

THE ROOFING CONFERENCE AND EXPOSITION FOR HISTORIC BUILDINGS



CONFERENCE PROGRAM
AND REGISTRATION FORM



PHILADELPHIA, PENNSYLVANIA MARCH 17-19, 1999



HIGHLIGHTS

Over 50 conference presentations on the repair, restoration, and replacement of roofs, roofing and related features

Special trade exposition featuring 24 select companies

Behind-the-scene tours

Comprehensive Roofing Handbook for Historic Buildings, especially prepared for the conference

Demonstrations of specialized roofing techniques

AIA Continuing Education System Learning Units

Exhibition of Historic Roofing Materials

SPONSORS

NATIONAL PARK SERVICE

GENERAL SERVICES ADMINISTRATION

ASSOCIATION FOR PRESERVATION
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SHEET METAL AND AIR CONDITIONING CONTRACTORS' NATIONAL ASSOCIATION

NATIONAL CONFERENCE OF STATE HISTORIC PRESERVATION OFFICERS

PUBLIC WORKS AND
GOVERNMENT SERVICES CANADA

ASTM SUBCOMMITTEE ON BUILDING PRESERVATION & REHABILITATION TECHNOLOGY

SUPPORTERS

OLD-HOUSE JOURNAL

TRADITIONAL BUILDING

AIA HISTORIC RESOURCES COMMITTEE

VERMONT SLATE & COPPER SERVICES

APPA: Association of Higher Education
Facilities Officers

The conference is supported in part with funds provided by the National Park Service Cultural Resource Training Initiative.

STARTING FROM THE TOP

This conference and exposition provide a special opportunity for you to obtain essential information on the most recent practices and technology for rehabilitating roofs on historic buildings, as well as to review and re-examine traditional methods and approaches. You will have the opportunity to meet more than 50 experts who will be delivering presentations and participating in the tours. The exposition should be particularly valuable as well, providing time for you to meet the key representatives of select companies offering specialized products and quality services for the historic roofing market.

With roof failures being the single largest cause of damage to historic buildings, the information shared at this conference will be invaluable. Alan Hantman, AIA, Architect of the U.S. Capitol, and Andrew Powter, Senior Conservation Architect with Public Works and Government Services Canada, will deliver keynote addresses at the opening session. Addresses by John Fidler, RIBA, Head of Architectural Conservation at English Heritage, and David Woodcock, FAIA, RIBA at Texas A&M University, will highlight the closing session.

With the many sessions, the exposition, and the behind-the-scene tours, we are confident that you will find the 3 days spent at the conference and exposition both informative and enjoyable.

Charles E. Fisher
Marilyn E. Kaplan
Conference Co-Chairs

WHO SHOULD ATTEND?

Architects and Engineers

require information on state-of-the-art technology, code compliance and traditional practices applicable to historic roofs.

Commercial and Residential Property Owners

making decisions on roof repairs and replacement need available information on treatment options for their buildings.

Contractors

need to be thoroughly versed in both appropriate products and services, and require manufacturers' specifications for special orders.

Historic Site Managers

responsible for historic buildings and museums must be well-informed as to appropriate restoration treatments, alternatives for material preservation and replication, and code compliance options.

Physical Plant and Building Managers

must be familiar with the full range of maintenance and repair approaches and methods for upgrading and replacing the existing roof systems found on historic buildings.

State Historic Preservation Officers and Other Government Officials

need to be well versed in the full range of preservation alternatives involving historic roofs, roofing and related features.

10:40 a.m.- Break

10:40 a.m. Opening of Roofing Exposition

11:00 a.m.- Historic Roofs:

11:45 a.m. The Technology and Artistry

John D. Milner, AIA, John Milner Architects, Inc.

12:00 p.m. Lunch

1:15 p.m.- Session A

2:50 p.m. Planning That Works

Moderator: Donald R. Horn, AIA, Cultural, Environmental and Accessibility Programs, General Services Administration

Tin Sheets to the Wind: A Disciplined Approach Towards Roof Restoration

M. Jeffrey Baker, Principal, Mesick Cohen Wilson Baker Architects, L.L.P

Life-Cycle CostsSpeaker to be announced

Roof Warranties

Clifford C. Conover, Vice President, ARCON, Inc.

1:15 p.m.- Session B

2:50 p.m. "In a good and workman like manner":
Preserving Historic Roofs

Moderator: Natalie Bull, Architectural Conservation Analyst, Heritage Conservation Program, Public Works and Government Services Canada

Common Mistakes in Roofing Repair and Maintenance Jim Askins, Historic Structures Consultant

Deferred Maintenance for a Group of Buildings: Establishing and Implementing Strategies John Diodati, Architect, OAQ, Fournier Gersovitz Moss and Associates, Architects

Lightning Protection for Historic and Older Buildings

Thomas R. Harger, Vice President, Harger Lightning Protection

2:50 p.m.- Break and Historical Exhibit Opens

3:10 p.m.- Session A

4:45 p.m. "Light, clean and durable":

Historic Metal Roofs

Moderator: John H. Myers, Director, Center for Public Buildings, Georgia Tech

Metal Roofs: Evaluation and Analysis

Spencer R. Higgins, Conservation Architect, Spencer R. Higgins, Architect Inc.

The Evolution of Custom Standing Seam Roofing Jack Morrell, President, Morrell Sheet Metal Inc.

Metal Roofing: History * Failure * Preservation John G. Waite, FAIA, Principal, John G. Waite Associates, Architects PLLC

3:10 p.m.- Session B

4:45 p.m. Proper Roof Drainage

Moderator: Kent S. Diebolt, President, Vertical Access

Rainwater Conductor Systems: Survey of Historical Options Kaaren Dodge, Architectural Historian,

Heritage Preservation Services,

National Park Service

Detailing a Roof Restoration: Historical Accuracy versus Industry StandardsMatthew Chalifoux, AIA, Preservation
Architect, The Hillier Group, Architects

Improving Hydraulic Performance of Roofs for Building Preservation Michael Henry, PE, AIA, Principal, Watson & Henry Associates

5:30 p.m. Roofing Exposition Closes for the Day

6:00 p.m. Reception

THURSDAY, MARCH 18

8:30 a.m.- Session A

10:20 a.m. Planning for Success

Moderator: John R. Volz, Architect/Vice-President, Volz & Associates, Inc.

Structures for Historic Roofs

Robert Silman, President, Robert Silman Associates, Consulting Engineers

Specifying Roof Repair and Replacement

William G. Foulks, Building Conservation Associates, Inc.

Attic Ventilation in Historic Buildings: **Background and Current Developments** William B. Rose, Research Architect,

University of Illinois

8:30 a.m.- Session B

10:20 a.m. Split and Dressed: **Wood Roofing Shingles**

> Moderator: Sharon C. Park, FAIA, Heritage Preservation Services, National Park Service

Wood Shingle Roofing in America

Andrew Ladygo, Architectural Conservator, Architectural Conservation Services

Wood Species Available for **Historic Roofing Applications** Lloyd O. Clefstad, Managing Director, Westmount Forest Products Ltd.

Water Repellants, Fire Retardants and Preservative Treatments

Terry Amburgey, Professor of Forest Products, Mississippi State University

10:00 a.m. Roofing Exposition Opens for the Day

THURSDAY, MARCH 18

10:20 a.m.- Break 10:40 a.m.

10:40 a.m.- Session A 12:10 p.m. Slate Roofing

> Moderator: Paul Evans, Director of Purchasing, The Roof Center, Inc.

Slated for Preservation

Philip Cryan Marshall, Associate Professor, Historic Preservation Program, Roger Williams University

Repairing Slate Roofs Brian Stearns, President, Vermont Slate & Copper Services

Slate Roof Replacement: Design and Detailing Jeffrey Levine, Principal, 1:1:6 Technologies Inc.

10:40 a.m.- Session B 12:10 p.m Avoiding Disasters

> Moderator: Steade Craigo, AIA, Senior Restoration Architect, California Office of Historic Preservation

Roofing Considerations in Seismic Rehabilitation Stephen J. Farneth, AIA, Principal, Architectural Resources Group

Charleston Roofs in Hurricane Hugo Joseph K. Oppermann, AIA, Principal, Phillips & Oppermann, P.A.

Fire Protection During Construction Marilyn Kaplan, Principal, Preservation Architecture

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THURSDAY, MARCH 18

12:10 p.m.-Lunch 1:25 p.m.

1:25 p.m.- Session A 3:00 p.m. Flat Roofs

> Moderator: Lonnie J. Hovey, AIA, Preservation Architect, Vitetta Group

Built-up Roofing on Historic Buildings Richard O. Collins, President, Roof Resources, Inc.

Low Slope Materials: Design and Selection René Dupuis, P.E., SRI Consulting Engineers

Investigation and Repair Techniques for Flat and Low Sloped Roofs Larry Meyers, SE, PE, RA, Consultant, Wiss, Janney, Elstner Associates

1:25 p.m.- Session B 3:00 p.m. Clay Tile Roofs

> Moderator: John Sandor, Heritage Preservation Services, National Park Service

Terra Cotta Teaser Terry Palmiter, Builder and Architectural Designer

Evaluating Clay Tile and Terra Cotta Roofing Systems Mark K. LaBonté, Senior Staff Engineer, Simpson Gumpertz & Heger Inc.

A Recipe for Restoring Missing Tile Roofs Gunny Harboe, AIA, Director, Preservation Group, McClier

3:00 p.m.- Break 3:20 p.m. 3:20 p.m.- Session A

5:00 p.m. Metal Roofing and Ornamentation

Moderator: Thomas J. Soles, Jr., Group Director, Market Sector Councils, Sheet Metal and Air Conditioning Contractors' National Association

Standing and Flat Solder Seam Metal Roofing: Evaluation, Repair, Maintenance and Installation Douglass Reed, President, Preservation Associates, Inc.

Ornamental Sheet Metals in Roofing Systems Richard Pieper, Director of Preservation, Jan Hird Pokorny Associates, Inc.

Lead, Tin and New Developments in Metal Coatings for Roofing Dr. Robert Baboian, Consultant, RB Corrosive Service

3:20 p.m.- Session B 5:00 p.m. **20th Century Specialty Roofing**

> Moderator: Deborah B. Maylie, Heritage Preservation Services, National Park Service

Composition Shingles of the 1920s and '30s Gordon Bock, Editor, Old-House Journal

Working with Asbestos Roofing Speaker to be announced

Eight Squares a Day: The Handmade Cement Shingle Thomas Vitanza, AIA, Historical Architect, Historic Preservation Training Center, National Park Service

5:30 p.m. Roofing Exposition Closes

FRIDAY, MARCH 19

8:30 a.m.- Session A

10:00 a.m. Underlayments and Substrates

Moderator: Stephen J. Kelley, AIA, SE, Senior Consultant. Wiss, Janney, Elstner Associates, Inc.

Historic and Contemporary Steep-Slope Underlayments Matt Millen, Millen Roofing Company

Evaluating the Roofing Substrates of Older Buildings and How Their Condition Impacts the Roof Design Richard S. Koziol, Consultant, Wiss, Janney, Elstner Associates

8:30 a.m.- Session B

10:00 a.m. "In praise of famous men": Roofing on American Landmarks

> Moderator: William Brookover, Historical Architect, Philadelphia Support Office, National Park Service

Mount Vernon: A 20th Century Approach to 18th Century **Wood Shingle Roofing** Clay S. Palazzo, Principal, John G. Waite Associates, Architects PLLC

Restoration of Jefferson's Tin Shingle Roof at Monticello Michael B. Merriam, Director of Facilities Planning and Construction, Thomas Jefferson Memorial Foundation

10:00 a.m.- Break

10:15 a.m.- The Roofs of England Campaign: 11:35 a.m. Strategic Action to Preserve and Foster the Supplies and Use of Stone Slate Roofing in England John Fidler, RIBA, Head of Building Conservation and Research, English Heritage

> **Closing Address** David Woodcock, FAIA, RIBA, ACSA Distinguished Professor, College of Architecture, Texas A&M University

Concluding Remarks Charles E. Fisher, National Park Service

12:00 p.m.- Tours 6:00 p.m. See pages 14-18

4:30 p.m.- Carpenter's Hall Reception 7:30 p.m. (Ticket Required)

Tours

All tours will take place on Friday afternoon, March 19. Departure times vary and are noted below in the individual tour descriptions. A box lunch is included only where noted. Since tours are expected to fill up quickly, early registration is strongly encouraged. *Tour leaders are listed in italics.*

1. Shōfūsō ("Pine Breeze Villa") and Memorial Hall in Fairmount Park, Philadelphia

Bus departs at 1:45 PM and returns to the hotel at approximately 6:30 PM. Shōfūsō is unheated, so please dress warmly. In addition, in keeping with Japanese custom, visitors must remove their shoes before entering the house and must wear socks when touring the house.

Charles Evers, Atkin Olshin Lawson-Bell & Associates



Shōfūsō is a traditional Shoin-style Japanese house with a teahouse and a Japanese garden located in the natural setting of West Fairmount

Park. Standing in Philadelphia since 1958, it was designed five years earlier for The Museum of Modern Art by Japanese architect Junzō Yoshimura. This tour will focus on the many issues of Shōfūsō's hinoki bark roof. In 1999, Nakamura Sōtōji Komuten of Kyōto will repair and replace the roofing material. This same organization had earlier replaced the roof in 1976. The work being planned is quite significant because of the nature of the roofing system and the high degree of craftsmanship.

Participants will then visit two other buildings in Fairmount Park to examine roofing issues: the Ohio House, a small state pavilion erected for the Centennial Exhibition (outside only), and Memorial Hall, the only surviving large building remaining from the 1876 Exhibition. The tour will conclude with a visit and reception at Carpenters' Hall in center city, scene of the First Continental Congress.

2. Williams & Sons Slate Quarry, Wind Gap, Pennsylvania

Bus departs 12:00 noon and returns to the hotel at approximately 6:30 PM; box lunch included. Sturdy, slip resistant shoes and warm clothing are required.

Bob Williams, Williams & Sons Slate & Tile, Inc. John Hunt, Williams & Sons Slate & Tile, Inc. Jeffrey Levine, 1:1:6 Technologies Inc.



Some of the most economically important slate deposits in the United States lie in the east-central section of Pennsylvania, in Lehigh and Northampton Counties. This tour will visit one of the area's active quarries,

which produces the grayish-black slate typical of the region. In addition to viewing the quarry, participants will have an opportunity see the company's two processing mill buildings, where slate roofing tiles are still manufactured using many of the traditional methods brought to this country by Welsh immigrants in the 19th century. If time permits, the tour will visit the small nearby town of Chapman, with the relics of its once-thriving slate quarrying industry.

3. Eastern State Penitentiary and the Wagner Free Institute of Science, Philadelphia

Bus departs at 1:30 PM and returns to the hotel at approximately 5:45 PM. Eastern State is unheated, so tour participants are encouraged to wear warm comfortable clothing.

Sara Jane Elk, Eastern State Penitentiary Historic Site Sean Kelly, Eastern State Penitentiary Historic Site Jason Smith, Kieran Timberlake & Harris Yves Gauthier, Kieran Timberlake & Harris Suzanne Pentz, Keast & Hood Co.



Designed by noted American architect John Haviland, Eastern State Penitentiary opened in 1829 as part of a controversial movement to change the behavior of prisoners through "confinement in solitude with labor." The building's radial floor plan had tremendous influence on prison design worldwide. After 142 years of consecutive use, Eastern State was closed in 1970 and sat abandoned until 1991, when limited stabilization efforts began. The tour will include a brief history of this National Historic Land-mark, as well as a discussion of the preservation plans for the property, especially the extensive roof work.

Following this, the group will visit the Wagner Free Institute of Science, a rare preserved Victorian science museum, designed in the mid-19th century by John McArthur, Jr., the architect of Philadelphia's City Hall. Tour participants will be able to visit the second floor exhibit hall, which houses more than 100,000 natural history specimens that were used in the 19th century to teach science according to Darwinian principles of evolution. In 1995, prior to the installation of a replacement metal roof, the building's roof trusses were analyzed to determined their condition. Tour participants will hear a discussion of the wood pathology techniques used in this study and have an opportunity to see the testing equipment and coring samples. A reception in the exhibit hall will conclude the afternoon.

4. Independence Hall and Architectural Study Collection, Philadelphia

Bus departs 1:45 PM and returns to the hotel at approximately 5:45 PM; some walking involved. William Brookover, National Park Service Penelope Batcheler, formerly National Park Service



Maintaining Independence Hall, a UNESCO World Heritage Site, is a never-ending process. Tour participants will visit areas of the building not open to the general public, namely the tower and, weather permitting, the roof, to hear about the preservation problems and considerations faced over the years, including those presented by the recent utilities improvement project. There will also be an opportunity to learn about the National Park Service's 1960s restoration of the building from a historical architect involved in the original project. Following this, tour participants will walk two blocks to the First Bank of the United States to visit the Independence National Historical Park Architectural Study Collection, with its many artifacts collected from buildings mainly in the Delaware Valley. The tour then concludes with a visit and reception at nearby Carpenters' Hall, scene of the First Continental Congress.

5. Fonthill and the Moravian Pottery and Tile Works, Doylestown, Pennsylvania

Bus departs at 12:15 PM and returns to the hotel at approximately 6:00 PM; box lunch included.

Chris Carter, John Milner Architects Catherine Subick, John Milner Architects



Completed in 1912, Fonthill is the uniquely designed home of Henry Chapman Mercer, a pioneer in the use of reinforced concrete as a building

material. All the concrete for this building was mixed by hand, the shell being formed first and then embellished with red tile on the roof windows, the dormers and chimneys being placed as the structure progressed. In addition to the main house, the group will visit the still-active architectural tile manufactory, with its concrete, concave, tile-covered hip roof, as well as Mercer's garage, also cast in concrete, with a large second-story balcony and many chimney pots that serve as dove cotes. Tour participants will have an opportunity to hear of the buildings' preservation challenges from historical architects involved in recent work. A reception is included.

Fonthill photo courtesy of Fonthill Museum of the Bucks County Historical Society, © Barry Halkin

6. City Hall and the Girard Trust Building, Philadelphia (Walking Tour)

Leave at 1:45 PM and return to hotel at approximately 5:45 PM.

Hyman Myers, Vitetta Group Lonnie J. Hovey, Vitetta Group James B. Garrison, The Hillier Group



Completed in 1901 after nearly thirty years of construction, Philadelphia's City Hall was designed in the Second Empire style by John McArthur, Jr. Today it is the largest and most elaborate City Hall in the United States still in use. Tour members will walk two blocks from the

hotel to City Hall, where they will have an opportunity to go onto the roof of the West Pavilion to see first-hand the many different types of roofing materials used on the building and hear about the on-going roof work from the historical architects involved in the building's restoration. The tour also includes a visit to the 548 foot high tower for a panoramic view of the city.

From here the tour moves across the street to the Girard Trust Company Dome Building, one of the major architectural landmarks of the City. It was designed in 1904 by McKim, Mead and White, in association with Allen Evans of Furness Evans and Company. The inner and outer domes of this building, as well as the main floor, are constructed of Guastavino clay tile. Tour members will have the unique experience of walking between the inner and outer domes to see first-hand this important example of Guastavino tile construction. Afterwards, there will be a reception at the nearby offices of the architectural firm that is undertaking the current rehabilitation of the building.

REGISTRATION FORM

THE ROOFING CONFERENCE AND EXPOSITION FOR HISTORIC BUILDINGS

Your registration cannot be processed unless payment accompanies this form. There is a late fee for those registrations postmarked after February 16, 1999. Government agency purchase orders will be accepted. Registration fees will be refunded (less \$35) for cancellations postmarked by February 16, 1999. For cancellations made after February 16, 1999, no refunds will be provided. The tours have limited enrollment, so early registration is encouraged.

Please Print or Type

Name
Title
Organization/Company
8:
(The Above Will Appear On Your Name Badge)
Address
City State
Zip Phone ()
E-mail
Check Enclosed □
Government Purchase Order Enclosed

Please Complete Reverse Side

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REGISTRATION FORM

Registration Fee for Conference and Exposition		
(Postmarked by February 16, 1999)	□ \$325	
Registration Fee		
(Postmarked after February 16, 1999)	□ \$365	
Meal Package (Includes two lunches;		
March 17 and 18)	□ \$48	
Afternoon Tours , Friday, March 19 (<i>Select One</i> , Indicate first, second and third choice in the left column)		
1. Shōfūsō/Memorial Hall	□ \$25	
2. Williams Slate Quarry*	□ \$35	
3. Eastern State Penitentiary	□ \$25	
4. Independence Hall	□ \$25	
5. Fonthill*	□ \$35	
6. City Hall/Girard Trust	□ \$15	
*Box Lunch Included		
Tour Fee	e \$	
Total Amount Enclosed	1 \$	
I plan to stay at the DoubleTree Hotel.		
	es □ No	
Please provide AIA/CES Learning Units		
form with registration packet	es	
Payment in full must accompany this form with a check or money order made payable to: Historic Preservation Education Foundation		
A confirmation letter will be sent upon receipt of your complete registration. For further registration or general conference information call (202) 343-6008 or e-mail: deborah_maylie@nps.gov.		
Mail Registration To: Historic Roofing Conference P.O. Box 75207 Washington, DC 20013		

HOTEL REGISTRATION FORM

The Roofing Conference and Exposition for Historic Buildings March 17-19, 1999 DoubleTree Hotel Philadelphia, Pennsylvania
Arrival Date Arrival Time Departure Date
Your Name
Company
Address
CityStateZip
Phone Number ()
Sharing Room With
Single \$135
Double \$145
Government Rate \$113*
* Valid government identification is required upon check-in. Government rate rooms are limited.
Room rates subject to a 13% sales and occupancy tax.
Reservations Must Be Received By February 22, 1999. Requests made after this date may be subject to regular hotel rates. Early reservations are encouraged due to anticipated registration. Cancellations made within forty eight hours of arrival will be subject to one night's room charge and tax. Credit Card Name
Card Number
Expiration Date
Signature
Check In: 4:00 p.m. / Check Out: 12:00 p.m.
Mail Registration Form To: Double Tree Hotel Broad Street at Locust Philadelphia, PA 19107
For Telephone Reservations: (215) 893-1600

Clip out and mail

HOTEL INFORMATION

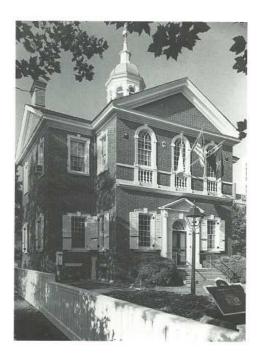
Accommodations

The DoubleTree Hotel is hosting the Roofing Conference and Exposition. The hotel is conveniently located in the heart of downtown Philadelphia, at Broad and Locust Streets.

A block of rooms at reduced rates is being held at the DoubleTree Hotel for conference registrants. Early room reservations are strongly recommended to insure the special rates. Room reservations may be made by completing the attached hotel registration form and returning it to the DoubleTree Hotel.

Transportation

The DoubleTree Hotel has ample parking and is only 10 minutes from Amtrak's northeast corridor service. Convenient public transportation is available from the Philadelphia International Airport.



OPEN HOUSE

Friday, March 19 4:30 p.m. - 7:30 p.m.

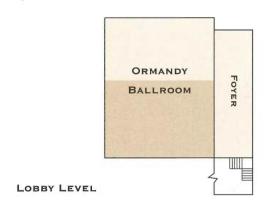
CARPENTERS' HALL

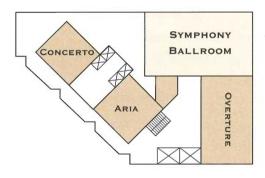
320 Chestnut Street

The Carpenters' Company invites conference participants to an open house at Carpenters' Hall to celebrate the 275th anniversary of the founding of the Carpenters' Company and the 225th anniversary of the construction of Carpenters' Hall.

Required ticket can be obtained free of charge to conference registrants at the registration desk on a first-come, first-serve basis.

HOTEL PLAN





THIRD FLOOR

CONFERENCE ROOMS

EXPOSITION AREAS

THE ROOFING CONFERENCE AND

EXPOSITION FOR HISTORIC BUILDINGS

WILL FEATURE SUCH PRODUCTS

AND SERVICES AS:

CONVENTIONAL AND SPECIALTY
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CONFERENCE PROGRAM

AND REGISTRATION FORM



PHILADELPHIA, PENNSYLVANIA MARCH 17-19, 1999



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P.O. Box 75207

WASHINGTON, D.C. 20013