idea of a separate record group for HABS/HAER was introduced so that the consolidated records wouldn't get lost in the larger NPS Record Group 79.

When a group of NARA staff toured the HABS/HAER office in February 1992, literally dozens of filing drawers full of materials that could immediately be shipped to the National Archives as permanent records, and others which could be stored offsite, were discovered. In March 1992, a formal proposal was sent to the Action Archivist of the United States, Dr. Trudy Huskamp Peterson requesting a separate record group, largely due to the value of the records created and because of HABS/HAER's extensive involvement with private organizations. Dr. Peterson signed the proposal on July 1, 1992, creating Record Group 515, the Records of the Historic American Buildings Survey/Historic American Engineering Record. In a ceremony on October 8, 1992, Charles E. Peterson, founder of HABS, presented to the Archivist of the United States his original 1933 hand-written draft for the establishment of HABS as a WPA program.

After NARA staff reviewed the files in February 1992, HABS/HAER initiated the cataloguing, indexing, and transfer of permanent records to the NARA. Once RG 515 was created, the next step was to conduct an inventory of all the records in the office and to write a records disposition schedule. In preparation for the inventory, a HABS/HAER historian attended two classes taught by the NARA, "Records Disposition" and "Records Scheduling", and obtained a certificate of completion. The classes took one week, were very informative, and gave the participants a strong foundation to implement their records management programs. A wide array of similar programs are scheduled for 1997.

The inventory and eventual schedule were arranged according to the program's organization chart and the types of records each of the units within the office maintained. The inventory included writing a brief description of each type of subject file found, such as Project Leader files, or Peterson Prize files, and determining a disposition for the records — when the files could be closed, when they could be stored offsite, and when they could be transferred to the National Archives or destroyed. Although permanent official records must by law be transfered to NARA when no longer in regular use in a federal office, HABS/HAER still has access to them, and retains legal custody of the records in the Federal Records Center (FRC) until the records are formally transferred to NARA legal custody.

The inventory descriptions were really a draft of the final schedule. HABS/HAER worked closely with Larry Baume, a NARA appraisal archivist, to start the inventory project, determine dispositions, and write the schedule. Mr. Baume was patient with repetitive questions and frequent changes to the records disposition schedule, and was understanding of the needs of the HABS/HAER staff. The final result was a comprehensive yet flexible description of all of HABS/HAER records. The schedule was approved and signed by John Carlin, Archivist of the United States, on August 20, 1996.

Now that a schedule has been approved, staff are more aware of the types of records kept and how they are organized and managed. HABS/HAER has also initiated new records management ideas. For example, a central file area has been established where files that are closed can be stored until they are sent to the FRC. This gives staff more filing space in their offices, keeps records of the same type in the one location grouped by year, and allows access to these files by anyone in the office. Most importantly, these records are preserved for future historians.

NPS programs should contact Warren Dade, NPS Records Officer, 202-523-5043, or the nearest regional FRC for training and other records management assistance. Those responsible for records management should consider taking the classes at the National Archives. They are extremely helpful and informative, and the NARA staff are knowledgeable, professional, and keep you interested. Take advantage of the resources available to you through the National Archives. An accurate schedule will increase effectiveness in records management, help free up additional office space, increase the likelihood that future scholars will write about your program—since the documentation will continue to exist, and encourage orderly files—leading to more effective and efficient records use by the staff. Help is available. All you have to do is call.

Monica Murphy is a HABS/HAER historian. She is responsible for records management in these programs.

Catherine C. Lavoie

Southeastern Pennsylvania

The Historic American Buildings Survey (HABS), the oldest preservation program of the National Park Service, produces archival documentation in the form of existing-condition measured drawings, large-format photography, and written history. These records support the ongoing preservation, maintenance, interpretation, and understanding of historic structures and sites, as well as their contextual landscapes.

Since 1994, HABS has been producing documentation of historic sites and structures in the five-

county region of Southeastern Pennsylvania. The sites were selected with the intention of bringing needed recognition to, and increase the understanding of, a representative selection of the area's vast historic resources, with particular regard given to publicly accessible and/or endangered resources, and National Historic Landmarks. As one of America's oldest and most historically-important cities, Philadelphia is laden with historic resources both unique to and indicative of our national heritage. Last year's work centered on the historical development of Fairmount Park, which represents one of the earliest efforts in the American park movement. Specifically addressed were the pre-park constructed Villas—ca. 1750-1810 country retreats of Philadelphia's elite—that are enveloped within the current park. This year's work consisted of four sites within the city of Philadelphia: Eastern State Penitentiary, Laurel Hill Cemetery, the Philadelphia Zoological Gardens, and the Church of St. James the Less; and a fifth project at Valley Forge National Historical Park: the National Memorial Arch.

Eastern State Penitentiary was designed in 1823 by Philadelphia architect John Haviland at the request of the Philadelphia Society for Alleviating the Miseries of Public Prisons in order to put into practice their enlightened views toward prison reform. Troubled by the 18th century practice of sentencing prisoners to hard labor, this Quaker-based organization proposed as an alternative method of reform a system of solitary confinement which became known as the "Pennsylvania System." Once behind the 30' high stone walls, prisoners were never to see or make contact with another human being. Haviland's radial-plan structure was a manifestation of this proposed reform system. Like the spokes of a wheel, cell blocks radiate from a central rotunda and guard's tower. Twenty-three hours per day were spent alone in an approximately 12' x 8' cell lit by a tiny "dead eye" skylight set at a 45 degree angle, making views of the outside impossible. The twenty-fourth hour was spent in a walled exercise yard to the rear of each cell. Although Eastern State became a international model for penitentiary design and penal reform, the system soon proved problematic. In the subsequent decades numerous changes and additions occurred which compromised the execution of the system as planned, but reflected the evolution of American philosophies of incarceration and rehabilitation.

While much has been written regarding the significance of the original design concept and the context for its development, what was needed was a critical look at what had become of Eastern State since its inception. The modifications that have been made to the structure reveal changes in outlook and subsequent transformations in the treatment of prisoners. One of the key objectives of the HABS report was to document, through written history and large-format photography, significant extant features of the original plan, and of the various changes and additions, to create an essay of the evolution of Eastern State Penitentiary. (Sarah Zurier, historian, and Jack E. Boucher, photographer).

Laurel Hill Cemetery was established in 1836 as the second nonsectarian, rural garden cemetery in America. The plan, developed by Philadelphia architect John Notman, was inspired by earlier European precedents, appearing to have been modeled directly after Kensal Green Cemetery in London (1831). The development of Laurel Hill (and its American precursor, Mt. Auburn in Cambridge, Massachusetts) marked the beginning of a significant departure in traditional burial practices in this country. No longer located within the church yard and arranged along meandering paths, rural garden cemeteries were developed largely in reaction to the problems of sanitation and overcrowding posed by urbanization. At the same time, such sites responded to the growing influence of American horticultural study and English picturesque landscape theory. As some of the first landscaped, publicly-accessible green spaces, early rural cemeteries such as Laurel Hill may have provided the prototype for the development of America's first public parks. In fact, Laurel Hill did become a frequented tourist attraction prior to the development of Fairmount Park, which later formed the western border of the cemetery.

In addition, many of the monuments, mausoleums and other examples of funerary art found at Laurel Hill are the work of Philadelphia's best-known architects and sculptors, and reflect well over a century of stylistic development. Laurel Hill also serves as the final resting place for numerous prominent Philadelphians. These issues and others provide the context for Laurel Hill, as discussed in the written HABS history, accompanied by large-format photographs. With diminishing capacity for interments, and without the endowments for perpetual care which have since become standard cemetery practice, Laurel Hill struggles to maintain. While it appears all but forgotten, as a prototype for rural cemetery development Laurel Hill merits a prominent position within the history of American landscape architecture. (Aaron Wunsch, historian, and Jack E. Boucher, photographer).

The Philadelphia Zoological Garden was designed in 1873–74 by Hermann Schwarzmann, the engineer and landscape planner for Fairmount Park. It opened in July of 1874 as one of America's first zoos; its founding organization, the Zoological Society of Philadelphia, had been incorporated in 1859, making it the oldest zoological society in the country. The current landscape reflects 120 years of innovation and change in the area of zoo develop-

ment, and even more years in the evolution of the cultural landscape. Present within the current zoo grounds are an 18th-century house built by John Penn, grandson of Philadelphia's founder, William Penn; rustic architecture and landscape features of the original design scheme; and animal quarters dating from the 1870s through the 1980s by many of Philadelphia's most renowned architects including Frank Furness, George Hewitt, Paul Cret, and Robert Venturi. Modifications to the original plan, such as the addition of new exhibition buildings and habitats, have been made over the years to meet the changing philosophy of animal care.

The HABS documentation consisted of a history of the development and evolution of the landscape plan for the zoo, accompanied by large-format photographs. In so doing, the report identified existing features of the original landscape and of notable changes and additions to help insure the preservation of significant elements from each developmental phase. The history also provides the larger context with regard to the international history of zoo development: increased animal acquisitions, and changes in ideology regarding the humane treatment of animals, and the use of popular styles of architecture and landscape design. The findings of the HABS history will be used in developing the new master plan for the zoo. (Cynthia Ott, historian, and Jack E. Boucher, photographer).

The Church of St. James the Less, erected between 1846 and 1848 as the first pure example of an Medieval English parish church in America, was a seminal structure in the development of Gothic Revival and ecclesiastic architecture in American. The church was built under the direction of the English Ecclesiological (late Cambridge Camden) Society, which emerged in the 1830s as a reform movement within the Anglican Church calling for a return to traditional medieval forms in both ritual and architectural design. The Society undertook a careful study of extant medieval churches in order to identify the most liturgically and stylistically correct forms which could then be replicated. Among those selected as most true to form was St. Michael's, Longstanton in Cambridgeshire, built ca. 1230. Measured drawings of St. Michael's were executed by English architect G.G. Place, eventually finding their way to Philadelphia where they were used by builder/architect John E. Carver to erect the Church of St. James the Less.

St. James' simple, picturesque plan provided the most suitable prototype yet to appear for the development of emerging suburban and rural church architecture. Exhibitions of its influence began to appear even before St. James the Less could be completed. Prominent American architects Richard Upjohn and Frank Wills were among those who embraced the essential elements of St. James the Less, incorporating them in their own church designs. While St. James the Less provided a model to be emulated, the authenticity of the church's medieval plan and massive stone structural system, and its costly attention to detail insured that it remain a unique structure within the history of American architecture. The documentation consisted of measured drawings of plans, elevations, and sections, along with numerous sheets of architectural details, large-format photography, and a written historical report. (Elizabeth Louden, Architect and Project Supervisor, Mary Ellen Strain, Project Foreman, and architectural technicians Clifford J. Laube and Dan Rene Valenzuela, and Jean Guarino, historian and SAH Fellow).

The National Memorial Arch, design by prominent Philadelphia architect Paul Philippe Cret, was erected in Valley Forge State Park in 1912–16 to commemorate the suffering endured by General George Washington and the Continental Army in the performance of their patriotic duty during the winter encampment of 1777–78. The arch is the largest monument in the park; constructed of Milford pink granite, it measures 61' to the top of the roof and is 49' wide at the base. Unlike the other park monuments which were funded through contributions by states or various associations, the construction of the National Memorial Arch was made possible through a congressional appropriation, and its design was approved by the Commission of Fine Arts. Cret's design was based on the Roman Arch of Titus, though its Beaux Arts interpretation gives it a more contemporary appearance. Also contemporary was the reinforced concrete structural system which used concrete beams spanning the piers of the arch to support the load, rather than the traditional use of a load-bearing arch. Ground was broken for the construction of the arch in may of 1912.

While the architectural design for the arch was well received, less successful was the design for the structural system of the arch, which has been plagued with needed repairs throughout its history. Cracks first began to appear in December of 1921, and by 1923 seepage through the masonry resulted in exposed vertical joints in the cap stones, requiring the first of many repairs. Despite numerous attempts at repointing, such problems continue to threaten the existence of the arch. HABS documentation of the arch was undertaken for the purpose of providing baseline data which will be used in the restoration effort. The drawings were produced through the use of computer-aided drafting with dimensions derived from photogrammetric images. (HABS Architects Robert Arzola, Jonathan Hodge, Frederick Lindstrom, Mark Schara, and Raul Vazquez; and large-format photography was undertaken by Jack E. Boucher).

The Southeastern Pennsylvania projects were undertaken by HABS project leaders Robert Arzola (architect) and Catherine Lavoie (historian), working under the direction of the Chief of HABS Paul Dolinsky. Project selection was coordinated by Historian Bill Bolger of the Chesapeake Systems Support Office (CHESO). The documentation of the Church of St. James the Less was made possible with financial assistance by the William Penn Foundation on behalf of the church. The documentation of the National Memorial Arch was sponsored by the Rite Worshipful Grand Lodge of Free and Accepted Masons of Pennsylvania, Edward O. Weisser, Grand Master.

The Alabama Theater

The Historic American Buildings Survey undertook documentation of the Alabama Theater. Designed by Chicago architects Graven & Mayger, the Alabama was erected in 1927 by Paramount's Publix Theater chain as its flagship for the southeastern region of the United States. The theater is a prime example of the elaborate, even whimsical mix of revival architectural styles which characterize the great movie palaces built during the pre-Depression heyday. In the succeeding decades, theater design would be inspired by the technology that drove the burgeoning film industry, taking the form of the streamlined Art Deco and Moderne styles. The Alabama is a composition of Spanish Renaissance and Baroque architectural styles, but includes decorative elements ranging from Egyptian-patterned doorway surrounds and Japanese dragons, to Celtic Coats of Arms and Colonial Revival elliptical domes. In no other type structure can one expect to find so successfully displayed a total lack of regard for continuity of design! Although the decorative elements reflect styles from past centuries, they are merely a mask for the modern steel structural system which holds it all together. The 3,000 seat theater was built to accommodate both movies—accompanied by the still intact "mighty" Wurlitzer Organ—and live theater on the Broadway circuit.

Because the architect's original plan, sectional and detail drawings still exist, HABS produced axonometric (three-dimensional) drawings which illustrate how the theater works. For as much area as the public spaces command—two lobbies, auditorium, mezzanine, balcony, lounges, and enumerable halls and stairways—even more area is needed for the behind-the-scenes operations. Axonometrics were produced to illustrate such aspects of the theater's operations as the stage and grid system, the duct work for the heating, air conditioning and ventilation systems, and the multi-layered seating arrangements and sightlines. The historical report focuses on the context of the nationwide development of movie palaces, and discusses its design and operations in terms relevant to the philosophy of theater design of that era. Large-format photography will serve as the principle means for documenting the incredible volume of ornamental detail seen throughout the theater. Once the crown jewel of an expansive Birmingham theater district, the Alabama is now the only remaining, active theater. The documentation of theaters such as the Alabama thus becomes even more important when considering the great numbers that have been altered for reuse or lost completely.

The recording team consisted of John P. White, Field Supervisor; Miles B. Battle, Roger Miller, and Jennifer I. Wimmer, architects; Terra Klugh, Historian; and Jack E. Boucher, HABS Photographer).

Catherine C. Lavoie is a HABS historian.

Richard O'Connor

United States Pipe and Foundry Company

As part of its documentation of the Birmingham iron industry, the Historic American Engineering Record prepared drawings, photographs, and a history of the cast iron pipe manufacturing process, focusing on the Bessemer plant of the United States Pipe and Foundry Company. Reflecting concerns sparked by rapid urban development and issues of personal hygiene and disease control, cities in the early-20th century turned to cast iron pipe to provide large quantities of drinking water to their rapidly growing populations. Much of that pipe was supplied by firms in the Birmingham, Alabama industrial area, and the Bessemer plant of the United States Pipe Company was one of the largest.

Founded in 1888 as the Howard-Harrison Iron Company and subsumed by the United States Cast Iron Pipe and Foundry Company in 1899, the Bessemer facility has been the site of two generations of pipe-making technology. Until the 1920s, the plant made pipe by the pit-cast method, in which iron was cast into vertical molds in sand pits in the factory floor. In 1921, United States Pipe purchased exclusive U.S. rights to the deLavaud process, in which cast iron was spun into molds spinning at high velocity. Since that time, deLavaud-process centrifugally-cast pipe has dominated the market, in diameters ranging from 4" to 60".

The Bessemer plant is housed in the original buildings of the Howard-Harrison Iron Company. In addition to the large selection of deLavaud machinery, cupolas, and proprietary mixing, desulfuring