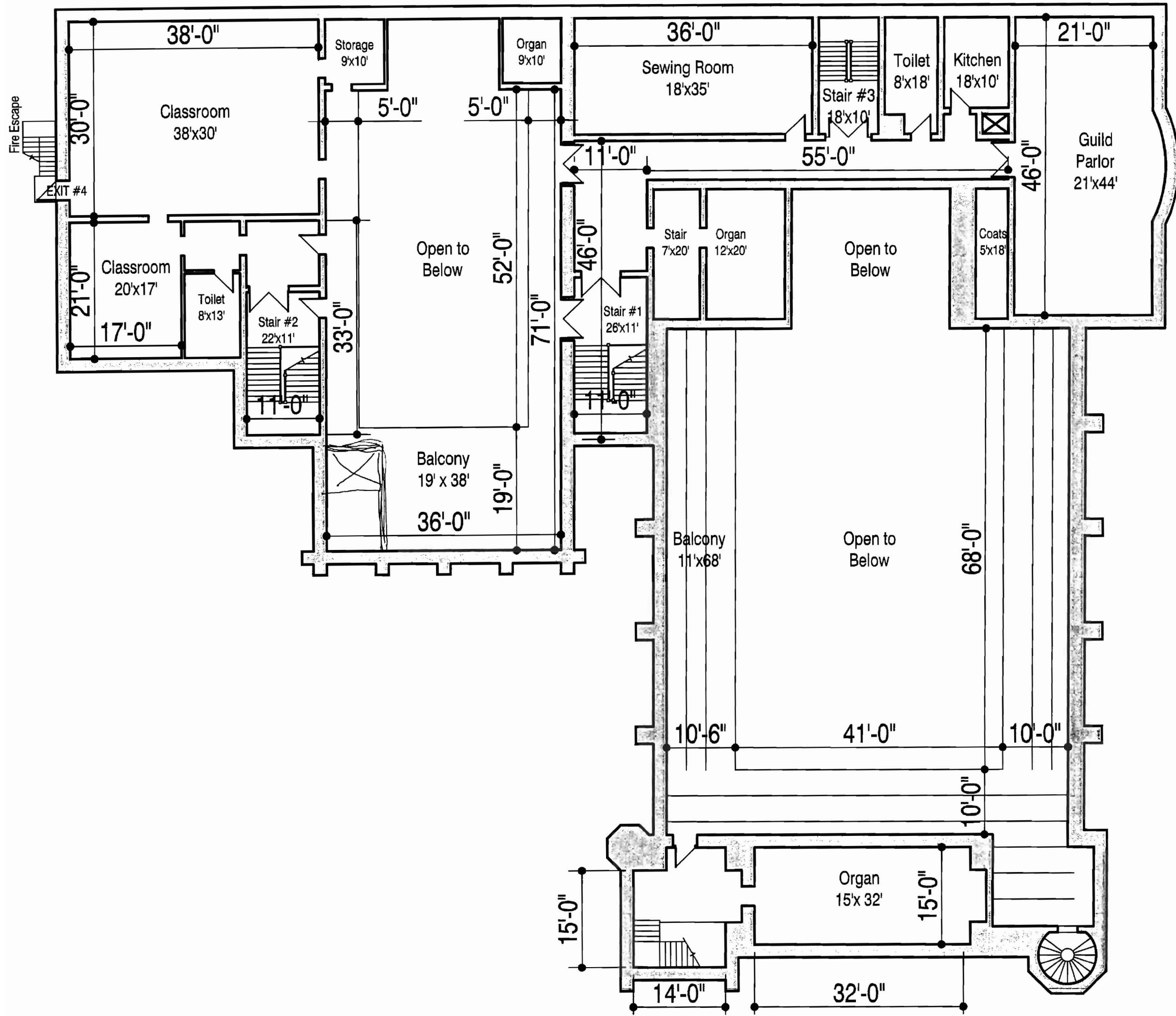
revision #	date	revision reason

date	4-17-06	drawn by	1/4" = 1'-0"
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**TLA** THERIAULT/LANDMANN ASSOCIATES  
 118 Congress St. Portland, ME 04101  
 Tel: (207) 942-0890  
 Fax: (207) 942-0871  
 (800) 258-2255

**AB**  
 sheet number  
 issued:  
 project no.





PROGRESS SET NOT FOR CONSTRUCTION

State Street Church  
Portland Maine  
Fire Egress Second Floor Plan

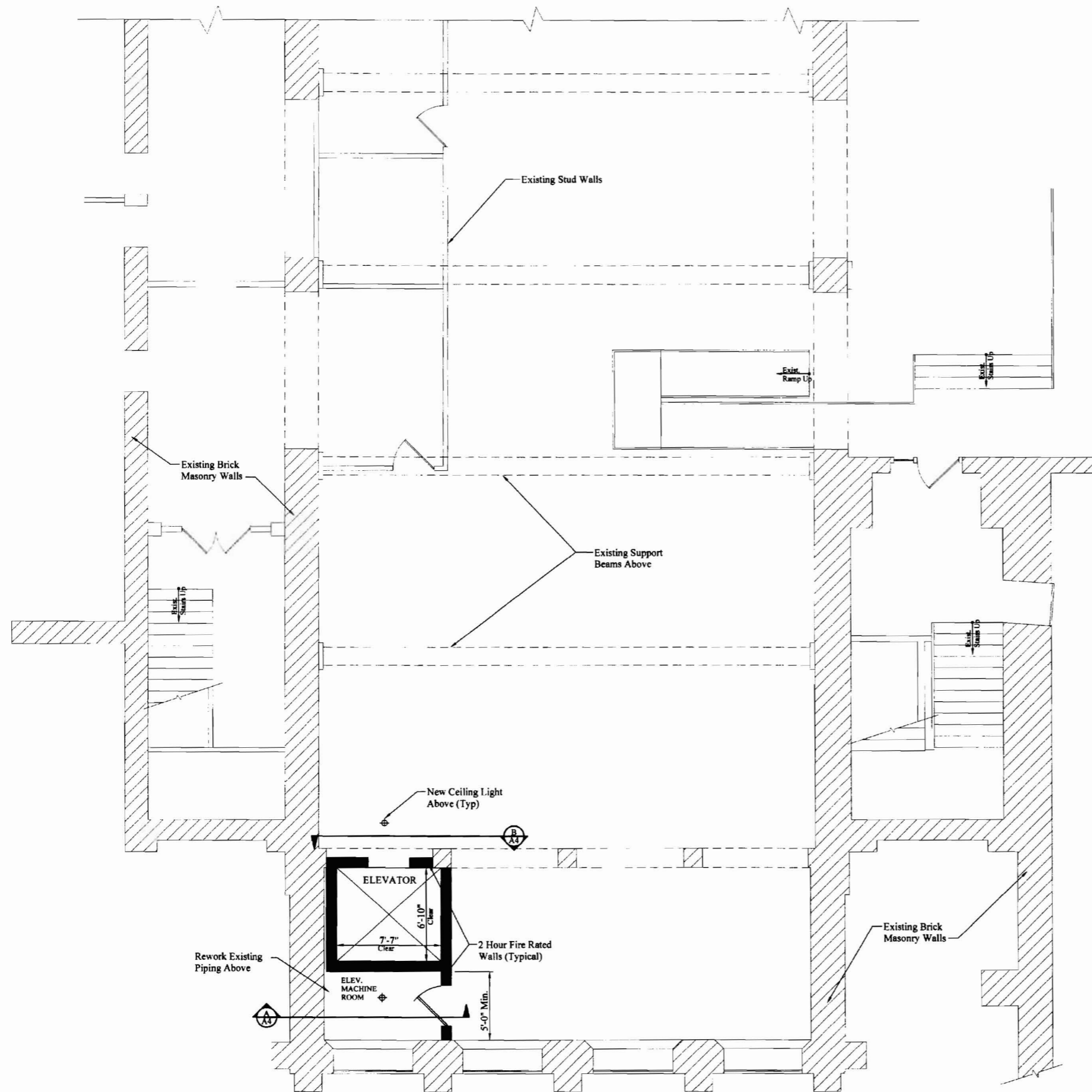
revision	date	revision	reason

date 4-17-06 drawn by: 1/4" = 1'-0"

**TLA** THERIAULT/LANDMANN ASSOCIATES  
 118 Congress St. Portland, ME 04101  
 Tel: (207) 845-0200 Fax: (207) 845-0277  
 Tel: (207) 845-0277 Fax: (207) 845-0277

<b>A2</b>	sheet number
	issued:
	project no.





**PARTIAL BASEMENT PLAN**

SCALE: 1/4"=1'-0"

**NOTES:**

1. Machine room walls and ceiling shall be insulated with maximum depth of batt insulation for sound dampening.
2. Elevator shaft walls shall be insulated with 8" of batt insulation.
3. Provide sound and dust barrier with 6" minimum insulation around construction area. Remove and repair damaged area after completion of project.

**GENERAL NOTES:**

1. The facility will remain occupied by the Owners for the duration of the project. The Contractor shall maintain all building services and egress paths for the full duration of the work.
2. Before submitting prices or beginning work, thoroughly examine the site and these documents. No claim for extra compensation will be recognized if difficulties are encountered which an examination of the existing conditions and these documents prior to executing Contract would have revealed.
3. Salvage and reuse of demolished items in the new work is encouraged. Where items are not utilized in the work of this project recycling of demolished materials is encouraged.
4. The contractor and any subcontractor shall comply with the current local, state and the International Building (IBC) codes. All modifications shall comply with current ADA requirements.
5. Inspections required by codes or by plan approval authority shall be the responsibility of the contractor.
6. Make no changes from the drawings without having first received permission from the Owner.
7. The Contractor shall be responsible for the cutting and patching of floor, walls and ceilings due to re-work and/or removal of mechanical, plumbing and electrical work.
8. Unless noted otherwise, electrical conduit, plumbing and mechanical piping shall be run concealed and wall framing shall be of adequate dimension to accomplish this without changes in wall plane.
9. Field verify all dimensions and existing conditions prior to proceeding with new work. Notify Owner in writing of any discrepancies or inconsistencies.
10. Any wall partition or surface disturbed as a result of renovations shall be patched and finished continuously to the nearest corner. Match existing adjacent construction finishes, continuity and color.
11. Construct temporary partitions at all 3 levels prior to start of work. Control of dust and sound is critical to the continued operation of adjacent areas. Remove and repair all damage caused by barriers after completion of project.
12. Submit shop drawings including cut sheets for elevator, door & frame, lighting, and wall ceiling and floor finishes. Do not proceed with work until after approval by owner.
13. Relocation of existing heating radiators will be required. Include full scope of work and costs within bid.
14. Visit site to determine existing electrical power conditions and provide any upgrades necessary for elevator installation. Consult Pine State Elevator Co. for any needed info.
15. Visit site to determine efficient method for providing electrical services to lighting, intercom and other devices.
16. Onsite storage will be discussed during bidding walk through. No on site open storage will be allowed.
17. The Contractor shall be responsible for procurement and payment of all permits and licenses required for the work.
18. Maine State and Use taxes should not be included in your quote as the Owner, is exempt from payment of such taxes. Upon request, the tax exempt number will be furnished.
19. Notify Owner at least 10 working days prior to any utility interruption.
20. All penetrations in walls or floors shall be sealed tight with a suitable material designed and developed for this purpose. Maintain fire ratings at all rated partitions. Penetrations shall be sealed or patched so that no gap exists around or through the penetrating object.

**CONSTRUCTION NOTES:**

**Elevator:**

1. Tradesman Hydraulic Elevator System  
Capacity = 2,000#, Four Stop Model
2. Car floor, ceiling and wall finishes chosen by owner.
3. Provide railing brackets and anchors at manufacturers recommendations.
4. Provide card reader security system at exterior entry and within car. Coordinate details of operation and function with owner.
5. Provide emergency communication system (phone) within car with battery backup.
6. Provide Push-Button stations and car position indicator at all levels.
7. Provide weather resistant (non-corrosive) elevator door at grade level.
8. Provide steel ladder for elevator pit access (by contractor).
9. Contact: Mr. Steve McDuffie  
Pine State Elevator Co.  
Portland, Maine 1-800-627-9706

**Elevator Machine Room:**

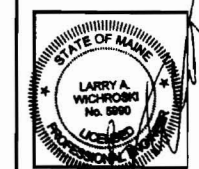
1. Interior walls are 1/2" CDX plywood over 5/8" fire rated gyp-board with primer and two coats of semi-gloss paint. Color to be chosen by owner.
2. Interior ceiling is 5/8" fire rated gyp-board with primer and two coats of semi-gloss paint. Color to be chosen by owner.
3. Floor finish is Armstrong adhered vinyl floor tile. Marquis Collection, Product No. 51011. Owner shall have final decision prior to installation.
4. Provide one recessed can lighting in ceiling. Product: USA Illuminations Slider Housing 350NC, 50 watt lamp.
5. Provide electrical switches and recepticals within machine room and along wall surfaces within basement area as required by code.
6. Provide 3'-0" x 6'-8" one hour rated metal fire door and frame. Primer and two coats of paint.



DESIGNED BY:  
Larry Wichrowski, P.E.  
DRAWN BY:  
LAW  
JOB NO.:  
02206  
DATE:  
01-20-07

REVISIONS:  
03-22-08

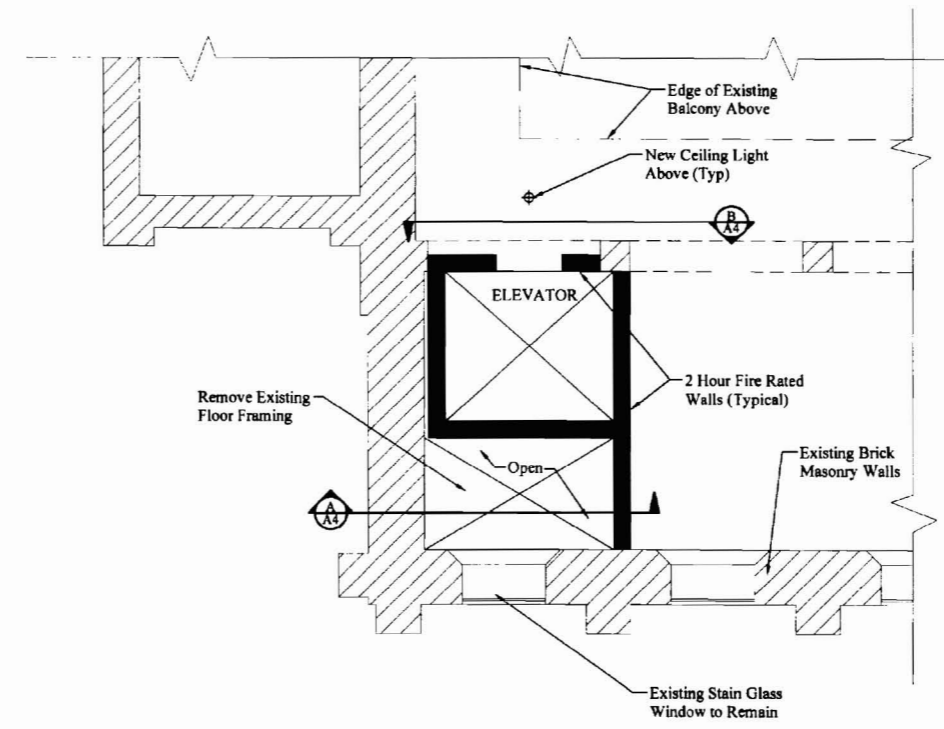
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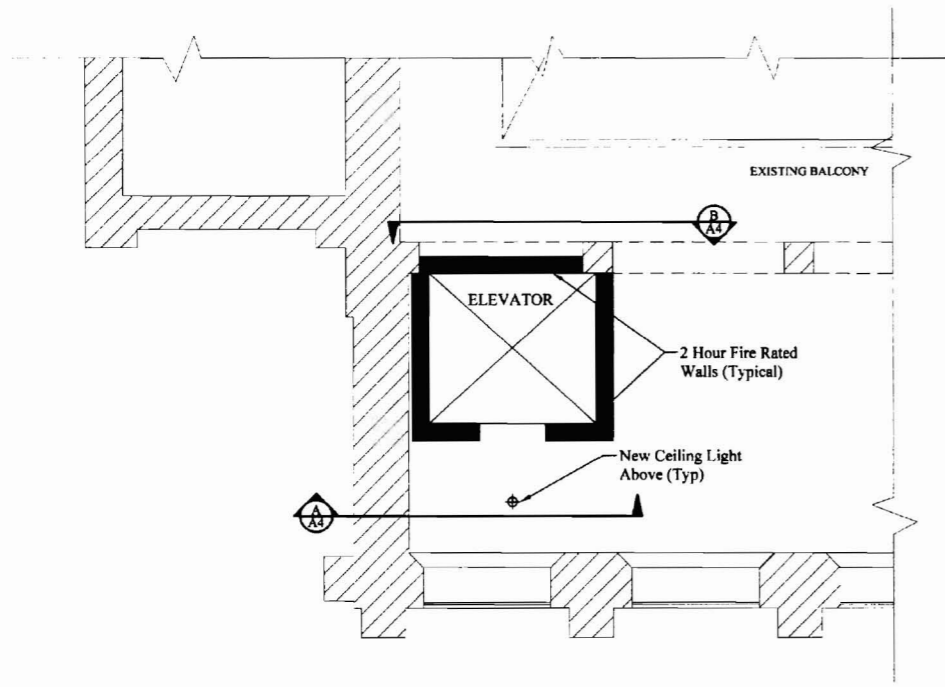
APPROVED BY:  
 Larry Wichrowski, P.E.  
 DRAWN BY:  
 LAW  
 JOB NO.  
 02206  
 DATE:  
 01-20-07

REVISIONS:  
 03-22-08

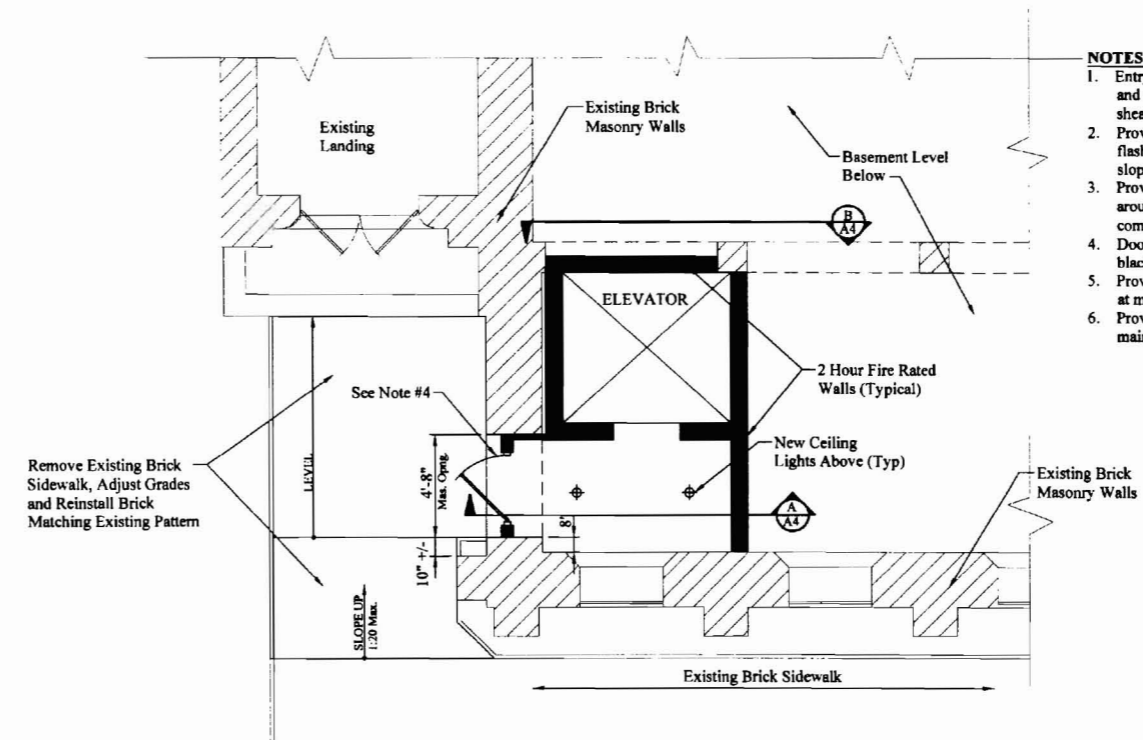
SHEET:  
 A2



PARTIAL FIRST FLOOR PLAN  
 SCALE: 1/4"=1'-0"



PARTIAL SECOND FLOOR PLAN  
 SCALE: 1/4"=1'-0"



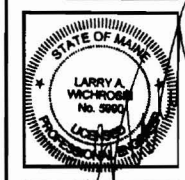
PARTIAL EXTERIOR GRADE LEVEL PLAN  
 SCALE: 1/4"=1'-0"

- NOTES:**
1. Entry walls and ceiling shall be insulated with 6" of batt insulation, and constructed of 6" x 20 Ga. metal studs, cement board sheathing and exterior plastered finished. Color by Owner.
  2. Provide 4" minimum granite floor in entry with full copper pan flashing. Flash below granite to 8" above bottom of walls and slope surface 1" to exterior.
  3. Provide sound and dust barrier with 6" minimum insulation around construction area. Remove and repair damaged area after completion of project.
  4. Door: 3'-0" x 6'-8" Anodized Aluminum alloy with flat black finish and safety glass.
  5. Provide electric space heater within ceiling with thermostat at main office area.
  6. Provide recessed two way intercom system from entry vestibule to main office within church.

Remove Existing Brick Sidewalk, Adjust Grades and Reinstall Brick Matching Existing Pattern



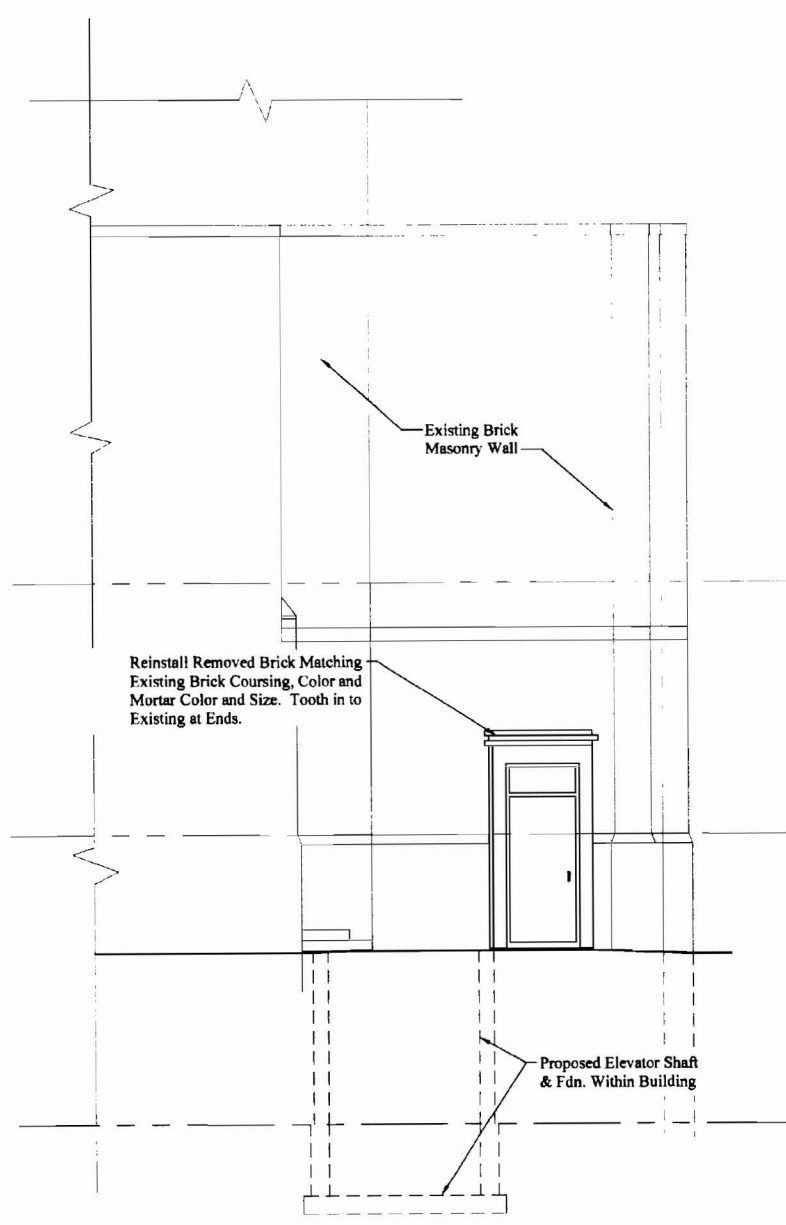
**STATE STREET CHURCH**  
 159 State Street \* Portland \* Maine  
**PARTIAL FRONT ELEVATION**



DESIGNED BY:  
 Larry Wichroek, P.E.  
 DRAWN BY:  
 LAW  
 JOB NO.:  
 02206  
 DATE:  
 01-20-07

REVISIONS:  
 03-22-08

SHEET:  
**A3**



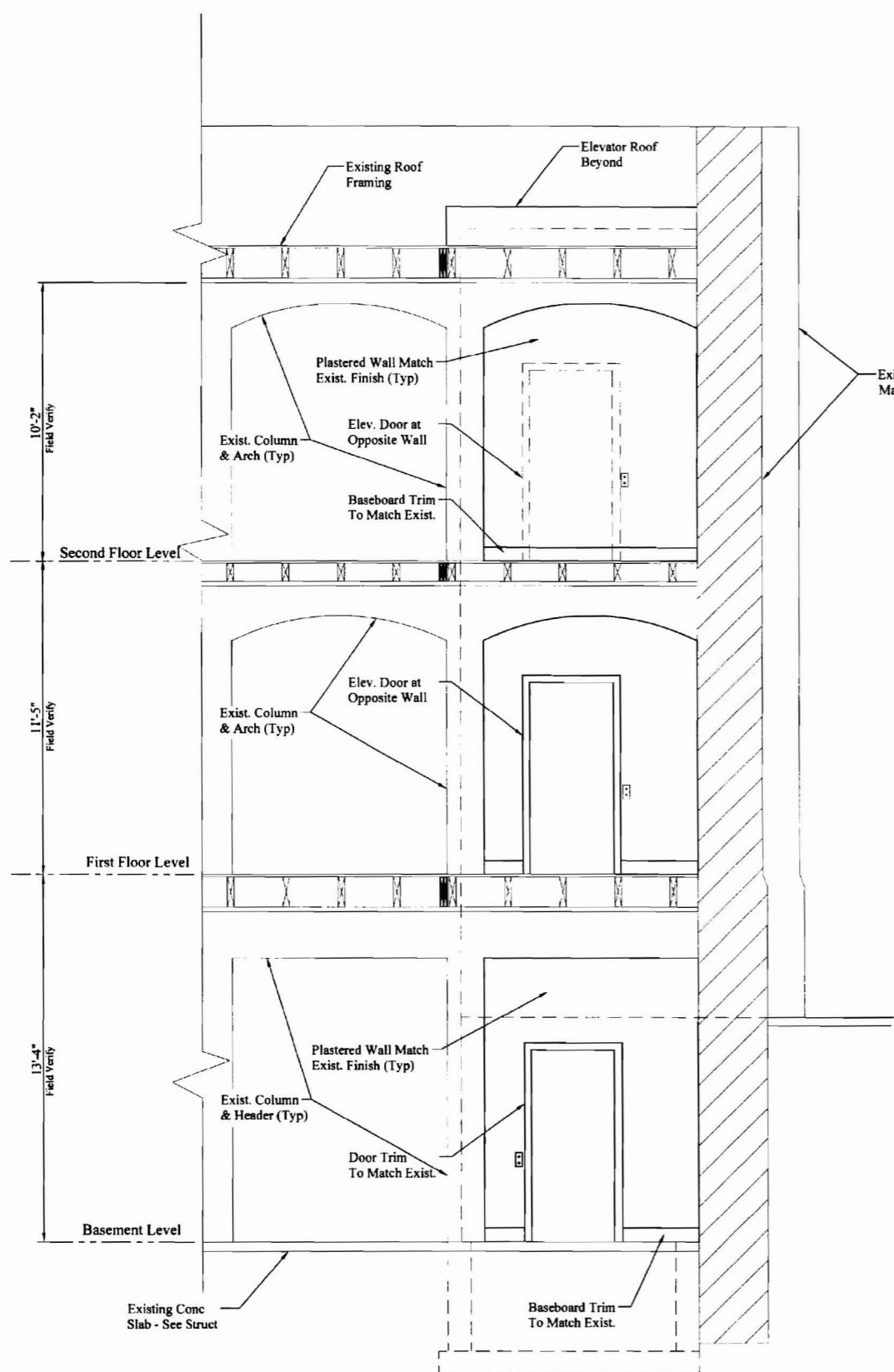
**SIDE ELEVATION (at elevator door)**  
 SCALE: 1/4"=1'-0"



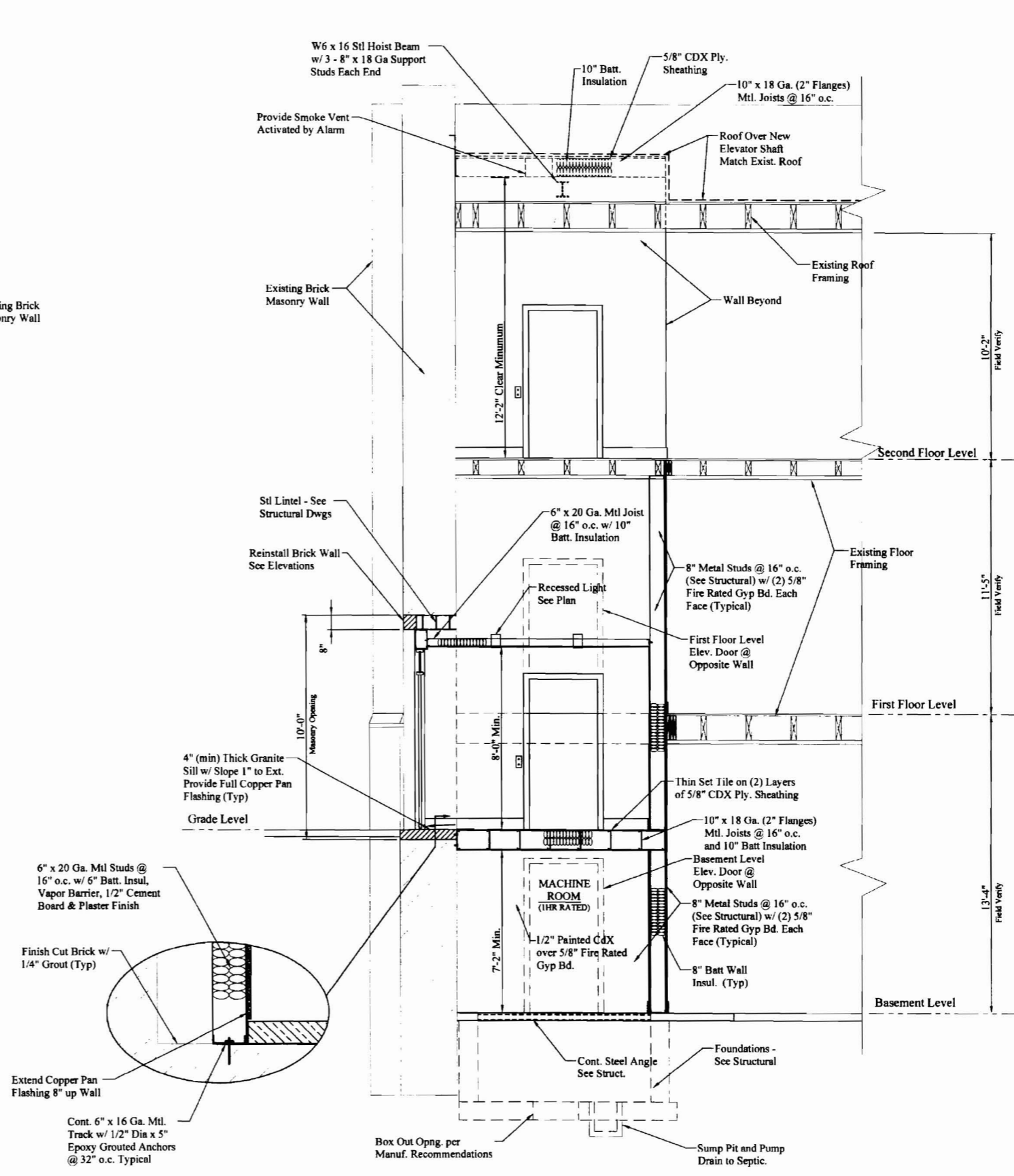
Location of Work Within Building

**FRONT ELEVATION**  
 SCALE: 1/4"=1'-0"





**B**  
**A1** SECTION BEYOND ELEVATOR  
SCALE: 3/8"=1'-0"

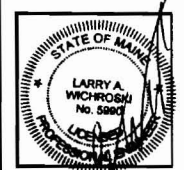


**A**  
**A1** SECTION @ ELEVATOR  
SCALE: 3/8"=1'-0"



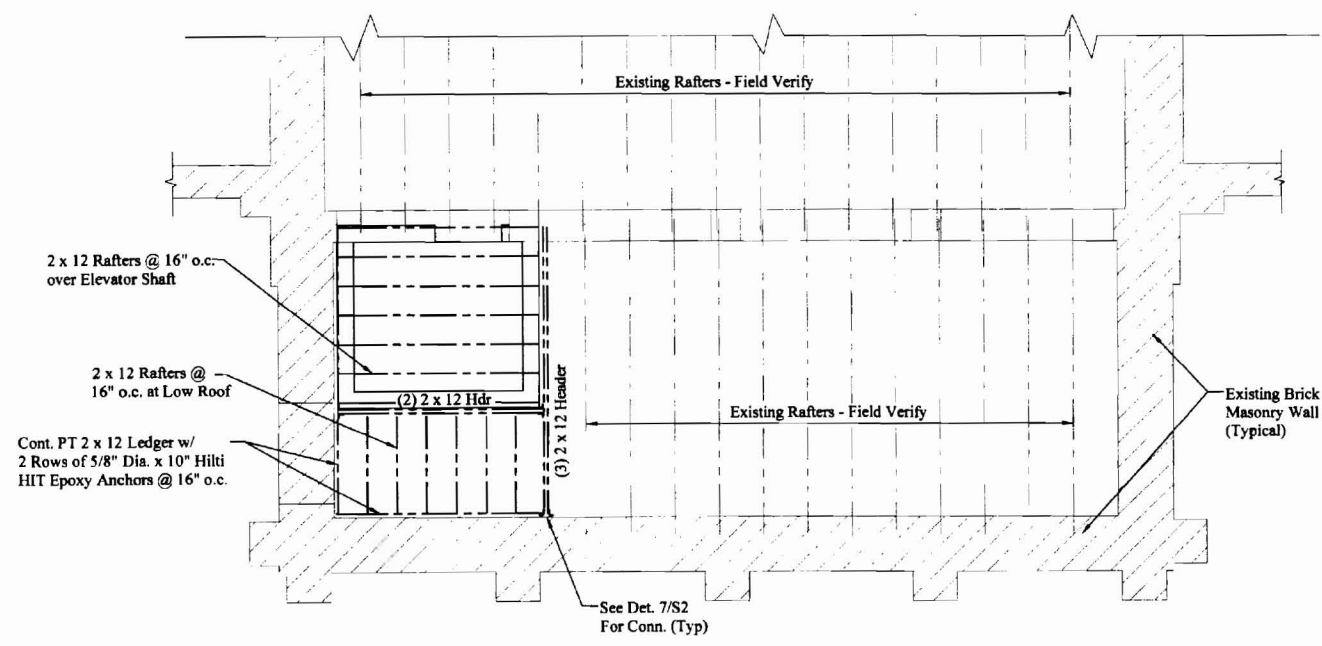
DESIGNED BY: Larry Wichroide, P.E.  
DRAWN BY: LAW  
JOB NO.: 02206  
DATE: 01-20-07

REVISIONS: 03-22-08

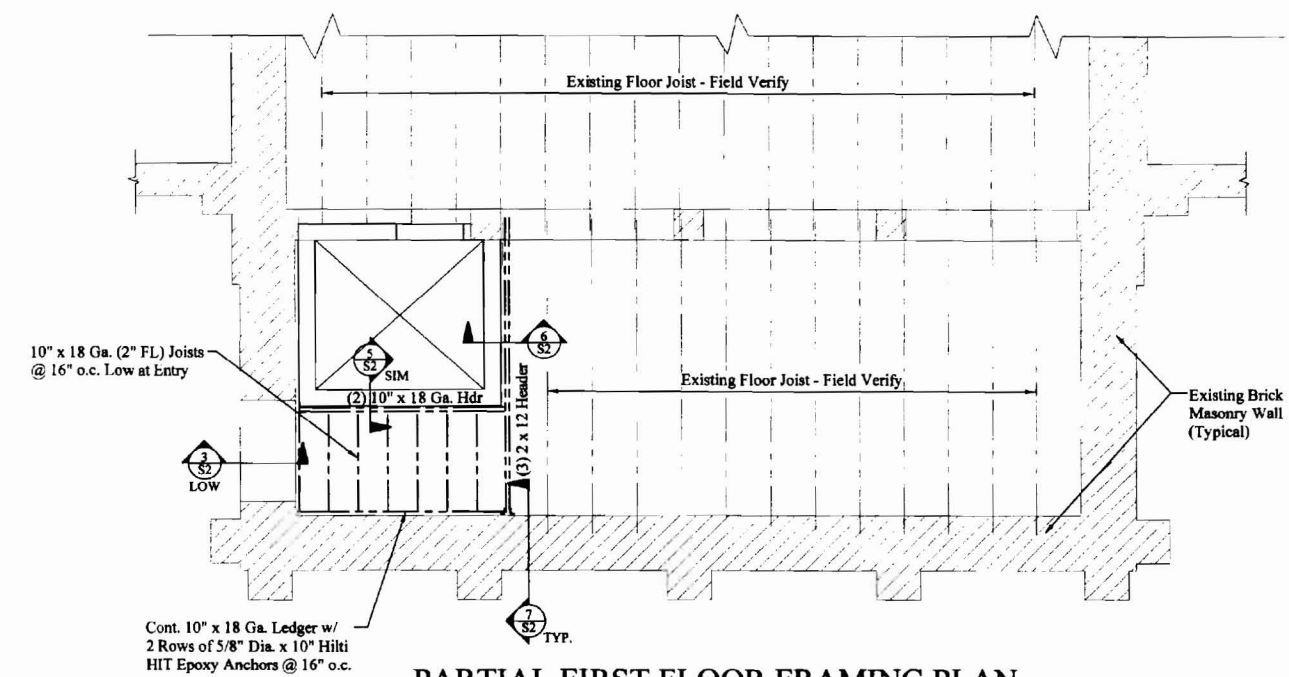


DESIGNED BY:	Larry A. Wichroski, P.E.
DRAWN BY:	LAW
JOB NO.:	02206
DATE:	01-20-07

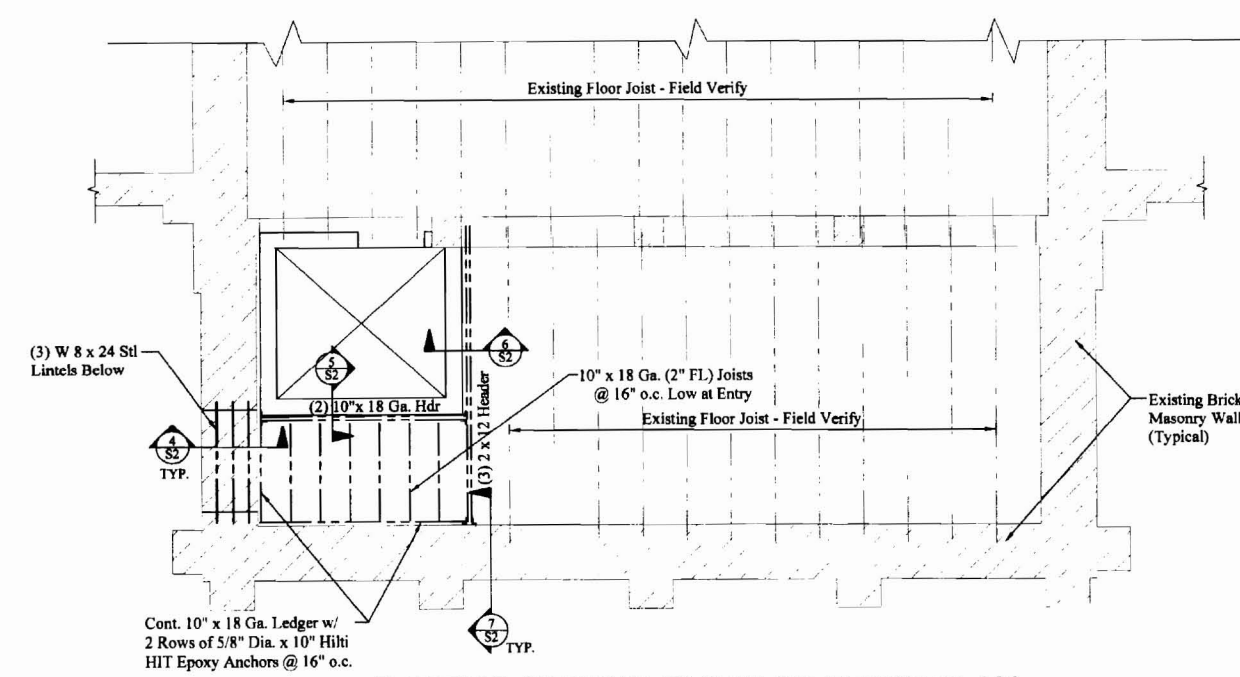
REVISIONS:	1 03-22-08
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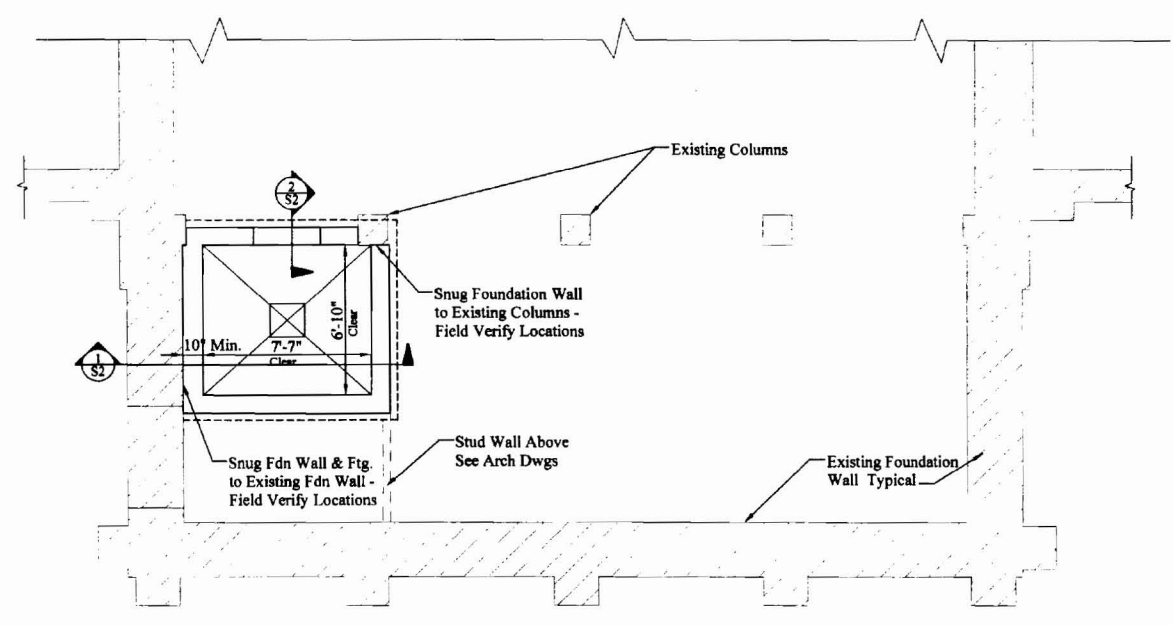
**PARTIAL ROOF FRAMING PLAN**  
 SCALE: 1/4"=1'-0"



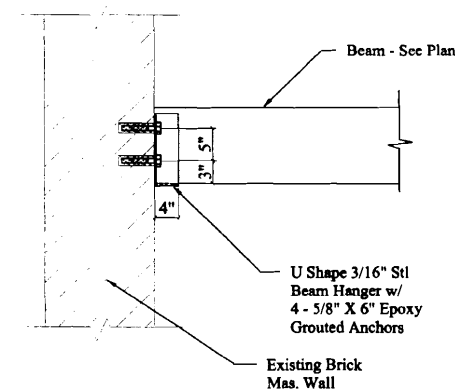
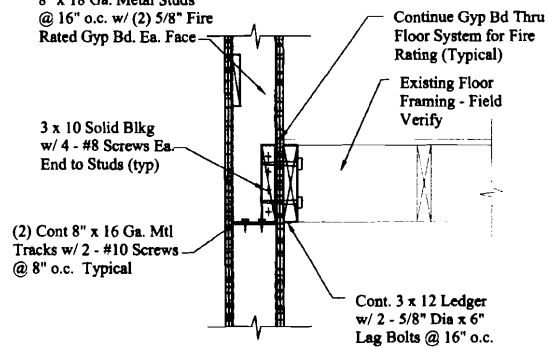
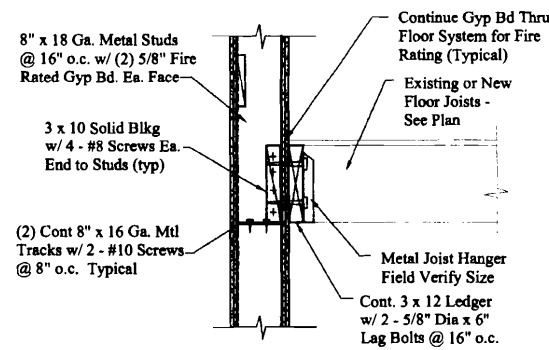
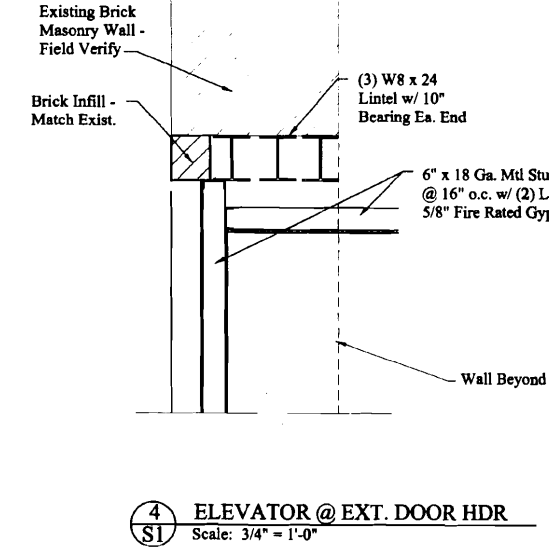
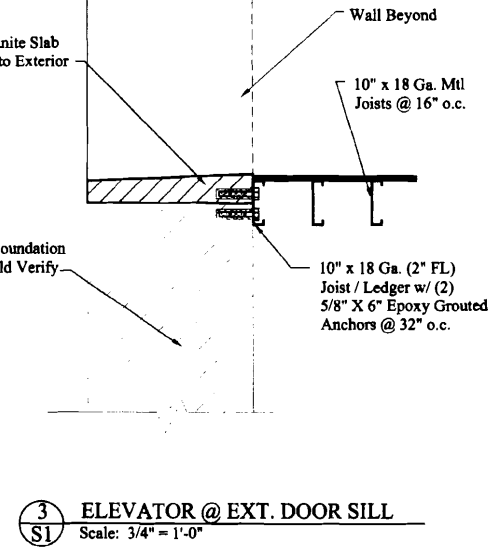
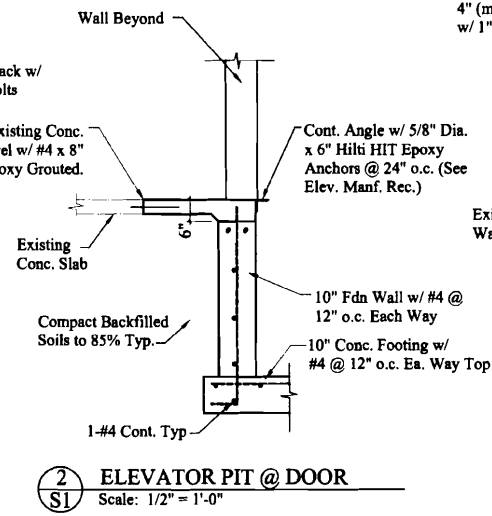
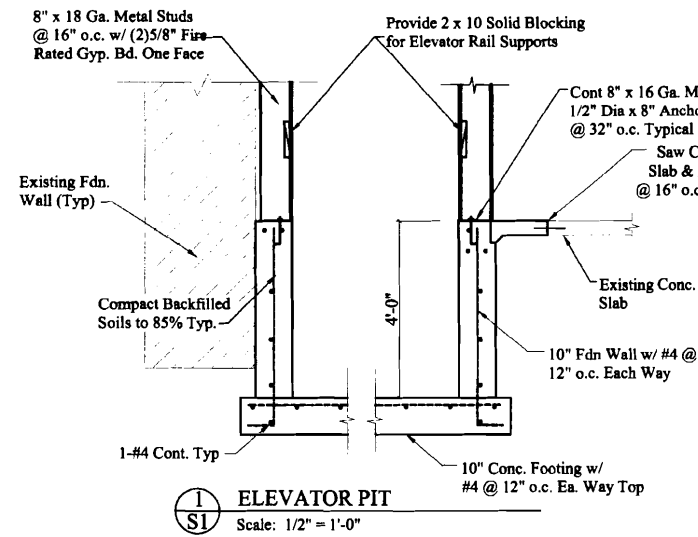
**PARTIAL FIRST FLOOR FRAMING PLAN**  
 SCALE: 1/4"=1'-0"



**PARTIAL SECOND FLOOR FRAMING PLAN**  
 SCALE: 1/4"=1'-0"



**PARTIAL FOUNDATION PLAN**  
 SCALE: 1/4"=1'-0"



**STRUCTURAL NOTES:**

CODE: Comply with the 2003 International Building Code (IBC).

**DESIGN LOADS:**  
Dead Loads: Floor = 14.0 psf.  
Live Loads: Floor = 100.0 psf.  
Wind Load: Building = 32.0 psf

**FOUNDATIONS:**  
1. Bear footings on firm, undisturbed dense native soil at depths shown on details.  
2. Assumed soil bearing pressure = 3,000 psf.  
3. Place foundation concrete only on clean, firm, dry bearing material.  
4. Engineer shall be notified if stone ledge or marine clay is found during excavation.

**CONCRETE:**  
1. Concrete regular weight (144 pcf) with Type II cement per ASTM C150, aggregate per ASTM C33, and potable water. No fly-ash permitted in floor slab. Aggregate size = 1" maximum for footings and slab. Minimum compressive strength = 3000 psi for foundations and slab on grade and 4,000 psi for exterior slabs and sidewalks.

**REINFORCING:**  
1. ASTM A 615-S1, Grade 60 except #2 and #3 bars ASTM A615-S1: Grade 40.  
2. Lap splices in concrete: 42 bar diameters.  
3. Provide best corner reinforcing to match and lap with horizontal reinforcing at corners and intersections of walls, and footings.

**STEEL:**  
1. Rolled sections and plates: ASTM A-36, Fy = 36 ksi.  
2. Bolts and plain anchors: ASTM A 307.

**COLD-FORMED (Light Gauge) STRUCTURAL STEEL:**  
1. All detailing, fabrication and erection of cold-formed steel shall comply with current AISC specifications.  
2. All steel 18 gauge and lighter shall be commercial quality steel ASTM A611 Grade C with a minimum yield point of 33,000 psi. All steel 16 gauge and heavier shall conform to ASTM A570 Grade D with minimum yield point of 50,000 psi.  
3. All steel shall be galvanized steel.  
4. Studs shall be seated squarely in track with stud flanges abutting track flanges. Studs shall be plumbed, aligned and squarely attached to flanges of top and bottom track w/ 2 - #6 self tapping screws minimum.  
5. Provide continuous channel bridging at 4'-0" maximum vertical spacing in all stud walls per manufacturers recommendations.  
6. Tracks and studs shall have flange widths of 1 5/8":  
8" x 18 Ga. studs: A = 0.54 in2, Sx = 1.15 in3, Ix = 4.65 in4.  
6" x 18 Ga. studs: A = 0.44 in2, Sx = 0.76 in3, Ix = 2.32 in4.  
7. Joists shall have flange width of 2":  
8" x 18 Ga. Joist: A = 0.56 in2, Sx = 1.17 in3, Ix = 4.98 in4.  
10" x 18 Ga. Joist: A = 0.65 in2, Sx = 1.44 in3, Ix = 8.59 in4.

**WOOD:**  
1. General:  
a. Each piece of lumber shall be "S-DRY" and bear the grade stamp of a grading rules agency approved by the American Lumber Standards Committee.  
b. Double up studs at jambs and under beams.  
c. Do not notch or drill joists, beams or load bearing studs without approval.  
2. Connections:  
a. Nail wall plywood with 10d common nails at 6" o.c. at all edges and boundary members and 12" o.c. at intermediate supports.  
3. Structural Sawn Lumber:  
a. 2 x 6 thru 2 x 14 joists: Spruce Pine Fir No. 2 with Fb (repetitive) = 1200 p.s.i.  
b. Studs: Spruce Pine Fir No. 2 with Fb (repetitive) = 1200 p.s.i.  
4. Laminated Veneer Lumber (LVL): Fb = 2800 psi, Fv = 285 psi, E = 2,000 ksi  
5. Plywood:  
a. Wall Sheathing: C-D DNT-APA (PSI-74) with exterior glue, 1/2" with Identification Index 24/0. All panel edges backed with 2" nominal or wider framing.

**SUPPLEMENTARY NOTES:**  
1. Verify all dimensions and conditions with architectural drawings prior to starting work. Notify the Engineer of any discrepancies or inconsistencies.  
2. Provide all necessary temporary bracing, shoring, guying or other means to avoid excessive stresses and to hold structural elements in place during construction.



DESIGNED BY:	Larry A. Wichroed, P.E.
DRAWN BY:	LAW
JOB NO.:	02206
DATE:	01-20-07

REVISIONS:	03-22-08
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