The DIAMOND STREET *Historic District*

A Guide for Property Owners

Philadelphia Historical Commission

Contents

Introduction 1
Diamond Street District Map 3
Diamond Street History 4
Roofs, Cornices, and Related Elements 6
Masonry 11
Windows 16
Doorways 20
Stoops, Railings, and All the Rest 23
Storefronts 25
New Construction 27
Selecting and Working with Building Professionals 29
Architectural Styles in the Diamond Street District 32
Glossary 36
Preservation Resources 41
For Further Reading 43

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Introduction

A historic district is a sum greater than its parts. Its character derives from the cumulative impact of many historic buildings and structures maintained with sensitivity to their architecture and surroundings. Those who live, work, or own property in a Philadelphia historic district can have more confidence that their community will retain its special quality because the Philadelphia Historical Commission offers tools to help protect it from inappropriate alterations, thoughtless demolition, and insensitive new construction.

There are other benefits to being part of a Philadelphia historic district. Property owners and architects, developers and contractors working in the district can consult with the Historical Commission for technical, architectural and historical advice. Experience in other cities has shown that historic district designation often boosts property values and stimulates investment. Economic Benefits of Preserving Philadelphia's Past, a study published by the Preservation Alliance for Greater Philadelphia in 1998, demonstrated that Philadelphia's historic districts are more stable and retain more of their residents when compared with the city as a whole. They also attract more new residents than other neighborhoods. And they are among the city's most racially, economically, and educationally diverse communities. Most of all, historic districts foster community pride and help improve and maintain the quality of life.

There are some restrictions and a few extra steps if work that affects a building's exterior appearance is planned; however, the regulatory process is not burdensome, and the Historical Commission and its staff approach their job in a reasonable and practical way, with an understanding of contemporary living requirements.

Using This Manual

This manual serves as a practical guide for property owners in the Diamond Street Historic District. It explains the regulatory process involved in obtaining approval for projects in the historic district, and lists the types of work that may require Historical Commission review. It addresses the issues that most commonly confront the owner of an historic property, but old buildings often present unique and unpredictable situations that may not be included here. Nor does the general guidance provided here constitute or guarantee specific Historical Commission approval for a particular project. The best strategy is to consult the staff of the Historical Commission when you are planning to undertake work on your property.

This manual also provides information on the proper maintenance of historic buildings, and guidance on approaches to restoration and rehabilitation that the Historical Commission finds most successful. In general, property owners in Philadelphia historic districts should bear in mind that regular building maintenance is preferable to – and often obviates the need for – repairs; that repair of historic building fabric is preferable to replacement; and that replacement in-kind or restoration to the original appearance is preferable to alteration.

What is Regulated?

Under city law, the Philadelphia Historical Commission reviews all applications for work on any building, structure, site, or object, listed on the Philadelphia Register of Historic Places individually or situated in a local historic district, that alters the exterior appearance or for which a building permit is required.

No other city in America can furnish such abundant and diverse material for an architectural retrospect. No other city in America is so conservative or has kept intact so much of the work of each succeeding period. It is a veritable paradise wherein architects may survey styles past and gone. ("Architectural Philadelphia Yesterday and Today," by Coften Fitzgerald, *Architectural Record,* July 1913)

Building permit applicants start at the Department of Licenses and Inspections (L&I) and are referred routinely to the Historical Commission if the property is individually designated or is located in a historic district. Common applications include permits to: replace doors, windows and roofing materials; add security features; or erect a building addition. A building permit is also required for demolition or new construction in a historic district.

Alterations that affect the exterior appearance of a designated property – back, sides and roof, as well as the street facade – also require Historical Commission approval even if a building permit is not otherwise required. Such alterations include, but are not limited to, replacing windows, cleaning or repointing masonry, and painting facades. If you plan work that in any way affects the exterior appearance of your building, check with the Historical Commission. Interior work is reviewed by the Historical Commission only to ensure that the exterior is not adversely affected. For example, a kitchen remodeling might involve altering a window.

The Historical Commission is guided in its evaluation of applications by Section 14-2007 of the Philadelphia Code (widely known as the Preservation Ordinance), its Rules and Regulations, and *The Secretary of the Interior's Standards for the Treatment of Historic Properties with Guidelines for Preserving, Rehabilitating, Restoring & Reconstructing Historic Buildings*, published in 1995 by the National Park Service. All are available from the Historical Commission office.

The Application Process

Whether you are referred by L&I or bring your application directly to the Historical Commission, it is a good idea to consult with the Commission staff early in the planning process for guidance on preparing the application and providing all necessary support documentation. The Historical Commission returns incomplete applications with a request for additional information.

Along with a completed building permit application, available from the Historical Commission or L&I, you will need to provide the Historical Commission with the following documentation: dated and labeled photographs of the present condition of all locations where alterations are proposed (these pictures will remain the property of the Historical Commission); an item that demonstrates the proposed materials and design (for example, a catalog photograph, a roofing shingle, or a detailed drawing); and, a cover letter that describes the proposed undertaking and any special circumstances you want the Historical Commission to consider. Depending on the nature of the alteration, you may also be asked to provide additional information, such as scaled drawings, plans, or specifications. Contact the Historical Commission for further details before you plan to submit an application for review.

The timetable for approval depends on the complexity and nature of the project. Alterations to secondary elevations that are not visible from public right-of-ways or for interior work that will not affect the exterior are reviewed and approved within five working days by the Historical Commission staff.

More complicated applications are considered by the Historical Commission's Architectural Committee, a technical advisory committee, and then by the Historical Commission itself. You or your representative will be asked to appear at the Committee's monthly public meeting to describe the proposal and answer questions. The Committee will subsequently make a recommendation to the full Historical Commission which formally votes on the proposal.

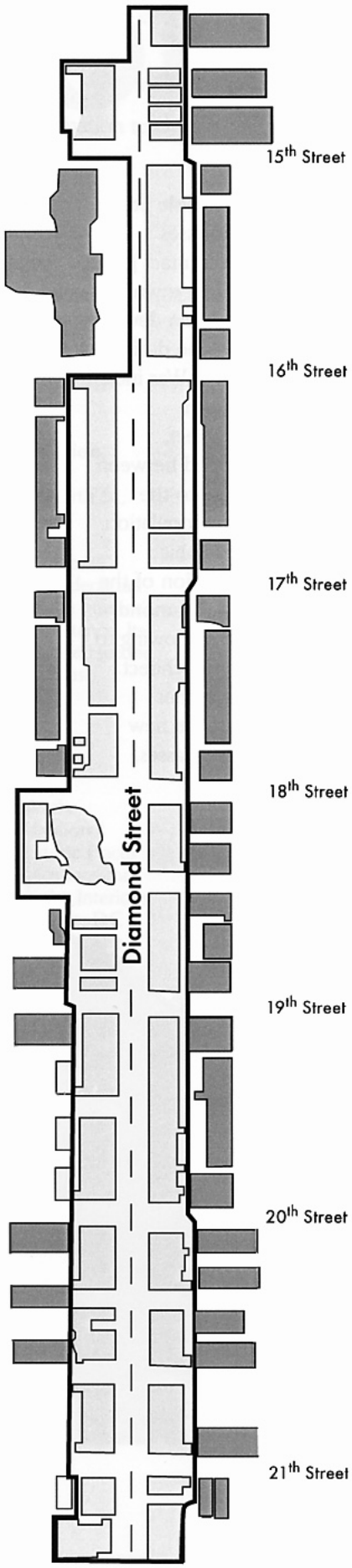
The Historical Commission will weigh the recommendations of the Architectural Committee and Commission staff with its own judgment at its next monthly public meeting, usually within two weeks, and will decide whether to approve, reject, defer for no more than six months, or request resubmission of the application. The Historical Commission must vote on the proposal within 60 days of receiving the completed application.

If the Historical Commission approves the proposal, a permit can be issued immediately. If revisions to your plans are suggested, the Architectural Committee and Historical Commission staff will work with you to revise your plans so that the work will be acceptable. If approval is denied, you may appeal to the Board of License and Inspection Review within 15 days.

The law contains provisions for postponing applications and for hardship situations. Contact the Historical Commission for more information.

by Elise Vider, Center City District

The Diamond Street Historic District



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DIAMOND ST

Most of the houses in this city are built on a uniform plan, being generally three stories high. Within the last few years, however, there has been a decided advance in the style of building, and our streets are now being adorned with edifices that are unrivaled for taste, elegance, and convenience. (*The Stranger's Guide in Philadelphia*, 1863)

History

Diamond Street, from Carlisle Street to Van Pelt Street, possesses significance as the most intact grand avenue of speculative Victorian townhouses in North Philadelphia and as a development of the city's nouveau riche during the expansive era of post-Civil War industrialization. Like much of North Philadelphia west of Broad Street, Diamond Street was developed between 1875 and 1900 as a response to the dramatic growth of the city's population, the drastic changes in Philadelphia's economic base, and the extension of the public transportation system. Diamond Street stands out in this context owing to its extraordinarily large, often architect designed, rowhouses and churches erected to attract the elite of the new entrepreneurial upper-middle classes.

During the second half of the 19th century, Philadelphia became the second largest industrial city in the country. The industries created not only blue collar jobs for the swarms of native born migrants moving into the city and thousands of immigrants streaming in from Europe, but also managerial positions to administer the factories. This, in turn, led to the demand for professional services by lawyers, bankers and physicians as well as an expansion of retail businesses. The high-paying employment opportunities created a class of people that could afford to purchase substantial new houses, and developers built Diamond Street for this market.

Even with the increased demand for new housing, Diamond Street could not have developed as a purely residential neigh-

borhood without the extension of the streetcar system. Relatively few Philadelphia families possessed the funds to maintain horses and carriages, and the cost of riding streetcars before electrification proved prohibitive for the working classes. Most Philadelphians walked to work and lived within a reasonable distance from the factory or shop. The development of Diamond Street coincided with the penetration of streetcar routes along 15th and 17th Streets north to Susquehanna Avenue, just one block north of Diamond Street. This facilitated affordable commutation to Center City and other places of employment; indeed, it made Diamond Street possible.

The speculative real estate developers who built the houses of Diamond Street took full advantage of the potential grandeur of this wide avenue to Fairmount Park to erect large-scale, high-fashion houses to attract the newly moneyed homebuyer. The three-story houses stand 18 to 20 feet in width and 65 to 80 feet in depth. Although the houses share brick construction with those found throughout the city, there is a higher proportion of houses faced with stone, such as serpentine, brownstone and marble, than on most other streets in North Philadelphia.

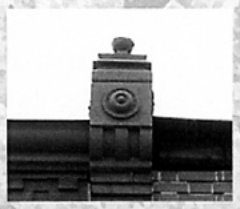
As a major east-west street, Diamond Street provided a natural location for several important North Philadelphia churches. The Park Avenue Baptist Church, the Union Methodist Episcopal Church, and the Episcopal Church of the Advocate, a National Historic Landmark, are outstanding examples of ecclesiastical architecture. These lavishly designed churches by important Philadelphia architects reflected the wealth of their congregations.

Although Diamond Street, like much of North Philadelphia, suffered economically when industries fled Philadelphia, many people are reinvesting in the district. Most of the grand houses remain and many have been rehabilitated. Unfortunately decay and disinvestment has led to the demolition of several blocks of the Diamond Street Historic District. However, this has created the opportunity for the development of contemporary rowhouses, such as those on the 1600 block.

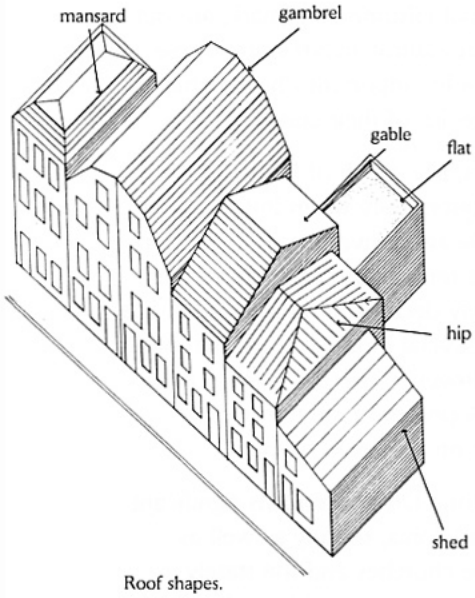
The Diamond Street Historic District remains significant in the history of the Philadelphia, socially as well as architecturally. The ornate churches and the stately rowhouses offer a glimpse into the wealthy industrial past of North Philadelphia.

adapted from the Diamond Street Historic District nomination

Roofs, Cornices, and Related Elements



The Roof of a House is only next in importance to the foundation. A good Roof can only be obtained by the selection of proper material and careful workmanship. (Advertisement for T.S. Johnson, Metal Roofer, *Philadelphia Real Estate Record and Building Guide*, 23 April 1890)



Roof shapes.

The roof of a historic building, along with cornices, pediments, dormers, and other ornamental details, is critical to the architectural character of the structure and urban streetscape. The shape (gabled, hipped, etc.), material, pattern, color, and texture of a roof greatly affect a building's appearance. The roof is also critical, serving as a building's first line of defense against the weather, and taking the heaviest beating from the sun, wind, rain, snow, and ice. The preservation of any structure – regardless of age, size, or design – is dependent upon a weather-tight roof that protects the building from the elements, and a rainwater conduction system that directs water away from the exterior walls. Yet the roof and its associated structures are among the most vulnerable elements, and they must be maintained vigilantly to prevent the destructive effects of water.

What Causes Leaks?

Typically, moisture penetration, causing the accelerated deterioration of the structure, is the result of one of the following problems:

- faulty, clogged, or missing gutters or downspouts;
- damaged or deteriorated roof structure, coverings, and/or fasteners;
- deteriorated or missing flashing at the intersection of roof planes or penetrations such as dormers, vents, or chimneys;
- damaged or deteriorated dormers, skylights, hatches, or roof ornaments;
- deteriorated chimneys, parapet walls, cornices, and/or associated flashing.

Routine Maintenance

Even the highest quality roof will not protect a building effectively from the elements without proper maintenance. All roofs should be inspected at least twice a year. Look for slipped, missing, or damaged shingles, which should be repaired or replaced as quickly as possible to prevent leaks and water damage. Periodic inspections of the underside of the roof from the attic space following a storm or freezing temperatures may provide early warning of potential leaks or condensation caused by inadequate ventilation.

Gutters and downspouts should be inspected at least twice a year, more if they clog with leaves and debris from nearby trees. The installation of gutter screening at downspouts and over the full length of open gutters can minimize such clogging, although they will still need frequent cleaning.

Roofing Materials

A very low sloped roof, which is invisible from the street, characterizes the typical Diamond Street rowhouse. There are many buildings, however, in which steep and complex rooflines are an integral part of the architecture.

Flat roofs (they actually have a slight pitch) are usually covered with built-up roofing, which consists of alternating layers of waterproof membranes and bituminous materials. These roofs deteriorate by blistering and cracking. Flat, built-up roofs can be repaired by adding layers of waterproof membranes over the existing roof. However, after two layers, the Philadelphia Building

Code requires that the old roof coverings be removed down to the underlying wood sheathing before applying a new roof to keep things watertight and to reduce the weight of the roofing material.

Historic roofing materials for **sloped** roofs that are typical to Philadelphia include slate, tile, and metal. The life span of roof material depends on many factors, including its weathering properties, the method used to fasten the material, and the roof configuration and orientation.

The varied colors and shapes of **slate** shingles enliven many of the historic houses of urban Philadelphia. This masonry roofing material was popular because of its aesthetic potential as well as its durability and fireproof qualities. Depending upon the type of slate used, the life expectancy of a slate roof ranges from 80 to 125 years. Although installation and material costs are high, slate roofing requires minimal maintenance, is extremely resistant to erosion, and is more economic in the long term. Over many years, however, slate will begin to de-laminate (peel off in layers). Sometimes, individual slates will loosen due to the failure of the fasteners.

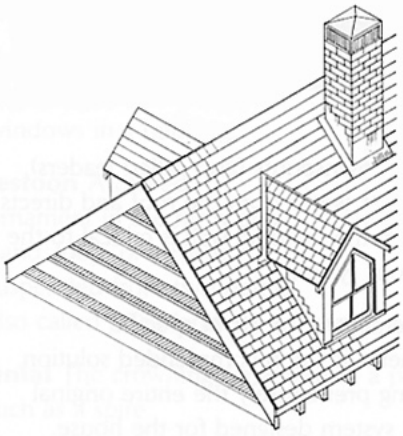
Clay or terra cotta tile roofs also appear on some historic Philadelphia houses. If maintained properly, their life span is approximately 125 years. Like slate, tile is resistant to erosion; however, tiles are very brittle and can easily crack or shatter.

Metal roofs shed water effectively from a relatively shallow pitch. Historic metal roofs typically consist of sheets that are about two feet wide, joined by a full-length soldered seam, either "standing" or "folded." The metal is usually lead, copper, sheet iron, or galvanized steel plated with tin or terne (an alloy composed of lead and tin). If painted every eight to ten years to prevent corrosion, a metal roof will last 60 to 80 years. Typical causes of deterioration include puncturing by sharp objects, nails, or workers' feet and the breakdown of the metal by urban pollutants.

Asphalt and fiberglass are modern roofing materials, with a life span of about 15 to 35 years. Typical deterioration patterns include splitting, curling, eroding, or disintegration from continued exposure to the weather. Installation of asphalt and fiberglass is less labor intensive and, consequently, less expensive than the historic materials listed above.

Asphalt and fiberglass roofing is produced in long sheets, designed to give the appearance of individual shingles. Some varieties try to simulate historic materials, with varying degrees of success. However, their use as substitutes for historic roofing materials is usually discouraged, particularly on visible street facades.

Flashing



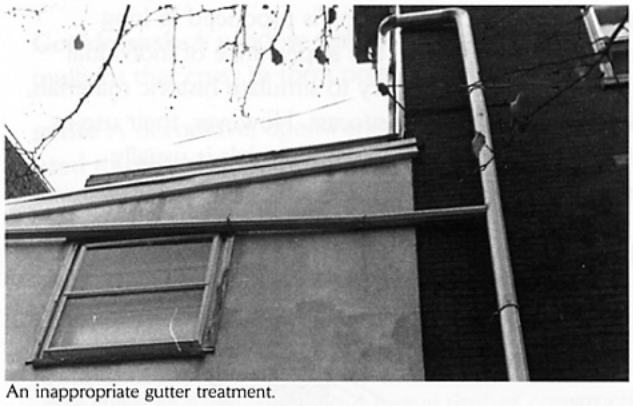
Flashing protects roof intersections from water penetration. Here, valley flashing is used at the dormer gable and step flashing alongside the dormer and chimney.

Flashing, one of the most important and vulnerable parts of a roof system, consists of strips of sheet metal inserted at the intersection of roof surfaces or where the roof is penetrated by dormers, vent pipes, chimneys, etc. Typically, the roofing material should overlap the flashing by a minimum of four inches. Cap flashing seals the tops of cornices and walls.

Failure of the flashing is one of the major causes of roof deterioration and leaks. Flashing should be inspected periodically for deterioration due to poor design or workmanship, thermal stress, or metal decay of flashing material or fasteners. All deteriorated or unfastened flashing should be replaced or repaired immediately. Small holes can be repaired with sheet metal patches. Depending on the flashing material, it may be advisable to apply a metal preservative paint.

Replacement of flashing on an existing roof may require the removal of large sections of the roof surface. When installing a new roof, make sure that top quality flashing is used, and that the roofing contractor is fully knowledgeable about the importance of flashing in maintaining a watertight roof.

Rainwater Conduction System



An inappropriate gutter treatment.

The system of gutters, downspouts (also called leaders), and drains which collects water from the roof and directs it down and away from the building wall is critical to the effectiveness of any roof system.

In general, the replacement or repair of specific, individual failed elements is the recommended solution, rather than abandoning prematurely the entire original rainwater conduction system designed for the house. All replacement components should match the profile, materials, and dimensions of the original elements.

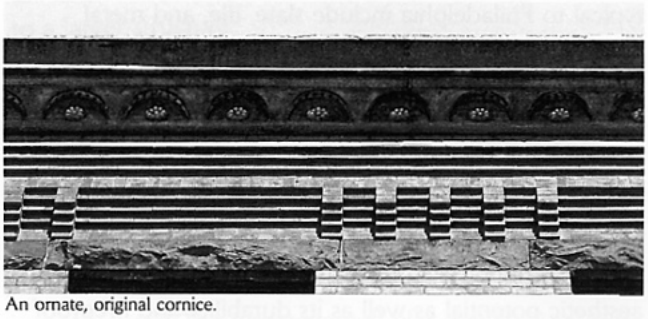
If it is necessary to add gutters and downspouts, they should be visually unobtrusive, have historically appropriate forms, and should not obscure the architectural detail or character of the building. To the extent possible, all downspouts should be located at inside corners and on side elevations, rather than on the front facade of the building. They should be painted to blend with the facade or other trim.

The rainwater conduction system should be inspected and thoroughly cleaned at least twice annually; more often if trees surround the building. Leaves, twigs, and debris can quickly clog drains and cause overflows. Particular vigilance is required to ensure that internal gutter systems are maintained in good working order because failure can allow unseen water damage to structural components within the building. These simple maintenance steps can prevent much unnecessary and costly water damage, including peeling paint, rotted wood, and crumbling masonry.

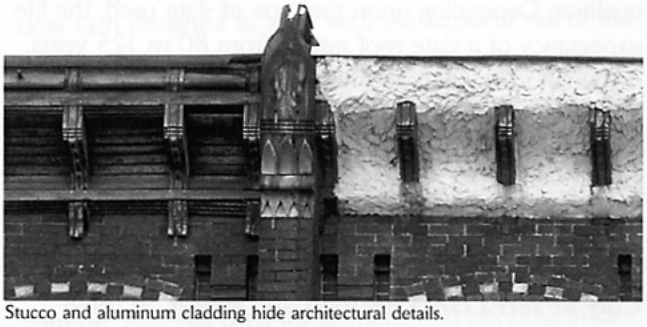
Cornices

Roof cornices and parapets are major architectural features and contribute significantly to the rhythm and continuity of Philadelphia streetscapes. Removing or covering them with aluminum or vinyl siding devastates the appearance of the individual building and compromises the entire block; their removal exposes the building facade to excessive weathering.

Cornices should be kept well sealed and periodically repainted. Their removal, alteration, or obliteration with siding is inappropriate. Not only does an intact cornice preserve the appearance and character of a historic building, it prevents water from washing down the front facade.



An ornate, original cornice.



Stucco and aluminum cladding hide architectural details.

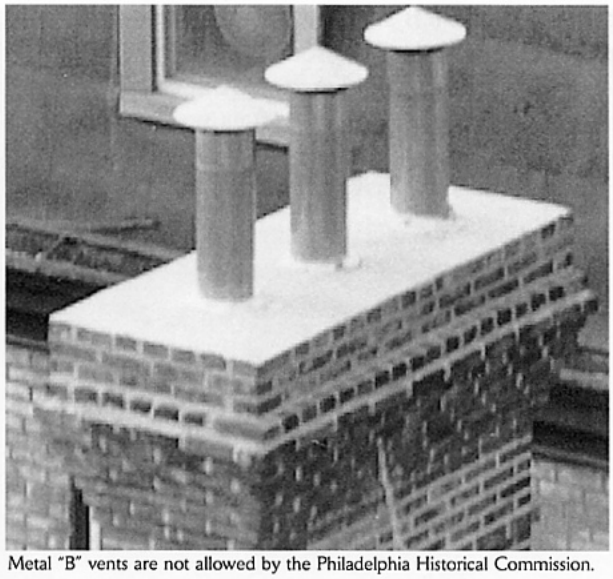
Cornices are usually constructed of wood or sheet metal, although there are cornices of cast iron and copper throughout Philadelphia. Deteriorated cornice elements should be replaced with matching material. If it is absolutely necessary to remove an existing cornice, it should be replaced with a substitute that matches the profile and detailing of the original. Replacement cornices are available in alternative lighter weight materials such as fiberglass and glass fiber reinforced concrete (GFRC).

Parapets are almost always built of masonry and require adequate flashing where they meet the roof. The coping on parapets, and joints between coping and wall, should be kept well sealed and in good repair to prevent water from leaking through the roof and into the building.

Dormers, Chimneys, and Other Roof Elements

Dormers, chimneys, and roof ornaments such as finials, iron cresting, crockets, ornamental ridge tiles, dormer brackets, etc. give character and style to buildings and should not be removed or altered. Dormers are usually constructed of materials used throughout the rest of the building. Chimneys are almost always constructed of brick and lined with mortar, tile, ceramic, or metal flues.

Deterioration and leaks at dormers, chimneys, and other roof elements typically originate at the flashing at the juncture point with the roof. Moisture infiltration may also occur at the top of the chimney. Water travels down the sides of the flue, soaking the chimney wall and into the building. This source of water penetration can be prevented if the chimney is lined with an impervious clay flue liner, which is as close to the original size as possible. A properly installed flue liner also protects the exterior brick, and ensures safe chimney operation. The Historical Commission does not approve metal "B" vents sticking out of chimneys. Instead, use terra cotta liners or cut a metal liner below the brick. A proper chimney cap prevents the entry of rain or snow, and permits adequate ventilation. Installation of chimney liners and caps is a job for a skilled professional to make sure that the chimney operates safely.


Metal "B" vents are not allowed by the Philadelphia Historical Commission.

Other sources of water infiltration at chimneys include open and deteriorated mortar joints. These should be repaired to match the color, texture, tooling, and constituent composition of the original mortar, as described in the chapter on Masonry. Covering masonry chimneys with tar, cement, or stucco is not recommended. Even unused chimneys should be kept in good repair, and capped to allow for adequate ventilation.

Chimneys, dormers, skylights, hatches, finials, and crestings, etc. are particularly vulnerable to the deteriorating effects of the weather and should be periodically inspected and maintained to stay watertight.

Antennae and satellite dishes should be installed so they are not visible from the street.

A Word About Metal Roofing Materials

All replacement metals on roof and rainwater conduction systems should match or be compatible with the original metals. Contact between non-compatible metals can create a galvanic action, which will cause the metal to corrode. For example, when new aluminum downspouts are fastened to original copper gutters, an electrolytic reaction will quickly corrode the aluminum parts. Some roofing materials will similarly corrode metal fasteners or flashing, so it may be necessary to coat the metal parts.

Repair and Replacement of Historic Roofing Systems

Repair of damaged or deteriorated sections of original roofs saves money and preserves the character of the building. Eventually, however, all roofs require replacement. New work should be compatible with the historic and architectural character of the building, and original detailing should be saved or replicated wherever possible.

Individual slates and tiles may fall from time to time. This does not mean the roof itself is failing, but rather that the fasteners (usually nails) that hold the slates and tiles in place have rusted. It is usually more cost effective to hire an experienced roofer to replace dislodged slates and tiles – on an annual basis, for example – than to replace the entire roof prematurely.

Slate, clay, or terra cotta tile roofs are brittle and cannot be walked on without the risk of cracking and breaking. To perform repairs on these roof types, wide planks can be laid over the roof surface or scaffolds and other devices installed.

The common practice of coating a historic slate, tile, or metal roof with tarpaper or other bituminous material should be avoided. The bituminous material not only compromises the architectural integrity of the historic building, it also damages the original material, and is an ineffective and short-lived sealer that does not prevent water infiltration.

When repair is no longer practical, the ideal course is to replace the roof with historically accurate materials. These may be more expensive than modern materials, but have a far longer life span. Clues to the appearance of the original roof may be obtained by studying neighboring or similar houses, from historic photographs, or by consulting with the staff of the Historical Commission. Often, the historic roof is still in place, hidden under layers of newer roofs, and can be studied by removing a section of the later material. When a roof

is being replaced, it is advisable to go to the extra expense of removing all old roofing so that the underlying sheathing material can be inspected and repaired or replaced if necessary. Built up layers of roofing also make it difficult to trace and correct leaks later.

If a modern alternative must be used on a roof that is visible from the street, careful consideration should be given to matching the scale, texture, configuration, profile, detailing, and color of the original as best as possible. Contact the Historical Commission for alternatives.

by Lisa Soderberg, Hillier

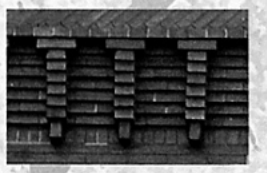
Not Subject to Philadelphia Historical Commission Approval

Minor patching of roofs, cornices, or other decorative elements to restore their original appearance
Replacing or repairing flat built-up bituminous roofs
Routine maintenance

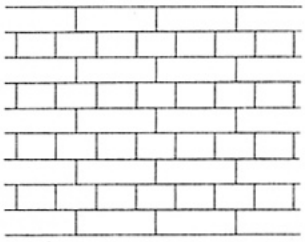
Subject to Philadelphia Historical Commission Approval

Constructing roof hatches, decks, or skylights
Altering or removing dormers, dormer windows, chimneys, or other roof elements
Replacing roofing material
Replacing surfaces or decorative components of cornices
Replacing entire cornices (with an exact replica of appropriate design) or major repair to cornice
Repairing or replacing flashing if large portions of roof are removed
Replacing or repairing skylights, chimneys, roof hatches, and other features
Re-setting and repointing coping stones on parapet walls
Installation of antennae or satellite dishes

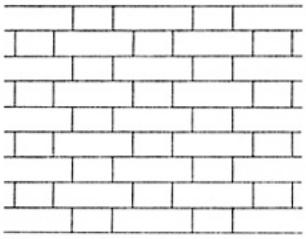
Masonry



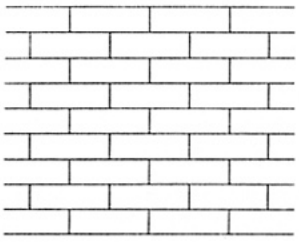
We make some three hundred kinds of Bricks, in Shapes, Ornaments and Colors, enabling the skillful Architect to produce effects impracticable with other materials, and combining the desirable elements of indestructibility, elegance and economy. (The Peerless Brick Co., Philadelphia, 1888 trading catalogue)



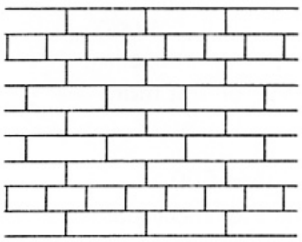
English bond



Flemish bond



Running bond



Common bond

Brick bond patterns.

The houses in the Diamond Street Historic District have an unusual mixture of masonry materials, including brick, brownstone, and stucco. This variety complements the different architectural styles found within the district and contributes to the neighborhood's rich texture and solid presence.

Maintaining Masonry

Masonry is defined as the work of the mason using a wide variety of natural and man-made building materials such as stone, brick, concrete block, tile, etc. Masonry is one of the most durable of building materials, and, when properly maintained, can last indefinitely; but it is susceptible to deterioration from weather and pollution and improper repairs. Acid rain, airborne pollutants, wind, salting of sidewalks, fungi, and plants can all leave masonry vulnerable to water penetration, and inevitable freezing and thawing will ultimately damage any form of masonry.

The first line of defense, therefore, is to keep masonry as dry as possible. Roofs, gutters, cornices, and downspouts should be vigilantly maintained (see Roof chapter) to prevent moisture penetration, and storm drains should be kept clear to help keep foundations dry. It is also essential that the mortar (or "pointing") surrounding masonry units be kept in good repair.

Common Masonry Materials

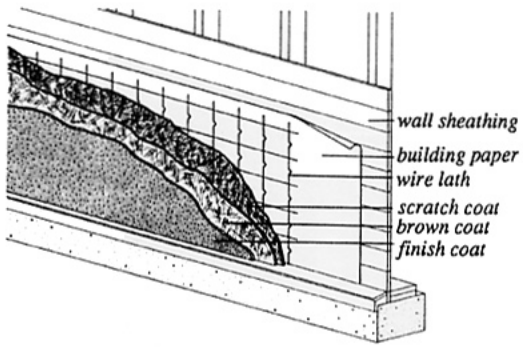
Brick is the predominant building material throughout Philadelphia, testimony to the abundance of good, cheap local clay. Until just before the Civil War, brick was molded by hand, resulting in a relatively soft and porous brick that was somewhat irregular in shape and color. Machine-made brick is harder, more uniform, and less porous.

The hardest, best quality bricks were usually reserved to face exposed facades. Softer, so-called salmon brick (also called common brick) was relegated to unexposed areas such as party walls between houses.

The "bonding" pattern in which brick is laid in a wall provides visual interest and characterizes various styles of architecture. Bricks that are exposed to excessive moisture can flake or disintegrate into powder. Abrasive cleaning, especially sandblasting, makes bricks more susceptible to this type of deterioration (See section on Cleaning).

Sandstone has a coarse, grainy texture and matte appearance. Brownstone is the common name for the brown (or, occasionally, red, purple, or green) sandstone which was popular as both trim and facing in the late 19th century and abounds in the district today. A porous material, brownstone easily absorbs moisture, allowing sub-surface freezing and expansion. This expansion may cause erosion and spalling, a process in which the stone comes apart layer by layer.

Stucco is an exterior wall covering consisting of Portland cement, lime, sand and water. Old stucco might also include binders of animal hair, straw, pebbles, bits of



brick or coal, or even seashells. Stucco is traditionally applied in three coats directly over brick or stone rubble walls with a finish that is either smooth, scored to resemble stone, or rough-textured. Stucco tolerates movement and allows moisture to pass to the wall surface and evaporate. Nevertheless, it is not advisable to stucco a brick façade because it will alter the historic appearance and may damage the brick and conceal structural problems.

Schist or Wissahickon schist is a stone quarried in Eastern Pennsylvania. The sparkling silver cast of the stone comes from its high mica content. Schist was often used in residential architecture, especially in the suburbs surrounding Philadelphia.

Terra cotta is a man-made clay product often used to imitate carved stone for decorative elements, although it was occasionally used as a veneer for entire facades. Terra cotta may be glazed or unglazed, molded or carved and may be any color from white to brownish red.

Granite is a natural stone, prized for its hardness and durability. Its visual characteristics include a wide range of color from gray and blue-gray to red and black, a glossy or matte finish, and a speckled appearance. Granite is expensive to quarry and difficult to use, and it is found mostly as trim on institutional buildings and as curbing.

Limestone was commonly used for lintels, windowsills, and watertables and occasionally as face material on institutional buildings and late 19th-century houses. Limestone is easy to work with, but is vulnerable to pitting as well as acid rain, which converts it to friable gypsum. Limestone colors include brilliant white, cream, and gray.

Serpentine is a light-to-dark green, granular stone that was popular in the late 19th century as both trim and facing material. A relatively soft stone, it is highly vulnerable to decay caused by the freeze-thaw cycle and further exacerbated by the effects of acid rain.

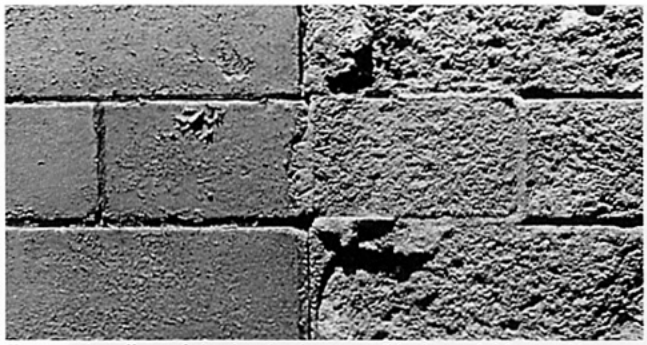
Marble is used primarily as building ornament and for steps, water tables, windowsills and lintels. It is susceptible to damage by airborne pollutants and paint removers.

Cleaning

Cleaning masonry can result in serious problems that far outweigh any aesthetic gains. For this reason, it always requires review by, and a permit from, the Historical Commission before work begins. Brick is especially vulnerable because it has a hard, protective surface formed during the manufacturing process that can be damaged by cleaning, leaving the wall unprotected against the effects of moisture and atmospheric pollutants. If cleaning is necessary to remove graffiti, waterproof or anti-graffiti coatings, grime, or staining from metal or biological growth, the gentlest method should be used. Consult with the staff of the Historical Commission before undertaking any cleaning and keep in mind that most masonry cleaning is a job for experienced professionals who should do a patch test before proceeding.

A natural-bristle brush, mild household detergent, and buckets of water are all that is needed to clean masonry in a majority of cases. If this method fails to produce satisfactory results, a practiced contractor can test more aggressive methods.

A low-pressure water wash at no more than 500 pounds-per-square inch (psi) can be used for most materials, but even at this pressure, the water can remove the surface of soft brick and mortar. A high-pressure water wash (above 500 psi) is not allowed; this method can



The negative effects of abrasive cleaning or sandblasting on brick are evident on the right.

cause water to infiltrate the building, abrade the masonry surface, dislodge soft mortar, and break carved details. Spraying or dripping water at a low pressure and volume over a prolonged period avoids the abrasive effects of pressurized washing, but the resulting saturation of the facade may cause mildew, rusting of metal inside the wall, or damage to the interior. Steam cleaning is another option, used only for special problems of oily stains or intricate surfaces, since it is generally no more effective than pressurized water washing.

A number of chemical cleaning products are available, all involving wetting the surface with water to avoid excessive penetration of the chemical and rinsing with a low pressure water wash. Application of these products is strictly a job for skilled professionals, and requires careful testing.

Poultices are chemical pastes that draw stains from masonry as they dry. They are used mostly for spot cleaning or where the extensive use of water is impossible.

Depending on its nature, graffiti can be removed from masonry surfaces with various methods. Use the gentlest method possible and test carefully on a small, inconspicuous area. Small amounts of graffiti can often be removed by a capable do-it-yourselfer, using readily available commercial products. Do not use steel wool, wire brushes, baking soda, or anything abrasive and make sure to wear protective clothing, eyewear, gloves and a facemask.

Removal of more extensive graffiti is a job best left to a skilled professional. Make sure the contractor tests carefully, paying particular attention to whether the product leaves a faint image (a "ghost") or causes the graffiti to spread.

Abrasive cleaning in the form of sandblasting, or the use of any type of abrasive grit, is damaging to masonry and should be avoided under all circumstances. Abrasion erodes the surface of the masonry and opens mortar joints, allowing moisture penetration, and obliterates carvings and details.

Masonry Coatings and Paint

Masonry needs to "breathe," so that any moisture in or behind the masonry can escape through the surface. The many commercial masonry coating products, including waterproofing sealers, water repellents, graffiti protectors, consolidants for deteriorating masonry, and even paint, are more likely to trap moisture and eventually harm the wall or migrate back to the interior, causing interior damage. Even water-repellent masonry coatings that claim to be "breathable," allowing water vapor to pass, are not recommended. Masonry coatings are rarely necessary or effective.

Furthermore, masonry coatings may alter the color and appearance of historic masonry and cause permanent maintenance headaches, attracting dirt, forming a patchy appearance as they age, and proving difficult or impossible to remove.

The use of all masonry coatings should be avoided, except under special circumstances (such as where a brick wall has been damaged by sandblasting), and only after consultation with the staff of the Historical Commission.

Painting brick or stone may seem innocuous, but in fact paint can create an impermeable film and cause serious moisture problems and spalling. Painting also requires subsequent maintenance because, like all surfaces, masonry will need periodic repainting. Finally, paint radically changes the appearance of historic masonry.

Sometimes, however, paint removal is not recommended. Paint that is firmly adhered may actually protect poor quality or damaged masonry, and many paint-removing techniques are destructive to brick and other masonry surfaces. If painted masonry needs repainting, it is important to use a paint that is designed for masonry and does not create an impermeable film. Avoid epoxies, most alkaloid paints, or any textured paint. The color should be similar to the original masonry.

Masonry Repair

Repair of damaged masonry is a specialized job for a skilled professional. Masonry consolidants such as silanes, acrylics, and epoxies penetrate the pores of the stone, making it stronger and resistant to further deterioration. Inappropriate application of these materials can result in further damage to the stone, changing its appearance and making it less breathable and more vulnerable to damage by frost. Missing masonry elements can be replaced with carefully crafted, molded cement patches that incorporate powder of the replaced masonry.

Broken masonry can sometimes be repaired using new or salvaged materials by attaching broken elements with

non-corroding pins or a non-rusting material scored for proper anchorage. Use epoxy mixed with the powder of the masonry being patched to bond the joint between the two pieces. Care should be taken not to patch across mortar joints because these joints need to remain flexible. The mortar joint should be filled with a matching mortar and the masonry patch should replace only the material that is missing. This method is best used for decorative pieces and is not practical for repairs of masonry that cannot be matched.

An alternative method for more general use, particularly effective with brick, is to remove the unit of masonry that is damaged to its full depth or to sound subsurface material. Replace with the new or salvaged material using a traditional bedding mix. Again, care should be taken to maintain the mortar joint.

All cracks should be evaluated for underlying structural problems and any such issues should be addressed. Generally, the wider and longer the crack, the more serious the problem. Cracks usually appear at corners, in arches, or where different building materials meet.

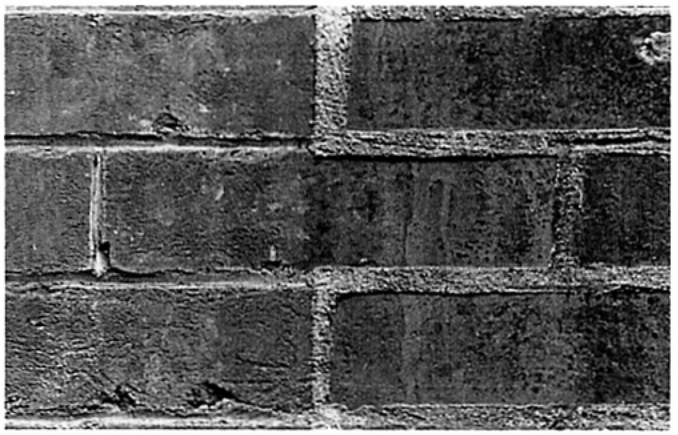
The procedure for patching damaged areas of stone or resurfacing an entire façade is essentially the same. Because the repair of small patches of deteriorated stone is as complicated as resurfacing a whole façade, qualified contractors should be retained for any work involving stone repair. To retain as much original fabric as possible, only those areas of a building's masonry façade that are deteriorated should be replaced.

Resurfacing and patching work should only take place when the exterior temperature remains 45-degrees Fahrenheit or above for a 72-hour period after the commencement of work, or the materials will not properly cure. The Historical Commission requires that a sample patch be reviewed and approved by the Commission staff before the work begins.

Repointing

Like the flexible ligaments that bond bone to bone in the human body, mortar is a malleable substance that bonds bricks or masonry units to one another. Repointing, sometimes called tuck pointing, is the process of removing deteriorated mortar, and replacing it with new mortar.

It is essential that mortar – like human ligaments – be flexible to protect the masonry – the bones – that surrounds it. Masonry walls must be able to move slightly in response to the small movements caused by fluctuations in temperature, building settlement, and vibration. If the mortar is too strong, such movements will cause the masonry to crack or spall. Instead, the mortar

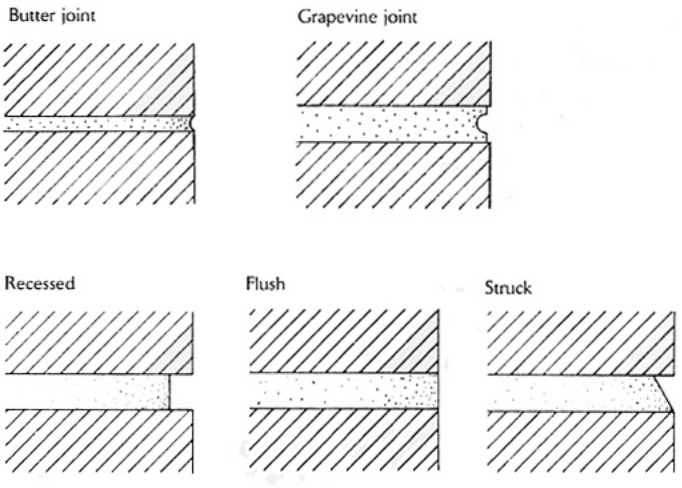


In a good repointing job (left), the new mortar matches the existing mortar in color, hardness, and joint profile. A poor repointing job (right) can destroy the original appearance of the building. Here, the mortar joints are too wide and the composition of the mortar is too hard.

should be sufficiently soft to absorb such movements. It is much less expensive and invasive to repoint a wall than to rebuild it.

Removal of the mortar is best done by hand; however, mechanical removal for horizontal joints only may be attempted if a thin diamond or carbide blade is used and sufficient skill can be demonstrated by the mechanic on a test patch at the site and on past projects. Care should be taken to remove only the old mortar and at a depth of $2\,^1/_2$ times the height of the joint or deeper to sound material. (Typically $^1/_2$ to $^3/_4$ inches deep for brick and 1 to 2 inches for stone.) Any damaged brick must be replaced because the absence of the protective skin of the brick will lead to failure.

Application of new material should be demonstrated on a test patch with attention given to matching color, hardness of the mortar and the joint profile.



Mortar profiles

A tested mortar mix for most 19th-century buildings, recommended by the New York City Landmarks Preservation Commission, is as follows:

1 part Portland cement (ASTM C - 150, Type I)

$2\frac{1}{2}$ parts lime

5-6 parts sand

- parts are by volume;
- mix dry ingredients first before adding potable water;
- use dry pigments (natural or synthetic stable oxide pigments) to tint or color mortar;
- mix all ingredients thoroughly

Individual mortars will vary according to the type of aggregate (sand, pebbles or even shells) used and experimentation will be needed for a good color match. This mix is for a mortar that is softer than the surrounding brick and avoids the danger of using too much cement. A cement-rich mix will be harder than the surrounding brick and is unable to expand and contract at the same rate as the brick. This causes damage to the brick or hairline cracks that will allow water to infiltrate the wall.

The finished joint profile is usually slightly recessed from the face of the wall and avoids over filling of the joint.

Good joint design does not present a horizontal shelf for water to rest. If water does wash down the wall it should flow unimpeded or be deflected away from the wall.

Replacement Siding

Encasing a masonry structure in aluminum or vinyl is not allowed in the historic district. Siding obliterates the historic appearance of the building and masks any potential problems on the building surface.

Repaired stucco must have a smooth finish; special decorative finishes are not permitted. Beige may not be the appropriate color. Contact the Historical Commission for advice.

Air Conditioners

The insertion of an air-conditioning unit through a hole cut into the facade of a masonry building causes irreversible damage to the building and should be avoided. If air-conditioning units installed in windows require support brackets, these should be affixed to the mortar joints only – not into the masonry.

by Joseph F. McCarthy, AIA, adapted in part from the New York City Landmarks Preservation Commission Rowhouse Manual

Procedures Not Subject to Philadelphia Historical Commission Approval
None

Procedures Subject to Philadelphia Historical Commission Approval
Painting previously unpainted masonry
Repainting previously painted masonry
Repairing or resurfacing masonry
Cleaning exterior wall surfaces
Removing graffiti
Stripping paint from the facade
Applying masonry coatings
Repointing
Repairing cracks
Installation of air-conditioning units through or anchored in masonry

The architectural significance of windows, sash and casement sash, due to their size, design and location, plays an important part in planning the home. ("Bilt-Well Millwork," Carr-Trombley Mfg. Co., St. Louis, 1925 trade catalog)

Windows

Windows are key to defining a building's historic character. The style, size, configuration, profile, and materials of the window's features, including frames, sash, muntins, glazing, sills, heads, hoodmolds, paneled or decorated jambs and moldings, and interior and exterior shutters, are individually and collectively important elements of the building's overall design. The continuity of window patterns creates a visual rhythm along the street. Inappropriate alterations or replacements are intrusions that can compromise the integrity of a building, the entire street, and the historic district.

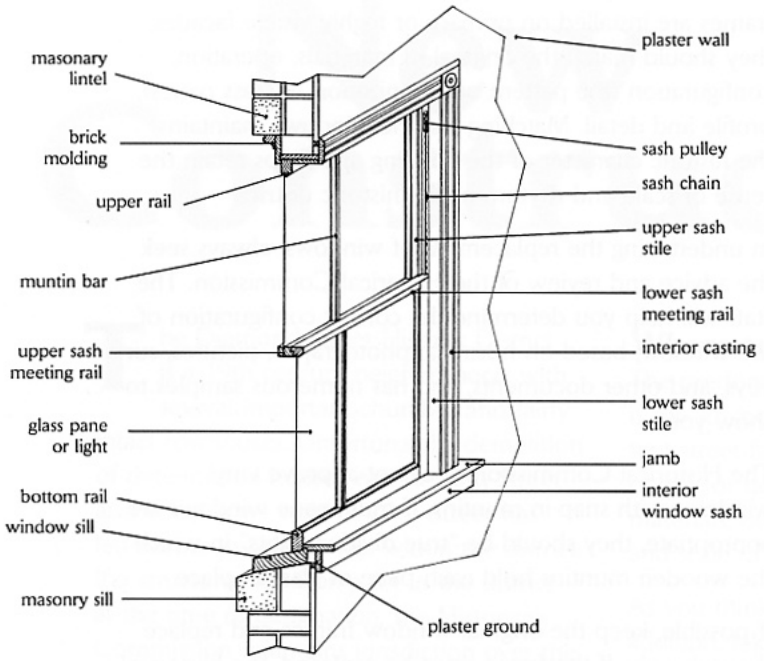
Yet windows are among the most vulnerable features of historic buildings. Age, weathering, and inadequate maintenance all contribute to their deterioration. Damaged windows can be drafty and difficult to operate, prompting their premature replacement or alteration on the mistaken assumption that they are beyond repair. Simple yet effective maintenance, repair, and retrofitting measures will save both money and the building's historic fabric.

Many windows in the Diamond Street Historic District have been replaced over the years, often with inappropriate substitutes. Studying the neighboring buildings for clues to the original windows' appearance can be misleading; if replacements are contemplated, consult with the Historical Commission staff.

Routine Maintenance

Windows that seem beyond repair often require only basic maintenance and repairs to reestablish their smooth operation and improve their energy efficiency. Deterioration to windows is primarily caused by water, which decays wood and corrodes metal. The two major causes of water damage are exposure to the exterior elements and interior condensation. To minimize these problems, the areas vulnerable to water seepage should be inspected regularly and sealed when necessary. The joint where the window frame meets the masonry

A continuity of window patterns creates a visual rhythm along the street.



should be caulked, cracked window panes and dried or missing glazing putty should be replaced, all chipping and peeling paint should be removed, and the window primed and repainted. Bare wood and metal are particularly susceptible to decay and should never be left exposed to the elements.

Over time, old windows can become difficult to operate due to excessive paint build-up or broken operating mechanisms. Paint can best be removed by the careful scraping or stripping of the paint with a chemical paint remover or heat gun. Use the heat gun on the sill, stops, parting beads, and window trim. Chemical paint stripper should be used on the sash since the glass will break if heated. Take care to follow safe lead paint removal procedures, and follow the manufacturer's recommendations for the safe use of chemical strippers. While heat guns are effective at removing old paint, their improper use by an inexperienced operator may result in the scorching of wooden elements and can also be a fire hazard. Paint removal can be hazardous; be sure to follow all safety precautions.

Windows that bind, have become inoperable, or will not remain open may require repairs to the operating system. On most double-hung windows with a counterweight and pulley system, an experienced do-it-yourselfer can attend to these problems by removing the interior trim and jamb or the jamb access panel to examine the pulley and rope. First, examine the condition of the pulley. If it is coated with layers of paint, tie off the sash cord, remove the pulley, strip the paint layers, lubricate the pulley and reinstall it in the jamb. If the pulley is too damaged, replace it with a new, matching element. The other potential problem is a broken and/or damaged sash cord or chain. Either stripping the chain of interfering paint layers or replacing the sash cord or chain with a new element will re-establish smooth operation of the sash.

Storm Windows and Weather Stripping

A variety of cost-effective options exist to improve the energy efficiency of historic windows. In addition to replacing caulk and glazing putty, weather stripping can be applied around sash and frames and at the meeting rails of windows to prevent drafts. Weather stripping is one of the least expensive means of improving energy efficiency, yet it can increase energy performance by as much as fifty percent.

Storm windows insulate against noise and drafts, and exterior storms protect windows from weathering; however, they have a detrimental impact on the historic appearance of a building. Depending on their design and color, exterior storm windows can be obtrusive and unsightly and can cause reflections that obscure the configuration and detail of the historic windows. To minimize these undesired effects, the meeting rails and stiles of the storm must align with those of the historic window and the color should match the color of the window frame.

Interior storm windows are much preferred, especially on primary facades. A variety of interior storm windows are available, ranging from the interior version of a traditional triple-track unit to a single sheet of clear glazing applied within the window jamb.

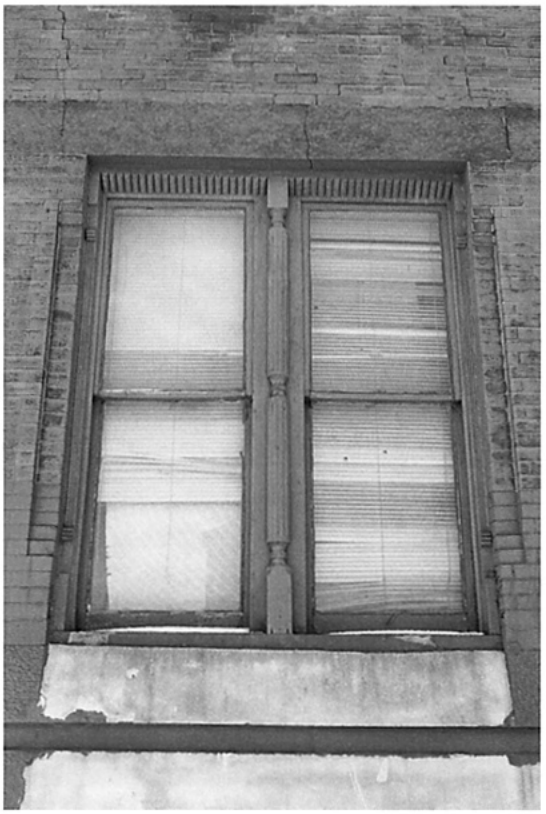
Other options, such as the installation of thermal glass into existing windows, may also be available to preserve old windows while increasing their energy efficiency.

Repair or Replace?

Seriously deteriorated windows require careful evaluation to determine whether repairs are possible. The integrity of historic wood windows can generally be assessed through a few simple steps. Evaluating the overall stability of metal windows is much more complex and typically requires the attention of an experienced professional.

One simple test to determine the structural integrity of the window is to prod the various frame and sash elements with a sharp probe or tool, such as an ice pick. If the probe easily penetrates the wood or the surface of the metal, and brittle strands can be dug out, then the element is beyond traditional repair.

Even then, wholesale replacement may not be required. In many instances, the replacement of deteriorated elements may be possible. Intact elements should always



A window with original detailing.

be repaired, restored, and reused. Usually, only the sash needs replacement and the frames and sills can be simply repaired using traditional methods.

Methods of Repair

Wood windows that exhibit surface deterioration, but appear generally sound upon testing with a probe, can be repaired in a cost-effective manner by treatment with an epoxy consolidant, with replacement limited only to those sections that exhibit severe deterioration.

Wood consolidants are syrupy liquids that, when brushed onto decayed wood, permeate the wood's surface, restoring its strength. Splits, minor holes, gaps, and other damaged areas are then filled with epoxy paste which, when cured, has similar characteristics and flexibility to wood, and can be worked with ordinary woodworking tools and painted.

If the deterioration is more substantial (particularly in the sill area) but is limited to only a section of the wooden element, the damaged area can be removed, squared-out and a "dutchman" patch installed.

Replacement Guidelines

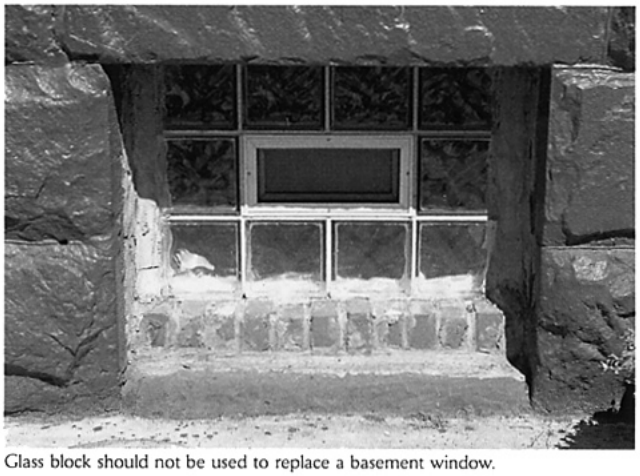
Repair and retrofitting of historic windows is always preferable to replacement. Replacement of original windows should be considered only as a last resort and is justified only when the severity and extent of deterioration warrants. If replacement window sash and frames are installed on primary or highly visible facades, they should match the original in materials, operation, configuration (the pattern or organization of glass panes), profile and detail. Matching historic windows maintains the historic character of the building and helps retain the sense of scale and rhythm of the historic district.

In undertaking the replacement of windows, always seek the advice and review of the Historical Commission. The staff will help you determine the correct configuration of the window, based on historical photographs, pictures, surveys, and other documents, and has numerous samples to show you.

The Historical Commission does not approve vinyl windows with snap-in muntins. If multi-pane windows are appropriate, they should be "true divided lights" in which the wooden muntins hold each pane of glass in place.

If possible, keep the original window frames and replace the sash only. If the frame must be replaced, the Historical Commission requires that the dimensions and profiles match the original. The Historical Commission recommends, but does not require, that counterweight-and-

Original basement window.



Glass block should not be used to replace a basement window.

pulley systems on double-hung windows be retained, especially on large, heavy windows.

Repair is generally more cost-effective than replacement and, when accompanied by routine maintenance procedures, ensures the preservation of one of a building's most distinguishing features.

Security Bars or Grilles

Metal window bars or grilles are typically found on basement windows and were often installed at the time of construction to provide added security. Original window grilles should always be maintained rather than replaced; however, if replacement is necessary the new grilles should match the originals, and should be installed without damaging the window frame or masonry.

The installation of modern security bars or grilles on the outside of windows that would not have originally had such features is generally discouraged, and the use of alternative security measures, including interior bars, should be explored.

Awnings, Exterior Shutters and Flower Boxes

Shutters were of great importance to certain styles of historic architecture, providing security and a means of controlling light and heat. The replacement of missing shutters is encouraged, as is the preservation and restoration of existing original shutters. Where replacement is necessary, the new shutters should match the originals in wood. If the originals are not available, match the panel pattern of historic doors and reveals. Before painting, treat new shutters with a wood preservative to increase their resistance to weather.

Make the new shutters operable, or at the very least, appear operable, and sized to fill the entire window opening when closed. In addition, the shutters must be mounted with the appropriate hardware such as hinges, shutter dogs, and bolts. Fortunately, on most historic buildings that had shutters, the shutter pintles are often in place, simplifying installation of new shutters. Lock rails of new shutters must fall below the window sash meeting rails.

Fixed aluminum awnings are not appropriate for any historic dwelling.

Consult with the staff of the Historical Commission before purchasing and installing flower boxes. Care needs to be taken when they are attached. Do not screw flower boxes directly into a stone sill or allow them to rest against the masonry wall to prevent future water damage.

by Robert Powers and Cynthia Hamilton, Powers & Company, Inc.

Not Subject to Philadelphia Historical Commission Approval

Caulking
Weather stripping
Reglazing
Minor repairs to original window materials
Repairing suspension systems (pulleys, chains, ropes)
Repairing or replacing window hardware
Installing most interior storm windows
Installing interior security bars or grilles
Installing regulation child guards
Painting

Subject to Philadelphia Historical Commission Approval

Installing new sash or frames
Installing exterior storm windows
Installing or removing exterior shutters
Installing window awnings
Installing window boxes
Installing or removing exterior security bars or grilles
Altering the size, shape, or design of a window opening
Blocking in existing window openings or constructing new openings
Restoring original window openings
Replacing original window materials (extensive)

Few features of a house are more noticeable than its entrance. It seems to introduce us to its life and spirit. It may wear the plain word "Welcome!" all over its generous proportions and its genial aspect, or it may impress us as cold and forbidding. (*Philadelphia Real Estate Record & Builders Guide, 21* March 1887)

Doorways
Doors

The doorways in the Diamond Street Historic District reveal much about their original builders and owners. Most of the houses in the district have simple paneled and glazed doors with carved stone surrounds. These entrances help define the architecture of the neighborhood.

Door Construction

Most historic wooden doors are made of stiles (the vertical elements) and rails (the crosspieces), a centuries-old construction method in which finished and ornamental wood planks are assembled, usually with strong mortise and tenon joints. Most historic doors conform to this basic type, whether they have several wood panels or glass panes.

Paneled doors consist of a frame of solid wood parts filled in with wood or glass panels. The rails are mortised into the outside stiles, then wedged and glued. The panels are held in place in grooves in the inner edges of the frame or by moldings fastened to the frame. Wood panels should not be glued in place; they need to move freely within the frame to allow for normal wood shrinkage and swelling.

Maintenance and Repair

Doors deteriorate because of exposure to weather, flaws in construction, and the enormous wear they endure. Although exterior doors are installed so that they are somewhat protected from the elements, over time wood doors are subject to wear and rot. Fortunately, wood is easily maintained and repaired, and a properly maintained wood door will last for generations.

Regular varnishing and painting are essential, not only for appearance, but structural stability as well. Varnish and paint create hard, protective coatings that shed water and protect the wood from moisture and rot. Occasionally paint needs to be removed because too many layers weaken the adherence of the paint to the surface and hide carved or molded detail. Too much paint can also freeze the joint where the panels of a paneled door meet the frame, which should be kept free moving to allow for natural expansion and contraction of the wood.

Damage or rot to wood doors is relatively easy to repair. Dents, checks, and surface marks can be fixed with glue, plastic wood, small wood shims, and household tools. Stiles and rails can be matched by experienced mills and new panels and moldings can be made to replace missing and damaged parts.

Rotting areas of the doorframe, often at the bottom where the end grain has absorbed water, can be consolidated with epoxy resins, and missing areas can be reconstituted and molded out of epoxy paste fillers. Or, an experienced carpenter can mortise a replacement piece of wood in place. Such "dutchman" patches are also useful when locksets or hinges are changed and the mortises of the former hardware exposed.

If an original door must be replaced, the new door should match the original design, material, and configuration. If the original door is missing, appropriate replacements can sometimes be determined by examining neighboring or similar buildings; by looking at historical photographs, pictures and surveys, and in consultation with the Historical Commission staff.

An inappropriate replacement door (right) radically changes the look of the house.

Door Surrounds

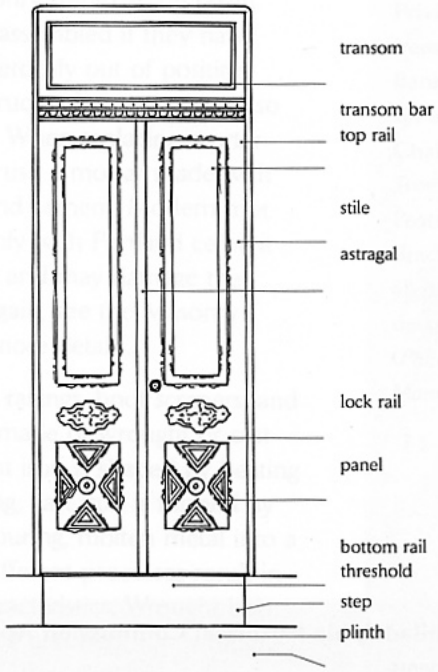
The woodwork, moldings, and ornamental masonry that surround a door are all part of the architectural design and character of the building. For the most part, the houses on Diamond Street have doors with molded wood casings and simple lintels and sills. More decorated dwellings have elaborate entranceways that include paneled wood reveals, carved moldings of masonry or wood, or ornate panels.

This artistic ensemble should be preserved and restored. Removal without replacement of eroded or rotted elements, removal of the entire surround, or sheathing it in another material are inappropriate. Furthermore, the addition of an architectural element that was never there or is of the wrong style is inappropriate. A Colonial-style surround added to a Queen Anne house, for example, confuses the style and meaning of the house's architecture. If you suspect that a more modern piece has been added to the original doorway, contact the Historical Commission if you are interested in removing and replacing it with something more appropriate.

The exposed elements surrounding historic doorways often deteriorate over time, and their restoration is rarely a do-it-yourself job. Stone ornamentation can be restored using masonry consolidants such as silanes, acrylics, and epoxies that penetrate the pores of the stone, making it stronger and resistant to further deterioration. Missing masonry elements can be replaced with molded cement-based patches. (For more details, see the chapter on Masonry.) Similarly, rotted wood elements can be treated with wood epoxy consolidants that permeate porous or decayed wood. Gaps in the wood can be filled with epoxy paste which, when dried, has characteristics similar to wood and can be worked with ordinary tools, primed, painted or varnished. Almost all of these repairs will require the skills of experienced restoration masons or carpenters.

Door Types and Configurations

Blocking up or altering transoms; reducing, enlarging or blocking up door openings; or cutting new openings where none previously existed destroy the appearance of a historic building and jeopardize its physical integrity. In some cases, however, the original door has already been replaced. Contact the Historical Commission for guidance in choosing an appropriate design when you wish to change a door.



Hardware

The style of the hardware on a door should be compatible with the age and style of the door and dwelling. Generally, residences have simple round or oval knobs made of easily cleaned materials like brass, bronze or glass. If the original hardware is missing, you can determine an appropriate replacement by looking at a similar house in the neighborhood and by consulting with the Historical Commission.

Storm and Screen Doors

Prepainted aluminum doors, especially those with added scalloped or "colonial" ornament, are not appropriate on the houses in the Diamond Street Historic District. Consider weather stripping as an alternative.

Lighting and Electrical Devices

Most houses on Diamond Street were built before the widespread use of electricity become common. Houses rarely had exterior lights and doorbells, and never had intercom systems or electric door openers. In the modern city, however, these items have become necessities to improve security in the home and safety on the street.

Generally, these devices should be as simple and unobtrusive as possible, and wiring should be run inside the building. Exterior lighting should be appropriate to the style of the building, or as inconspicuous as possible. A simple, modern light fixture is a better choice than an overly elaborate or inappropriate reproduction such as a colonial style carriage lamp. Doorbells and intercom boxes should be small and recessed in to the casing or wood reveal to the side of the door.

by Charles A. Evers, AIA,
Atkin Olshin Lawson-Bell Architects

Not Subject to Philadelphia Historical Commission Approval

Painting wood elements
Sanding or refinishing
Repairing wood door and/or frame
Replacing or installing locks
Replacing broken glass
Weather stripping

Subject to Philadelphia Historical Commission Approval

Installing exterior lighting, intercoms and doorbells
Installing new doors, storm doors or door frames
Installing security grilles or bars
Replacing solid door panels with transparent materials
Replacing transparent door materials with solid materials
Altering door frame and/or surround
Altering door material or configuration (size, number of doors, transoms, or glazing)

Stoops, Railings, and All The Rest

Wood & Perot Ornamental Iron Works. 1136 Ridge Avenue, Philadelphia. Manufacturers of Iron Railings for Cemetery Enclosures, Public Squares, Churches and Private Residences, Iron Verandahs, Balconies, Bank Counters, Stairs (in every variety), Chairs, Settees, Tables, Tree Boxes, Hitching Posts, Lamp Posts, Brackets, Statuary and all other Iron Work of a decorative character. (*Philadelphia and Its Manufactures*, 1858)

Site elements, such as sidewalks, stoops, and railings are easy to overlook, but play an important role in creating the character of the Diamond Street Historic District. These significant features establish a relationship between the building and the street, and contribute to the overall streetscape.

Stoops and Railings

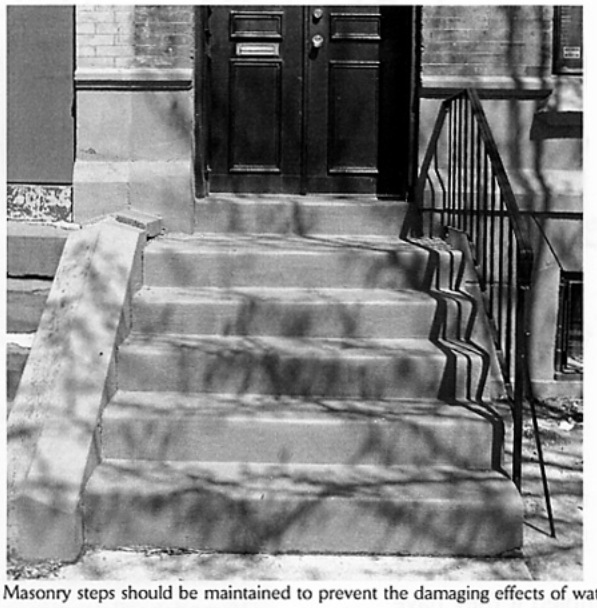
Original stoops and railings were designed to harmonize with the building façade. Front steps, cellar entrances and basement-level water-tables were often constructed of the same material. Railings can also exhibit patterns and shapes associated with the style of the building.

Stoops in the historic district, and their side (or cheek) walls, are constructed of various masonry materials, most commonly marble, brownstone and brick. As with all masonry surfaces, painting is not recommended. Paint can trap moisture in the masonry, which can lead to deterioration, and painted masonry will also have to be repainted periodically. If, however, the masonry steps have previously been painted, seek guidance from the Historical Commission staff on repainting with an appropriate paint and compatible color or the use of a gentle paint removal. (For more details, see the Masonry chapter.)

Joints on steps should always be mortared to prevent moisture from getting behind the stones where it may freeze and expand, upsetting the stones. Masonry steps can be taken apart and reassembled if they have shifted dangerously out of position; additional structural support may also be required. When replacing mortar (repointing), use a mortar made with lime, sand and cement. Modern mortars made only with Portland cement are too hard and may damage the masonry. (Again, see the Masonry chapter for more details.)

Historic stair railings, boot scrapers, and bollards are made of wrought or cast iron. Wrought iron is shaped by beating or hammering; cast iron is formed by casting, or pouring, molten metal into a mold. The different processes result in different characteristics. Wrought iron can be welded and bent (or "wrought") into delicate, often curvilinear shapes; it tends to be lighter in appearance. Cast iron elements are constructed of separately cast pieces bolted together (large pieces are usually hollow); it generally tends to be more weighty in appearance.

Steps often crack at the point where a railing post is set into the surface of the tread (the part on which you step). Rainwater ponding on the masonry surface at a metal railing post base will cause the metal to rust and expand, exerting pressure on the surrounding masonry and causing it to crack and become dislodged. To prevent this, the



Masonry steps should be maintained to prevent the damaging effects of water penetration and subsequent freezing and thawing, as seen on the right.

post base should be set into the masonry using a soft material or a stainless steel sleeve. Traditionally, lead was used for this purpose; sealants are used more commonly today. Filling the joint with cement is discouraged because it does not have the flexibility required to withstand normal thermal expansion and contraction. Nearly all materials expand and contract, to some extent, through warm and cool temperature cycles.

Rusting, caused by moisture on bare metal, is the primary cause of iron deterioration. Keeping your cast or wrought iron railings and gates painted is a simple and effective way to preserve them. Rust can be removed by hand scraping and wire brushing. This should be followed immediately with an application of a rust-inhibiting primer and a compatible finish coat. Small voids may be repaired with plumbing epoxy or auto body putty; be sure to maintain the original profile of the metal. Repair loose connections in cast iron assemblies by replacing screws and bolts with new stainless steel fasteners.

Sidewalks and Curbs

Although the sidewalks along Diamond Street are made of concrete, a variety of materials were used for curbing. Granite, because of its durability, was used historically for curbing and is still used for this purpose today. Bluestone, although more fragile, is also a historic curbing material. The most common replacement for these original materials is concrete, which, while initially less expensive, is not as durable. Nor does concrete have the character and texture of historic paving materials.

by Suzanna Barucco,
1:1:6 Technologies, Inc.

Procedures Not Subject to Philadelphia Historical Commission Approval

Minor sidewalk repairs
Repairing railings (e.g. replacing worn or missing fasteners)
Painting metal railings, bollards or security gates
Landscaping garden areas

Procedures Subject to Philadelphia Historical Commission Approval

Repairing or repointing masonry steps
Painting or cleaning masonry steps, cheek walls or railings
Replacing or removing steps or railings
Repaving a sidewalk with new materials, or replacing curbing
Major sidewalk repairs
Paving of garden areas

Storefronts

The retailer, recognizing the general interest of the public in things artistic, especially those things of an architectural nature, realized that a shop possessing architectural value and decorative interest, both inside and out, would appeal to his prospective customers and increase business by luring them into his store. (*American Commercial Buildings of Today*, 1928)

Shaped by ever-changing commercial tastes, storefronts require special consideration by owners of historic buildings, but their sensitive preservation contributes to both the retail atmosphere and the integrity of the historic district. The Diamond Street Historic District was built primarily as a residential area and most of the storefronts found in the neighborhood today are associated with small corner stores catering to the immediate neighborhood.

Large plate glass windows supported by cast-iron columns and piers generally characterize late 19th and early 20th century storefronts. Often when storefronts were on the corners, the entrances were beveled and the corner supported by cast-iron columns. These components include decorative cornices, paneled bulkheads below the display windows, and half-glazed paneled doors. Modern materials such as pigmented structural glass, baked enamel panels, ceramics, and stainless steel made possible the sleek streamlined storefronts of the 1930s and 1940s.

Maintenance of Historic Storefronts

Storefronts are susceptible to deterioration, primarily because of water infiltration and weathering. Water penetration behind the storefront, possibly into the supporting building, can cause unseen damage. The primary areas of concern include the storefront's cornice, which requires proper flashing and water conduction, and the joints between components. (For more information, see the chapter on Roofs, Cornices and Related Elements). On wooden storefronts, moldings traditionally were used to cover joints. Seams and joints in storefronts made of metal and other materials should be sealed with caulk. Regular painting will help protect wooden elements from water infiltration and rot, and will prevent metal components from rusting.

Historic storefronts should be retained, repaired or restored with matching materials. An existing storefront may not appear to be historically significant, but historic fabric may exist under later alterations. Consult the staff of the Historical Commission before planning any changes.

The Historical Commission encourages the repair of early storefront features and the incorporation of any remaining fragments into new design. Restoration to an earlier period – even to the building's original appearance – may not be appropriate. If the historic storefront is completely missing, the new storefront should approximate the original configuration, based on photographs or other historical evidence. Again, consult with the Historical Commission staff for guidance. In the absence of solid evidence, simple generic storefront features are recommended. As with all new design in an historic district, these storefronts should be compatible with the building and streetscape in scale and proportion, materials and finishes, height and configuration, etc.

If a building with a historic storefront is being returned to residential use, the storefront is considered a significant alteration and should be retained. Contact the staff of the Historical Commission for options regarding privacy and security.

Signage and Awnings

All signs and awnings in the historic district – including banners – require the approval of the Historical Commission. The size, shape, design, material, location and method of attachment of commercial signs have a significant impact on historic storefronts. Signs should be to scale with the building and storefront, and should be placed within the historic "signboard" area – the fascia under the storefront's cornice. Signs must not obscure, damage or destroy any of the character-defining features of the building. Backlit or illuminated plastic box signs are not allowed.

Thin wood muntins and decorative cornices are typical storefront details.

This storefront has the typical 19th century configuration of an angled corner door, but has signage that overwhelms the building.

Awnings should have a shed-type shape and fabric-like material. If there is any signage on the awning it should be placed on the apron, not on the slope. Depending on the architecture of the storefront, the size of the awning should be consistent with an individual window or doorway.

Signs and awnings may also require the approval of the Art and Zoning Commissions.

Security Grilles and Bars

Every attempt should be made to situate security grilles and bars on the interior of the storefront, behind the glass. Exterior grilles may damage or obscure important storefront features. Open, see-through grilles are preferred to solid metal screens, which pose security and safety risks. Contact the Historical Commission staff for guidance on grille placement.

by Sara Jane Elk

Not Subject to Philadelphia Historical Commission Approval
Painting wood or previously painted metal components

Subject to Philadelphia Historical Commission Approval
Painting masonry
Removing, replacing or installing awnings
Removing, replacing or altering storefronts
Installing or replacing security grates, grilles or bars
Installing or replacing signage

New Construction

Visitors from out of town are wont to sigh with rapture when they see our trim blocks of tall brick buildings – that even cornice running in a smooth line for several hundred yards really is quite a sight – and exclaim, "Oh, I wish we had something like this in New York!" (Christopher Morely, *Pipefuls*, 1921)

The Diamond Street Historic District is a 19th century neighborhood with several important churches and fairly intact rowhouses. Unfortunately, demolition of deteriorated houses east of 20th Street and entire rows west of 20th Street has left numerous empty lots within the district. If a structure stood on a lot in the district at the time of designation, the Historical Commission maintains jurisdiction over the new construction. For properties that were vacant at the time of designation, the Historical Commission has forty-five days to review and comment on the development proposal. By reviewing new construction within the district, the Historical Commission will help insure that the integrity of the historic district remains intact.

New construction in the district should not obscure, damage or destroy character-defining features. Additions to historic buildings should not exactly duplicate older structures, and new additions should be designed so that the historic and new construction can be clearly distinguished. Good architecture is representative of its time; it is better for new construction to reflect our time than to give a false historical impression. At the same time, all new construction should be compatible with the size, scale, color, material and character of the property and neighborhood.

An experienced design professional can help meet your needs with a design that is compatible with the historic district. The staff of the Historical Commission also is available for advice and consultation.

Where to Begin?

The predominant feature of Diamond Street is the rowhouse. Rowhouses create a consistent street façade and provide many starting points for new design, including setback, materials, overall height, and the spacing and scale of window and door openings.

As you think about your new building or addition, take a careful look at the adjacent buildings as well as others throughout the district. Note the materials used, which were almost always some form of masonry, such as brick, stucco, or brownstone. Look at special features, such as bay windows, dormers, the number of window panes, and style of windows.

Note how most houses in the district are consistent in scale and materials, whether the buildings were built as a single design or grew gradually over time. Taking design cues from the surroundings is a good way to ensure sensitive new construction in the district.

These contemporary houses follow the cornice line and materials of older, neighboring houses, yet announce their 20th century construction.

Design Considerations

Height In the Diamond Street Historic District, consistency of building height, typically three to four stories, is one of the strongest design guides for new construction. Zoning also plays a major role in dictating building heights and massing. Although building heights vary considerably along some streets, most builders in the past put up structures similar in height to adjacent structures. The height of adjacent buildings will help dictate the height of your new construction.

Materials Brick is the most common building material found in the district. Most brick is typically a rich reddish-brown in color, although some 20th century buildings use other colors. Try to use brick that is similar in color to that found on adjacent buildings. Also consider the variety of materials in neighboring buildings. Some may have details carved in brownstone or a marble veneer on the first floor. These can be matched in new materials. Although stone is desirable, carefully detailed stucco or concrete can be made to match brownstone or other stone.

Street Wall and Cornice Line A uniform setback of the buildings as they line the street creates the "street wall" and is essential to preserving the character of the district. New construction should respect the street line created by its neighbors. So should the cornice line, which is a predominant feature of most Philadelphia rowhouses.

Rhythm of Openings Windows and doors establish a rhythm for the street and any new construction should be harmonious with this established rhythm. Windows should be of similar size and overall placement as adjacent buildings. Remember that most historic windows are tall and narrow. Particularly important is matching the window sill and head heights to the adjacent buildings.

A design professional can juggle all of these ideas while creating an addition or new building that will meet the owner's needs. Sympathetic new construction can add significantly to the richness and vitality of the historic district.

by Michael Stern, AIA,
Community College of Philadelphia

Recommended

Alignment with adjacent building height and cornice line
Alignment with adjacent window sills and heads
Materials similar to neighboring buildings
Similarity in roof profile
Doorway design, dormers, and bay windows should differ in design, if not overall scale, from adjacent buildings

Not Recommended

Misalignment with adjacent building height and cornice line; some variety is acceptable
Window height, size and design radically different from neighboring buildings
Use of materials not found in adjacent buildings or neighborhood
Dissimilar roof profile and design

Selecting and Working with Building Professionals

The attention of builders and architects and others has been closely devoted to supplying materials for buildings that would add to beauty, cheapness and durability. (*Philadelphia Real Estate Record and Builders' Guide*, 16 August 1886)

Home maintenance and many routine repairs lie within the capabilities of the typical old-house owner. There are instances, however, when professional help is advisable.

Some of the areas in which building professionals can prove invaluable are the assessment and correction of structural problems (why is a wall bulging?); the assessment, specification, and correction of major repairs (the replacement of a roof, for example); and the design and specification of additions or alterations to ensure that they meet the preservation requirements of the Historical Commission as well as the City's building code.

Three types of building professionals can be of help: architects, engineers, and contractors who specialize in working with historic buildings and are familiar with Philadelphia's regulatory structure.

Working with Architects and Engineers

Architects and engineers can diagnose problems and prescribe remedies. Don't presume that using their services represents an added expense; an architect or engineer can supply a wealth of advice for what may be a minimal consulting fee. An architect can guide you through the entire design and construction process – from helping define what you want to build, to helping get the most for the construction dollar, all the while preserving the historic integrity of the building. An engineer is more typically retained to address structural problems.

Architects and engineers can:

- Help clarify and refine building needs by providing an overall assessment of a building's condition, or an assessment of a specific problem, including structural issues, deterioration of materials, and electrical and mechanical systems. Through a process called programming, you and your architect discuss your requirements, needs, and budget. The architect then helps define the project. The architect can prepare contract documents, plans and specifications (instructions to contractors) for repair projects, and can also design a sensitive addition or alteration to your historic house.
- Maximize your construction dollar. The architect and engineer can help you select appropriate materials, workmanship, and systems at a fair price, and can help you avoid unnecessary or inappropriate work and costly mistakes. For example, an architect may advise on how to save money by repairing, rather than replacing, an old slate roof. By producing contract documents for competitive bidding, the architect helps ensure that contractors are bidding on identical work, potentially controlling construction costs.
- Manage the project. From conception to completion, the architect protects your interests and pursues ways to make the design and construction processes go smoothly. The architect can help you find qualified contractors based on your requirements. During construction, the architect visits the site to verify that the project is progressing according to approved plans

and specifications. In addition, if your project requires engineering or other special services, the architect can coordinate this team of experts. The architect also sorts out complex building codes, zoning laws, and historic district regulations and helps ensure that you get all necessary permits and are in compliance.

If you are contemplating a project that may involve an architect, consider seeking architectural consultation early in the process. Many architects are willing to meet with you initially without obligation or cost. Consultations with two or three architects will provide you with an understanding of what can be expected from different architects and will help ensure a satisfactory match. Choose an architect with both experience with, and appreciation of, historic buildings. Request that a prospective architect supply references for similar projects that he/she has done, and check these references.

Where to find an appropriate architect? The Philadelphia Chapter of the American Institute of Architects' Architect Resource and Referral Center offers recommendations, information about architectural firms, and examples of their work according to numerous project categories (For more information, look in the Preservation Resources chapter.) Another good source is neighbors in the historic district who have retained architects for their projects.

Working with Contractors

Contractors carry out the actual repair or rehabilitation work, or construct additions. During the planning stages, they can also advise on alternative methods of construction or ways to control construction costs.

In general, except for routine work, contractors do not provide design services; this is a role for an architect. The homeowner – with the assistance of an architect or other building professional – should define the exact scope and nature of construction work through plans and specifications, rather than have a contractor define the work. This assures objectivity and cost control.

A general contractor manages larger projects that will use various subcontractors or specialty building trades. If the project is limited in scope or involves primarily one building trade (for example, painting), a general contractor is probably not required. In addition, keep these pointers in mind when selecting contractors:

- Choose only contractors experienced with the special needs of older houses and historic properties. Obtain referrals from your architect, the Historical Commission, the Preservation Alliance for Greater Philadelphia, other homeowners in the historic district, or published resource guides. The Historical Commission also has product information. Referrals by these organizations do not constitute endorsement.

- Ask for references for several, recent projects that are similar to yours. If possible, try to make arrangements to see these projects, and check these references for quality of work, attention to the historic fabric of the building, finishing on budget and on time, and willingness to work with the homeowner.
- Narrow the possibilities by concentrating on reputable companies which have been in business at least several years. A newly formed company could be considered if it comes highly recommended and has done similar projects.
- Call each firm on your list and meet with the person who would be overseeing your project. Determine what warranties and guarantees cover workmanship and materials, and who is responsible for subcontractors. Ask to see the contractor's license and permit, proof of state workman's compensation coverage, and insurance certificates.
- For larger projects, receiving three or more competitive bids is advisable. Along with bids, obtain the specifics of the job in writing, including a thorough explanation of how the work will be executed. An architect can provide bid documents for you, including plans and specifications. Don't automatically take the lowest bid. Look for the best value combining a competitive price with experience and a thorough understanding of the project and of the special characteristics of the architecture of the house.

A signed contract, along with plans and specifications, should include a description of the work, the payment schedule, acceptance of responsibilities, insurance, warranties, provisions for additional work, trash removal, compliance with ordinances and statutes, obtaining of permits, arbitration of disputes, time of completion, and acceptance and occupancy by the client.

Remember that the building owner has ultimate responsibility to obtain a permit that covers all the work to be undertaken. If you have asked your contractor to get the permit, have him or her give it to you to post in the window.

With the help of qualified architects, engineers, and contractors, old house owners in the historic district can ensure that their homes meet their needs now and in the future, while preserving the charm and architectural integrity of their historic properties.

adapted by Robert J. Hotes, AIA, DPK&A Architects, LLP
from: Ridley Park Design Guidelines (Preservation Alliance for Greater Philadelphia, 1995); Invest in a Dream with Your Architect (AIA, 1992); How to Hire a Contractor by Marjorie Roth (Old House Fair Resource Guide, 1997).

"Style" is one of the most used – and abused – words in the English language, particularly when pressed into service in the study of architectural history. (*What Style is It?: A Guide to American Architecture,* 1983)

Architectural Styles in the The Diamond Street District

The architecture of the 19th century is characterized by a proliferation of styles that went rapidly in and out of fashion. The Diamond Street Historic District contains a great collection of buildings from that style-conscious century. Some buildings are mixtures of stylistic motifs, reflecting a transition from one period to another, with very few buildings adhering to a pure expression of a particular style.

For these reasons, the Historical Commission in its deliberations rarely takes purity of architectural style into account. Documentary evidence – old photographs, drawings, and other accounts, with many available at the Commission – is far more reliable as a basis for rehabilitation, as is a careful study of similar houses within the district. Observation and solid historical evidence will yield clues to what is appropriate for each house, without a blind adherence to the dictates of style.

What follows is a very brief look at the styles found along Diamond Street. For a more thorough discussion of architectural styles, refer to the books in For Further Reading.

Queen Anne

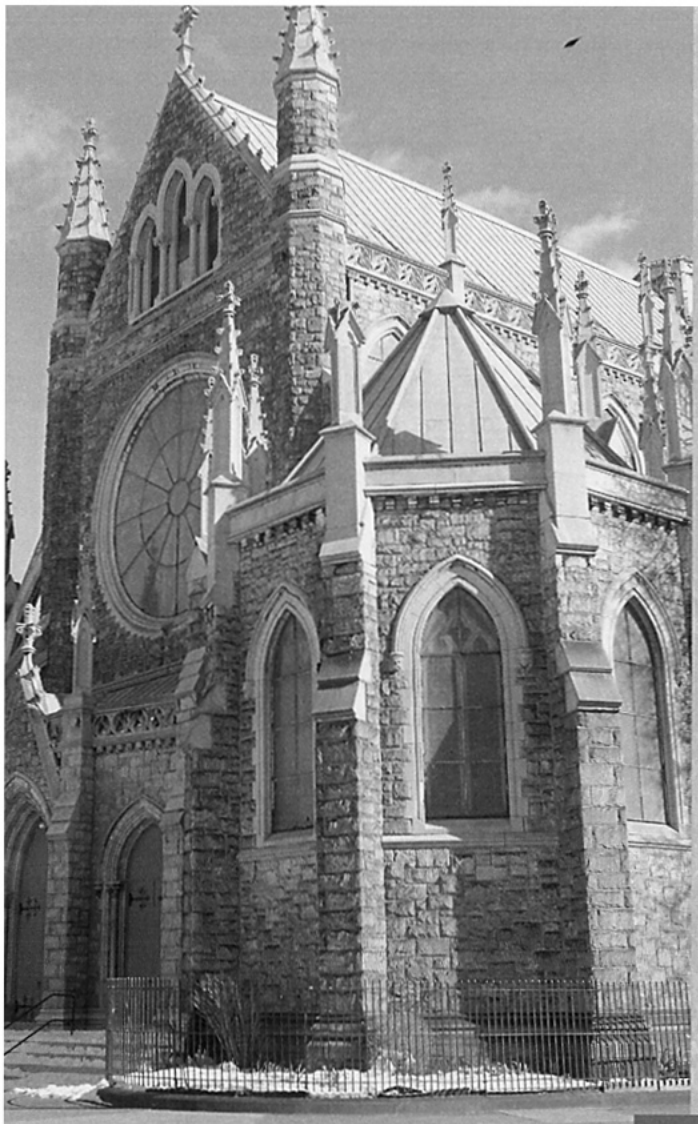
An eclectic style combining motifs from the late Medieval and early Renaissance periods, the Queen Anne style uses asymmetry, a mix of materials, colors and textures, and a diversity of window types.

Queen Anne Vernacular

These vernacular buildings take cues from the ornate Queen Anne style, but have details that are more abstract and simplified. These common buildings still incorporate several different materials for texture and contrast, but do not have a high degree of decoration.

Victorian Eclectic

Many buildings of the late 19th century incorporate elements of many different styles, yet not adhering to any particular one. This eclectic mix has a rich appearance and usually includes several different materials.

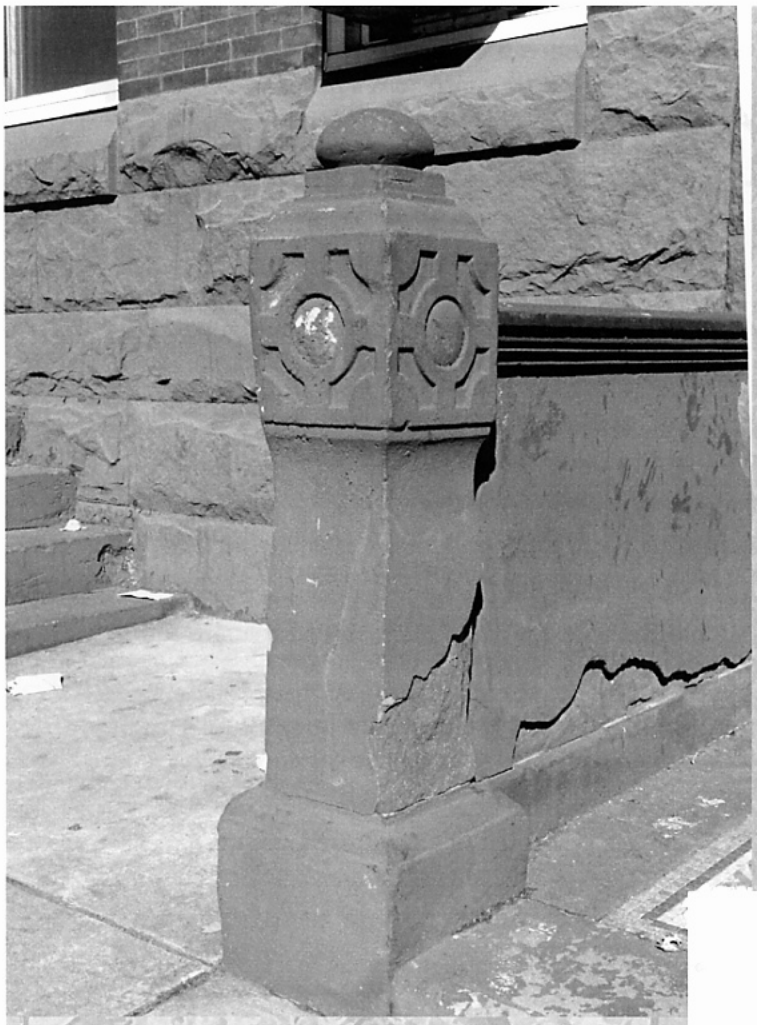


Gothic Revival Style

This style is based on the French architecture of the 12th through 14th centuries, particularly churches. Stone embellishments, such as finials and buttresses, pointed-arch windows and elaborate carvings are typical of the Gothic Revival Style.

Venetian Gothic

Instead of coming from a French origin, this style reflects the architecture found in Venice, Italy, mixing Moorish, Italianate and Renaissance elements.

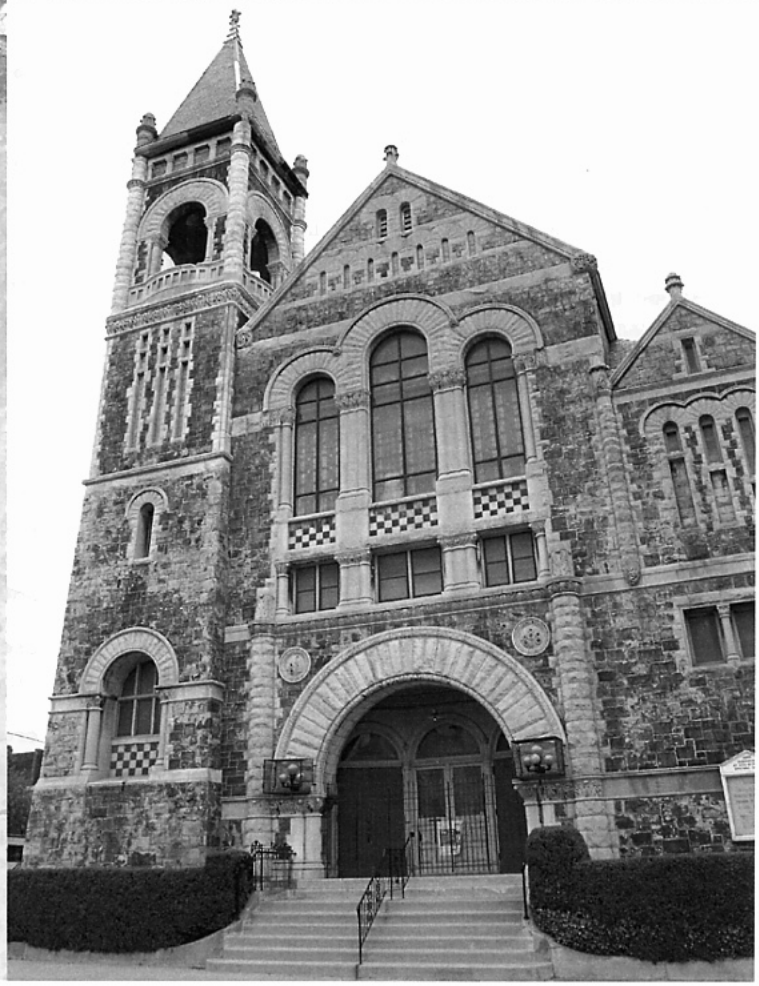


Moorish Revival

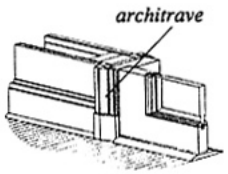
This style, most often used for clubs, hotels and theatres, incorporates Near Eastern architectural elements, such as horseshoe arches and bulbous domes.

Romanesque Revival

Based on architecture from the pre-Gothic period in Europe, Romanesque Revival includes rusticated stone details, sweeping rounded arches and deep alcoves for windows and doors. Henry Hobson Richardson, an American architect (1838-1886), greatly influenced this style, and buildings of the style are often referred to as Richardsonian Romanesque.



Glossary



architrave 1. The lowest part of a classical entablature. 2. A molding enframing an opening such as a window.

areaway The below-grade space between a rowhouse and the sidewalk, usually providing light or access to the basement.

awning A projecting shading device mounted on the outside of a door or window.

baluster One of a series of short vertical posts, often ornamental, used to support a rail.

balustrade A railing composed of balusters and a top rail running along the edge of a porch, balcony, roof, or stoop.

bay A regularly repeating division of a facade, marked by fenestration.

bay window A projecting structure containing windows that rises from the ground or from some other support, such as a porch roof; see also oriel.

bituminous roofing A type of sheet roofing material made from bitumen, a class of cementitious substances found in asphalts and tars.

bracket A projecting angled or curved form used as a support, often ornamental, found in conjunction with balconies, lintels, pediments, cornices, etc.

brick molding A milled wood trim piece covering the gap between the window frame and masonry.

cap flashing A waterproof metal sheet that seals the tops of cornices and walls.

capital The topmost member, usually decorated, of a column or pilaster.

casement A window sash that is hinged on the side.

cast iron A type of iron, mass-produced in the 19th century, created by pouring molten iron into a mold; used for ornament, garden furniture, and building parts.

clapboard Wood siding composed of horizontal, overlapping boards, the lower edges of which are usually thicker than the upper.

colonnade A row of regularly spaced columns supporting an entablature.

colonnette A diminutive column which is usually either short or slender.

column A vertical cylindrical support. In classical design it is composed of a base (except in the Greek Doric order), a long, gradually tapered shaft, and a capital.

console A scroll-shaped projecting bracket that supports a horizontal member.

Corinthian One of the five classical orders, characterized by slender fluted columns, and ornate foliate capitals.

coping A protective cap or cover of a wall parapet, commonly sloping to protect masonry from water.

corbel An architectural member which projects upward and outward from a wall that supports a horizontal member.

cornice A projecting molding, usually ornamental, that tops the elements to which it is attached; used especially for a roof or the crowning member of an entablature, located above the frieze.

cresting A decorative element, frequently of iron, usually located at the peak or edge of a roof.

crocket An ornamental foliate form placed at regularly spaced intervals on the slopes and edges of the spires, pinnacles, gables, and similar elements of Gothic buildings.

cupola A small dome on a base crowning a roof.

de-lamination The splitting apart of the outer surface of natural stone into thin layers that peel off, also called exfoliation.

dentil A small, square, toothlike block in a series beneath a cornice.

Doric One of five classical orders, recognizable by its simple capital. The Greek Doric column has a fluted shaft and no base; the Roman Doric column may be fluted or smooth and rests on a molded base.

dormer A vertical structure, usually housing a window, that projects from a sloping roof and is covered by a separate roof structure.

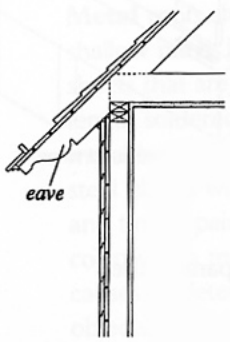
double-hung A type of window with two sash, each sliding on vertical track.

downspout A horizontal or vertical cylinder, usually made of metal, which carries water from the gutter to the ground; also called a leader.

drip molding A projecting molding around the head of a door or window frame, often extended to the sides of the frame, intended to channel rain away from the opening; also called a drip lintel.

dutchman A patch cut to size, glued, and sanded in a location where deteriorated material has been removed.

eave The overhanging edge of a roof.



efflorescence White powdery soluble salt deposits on masonry, caused by slow seepage of water.

egg and dart An ornamental band molding of egg forms alternating with dart forms.

elevation An exterior face of a building; also a drawing thereof.

enframement A general term referring to any elements surrounding a window or door.

English bond A pattern of brickwork with alternate courses of headers and stretchers.

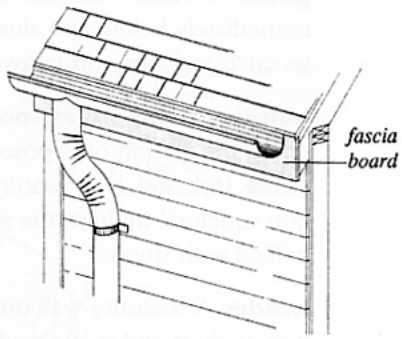
entablature In classical architecture, a major horizontal member carried by a column(s) or pilaster(s); it consists of an architrave, a frieze, and a cornice. The proportions and detailing are different for each order.

eyebrow dormer A curved dormer with no sides, covered by a smooth protrusion from the sloping roof.

facade The main exterior face of a building, sometimes distinguished from the other faces by elaboration or architectural or ornamental details.

fanlight A semicircular or semi-elliptical window above a door, usually inset with radiating glazing bars.

fascia A horizontal, flat element, often combined with a cornice or architrave.



fenestration The organization and design of windows in a building.

festoon A carved ornament in the form of a band, loop, or wreath, suspended from two points; also called a "garland" or a " swag."

finial The crowning ornament of a pointed element, such as a spire.

flashing Strips of sheet metal bent to fit the angle between any two roof surfaces or between the roof and any projection, such as a chimney.

Flemish bond A pattern of brickwork in which each course consists of headers and stretchers laid alternately; each header is centered between the stretcher above and the stretcher below it.

flue Channel in a chimney for conducting flame and smoke to the outside.

foliate Decorative leafage, often applied to capitals or moldings.

French door, window A tall casement window that reaches to the floor usually arranged in two leaves as a double door.

frieze 1. The middle horizontal member of a classical entablature, above the architrave and below the cornice. 2. A similar decorative band in a stringcourse, or near the top of an interior wall below the cornice.

gable The upper portion of an end wall formed by the slope of a roof.

galvanized iron Iron that has been coated with zinc to inhibit rusting, usually coated with paint to further inhibit rusting.

glazing Glass panes set in a framework.

glazing bar See mullion.

Gothic sash A window sash pattern composed of mullions that cross to form pointed arches.

grille A decorative, openwork grating, usually of iron, used to protect and/or to provide ventilation through a window, door, or other opening.

gutter A shallow channel of metal or wood set immediately below and along the eaves of a building to catch and carry off rainwater.

half-timbering An exterior decorative wall effect giving the illusion of exposed heavy timber construction of the 16th and 17th century, but actually consisting of non-structural timbers, the spaces between which are infilled with stucco.

header A masonry wall unit of brick which is laid so that its short end is exposed.

hood A projection that shelters an element such as a door or window.

Ionic One of the five classical orders, characterized by capitals with spiral elements called "volutes," a fasciated entablature, continuous frieze, dentils in its cornice, and by its elegant detailing.

jamb Upright piece forming side of door or window opening.

jigsaw carving An ornament cut with a thin narrow saw blade.

joist One of a series of parallel timber beams used to support floor and ceiling loads, and supported in turn by larger beams, girders, or bearing walls; the widest dimension is vertically oriented.

key A block, often used in a series, which projects beyond the edge of the enframement of an opening and is joined with the surrounding masonry. A block handled is such a manner is keyed to the masonry; see quoin.

keystone The central wedge-shaped member of a masonry arch; also used as a decorative element on arches in wood structures.

latticework Thin strips of wood arranged in a netlike grid pattern, often set diagonally.

leaded window A window composed of small panes, usually diamond-shaped or rectangular, held in place by narrow strips of cast lead.

leader See downspout.

lime Crushed limestone, historically used as the binder in mortar mixes when combined with an aggregate, usually sand.

lintel A horizontal structural element over an opening which carries the weight of the wall above it.

loggia 1. An arcaded or colonnaded structure, open on one or more sides, sometimes with an upper story. 2. An arcaded or colonnaded porch or gallery attached to a larger structure.

lunette A crescent-shaped or semicircular area or opening on a wall surface.

mansard A roof having a double slope on all four sides, the lower slope being much steeper. In rowhouse design, double-sloped roof on the building front, below a flat roof.

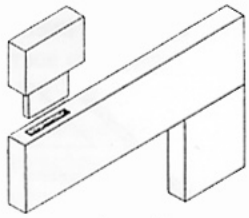
meeting rail The horizontal rail of a double-hung window sash designed to align with the adjacent rail of the other sash.

modillion A simple horizontal block arranged in series under the soffit of a cornice or a projecting scroll-shaped bracket.

molding A decorative band of varied contour; used to trim structural members, wall planes, and openings.

mortar Material used for pointing and bonding brick and other masonry units; made of cement or lime with aggregate (sand) and water.

mortise-and-tenon A joinery technique formed by a projecting piece (the tenon) fitting into a socket (the mortise).


mortise-and-tenon

mullion A vertical primary framing member that separates paired or multiple windows within a single opening.

muntin A thin framing member that separates the panes of a window sash or glazed doors.

newel The main post at the foot of a stairway or stoop.

oriel A projecting bay window carried on corbels or brackets.

Palladian window A three-part window opening with a tall, round-arched center window flanked by smaller rectangular windows and separated by posts or pilasters.

panel A portion of a flat surface recessed, or raised from the surrounding area, sometimes distinctly set off by molding or some other decorative device.

parapet A low wall that serves as a vertical barrier rising above the edge of the roof, terrace or other raised area; in an exterior wall, the part entirely above the roof.

party walls In rowhouse construction, the walls shared by two adjoining houses.

paver A block of stone used in sidewalk or areaway paving.

pediment 1. In classical architecture, the triangular space forming the gable end of a roof above the horizontal cornice. 2. An ornamental gable, usually triangular, above a door or window.

pier 1. A column designed to support concentrated load. 2. A member, usually in the form of a thickened vertical section, which forms an integral part of a wall; usually placed at intervals along the wall to provide lateral support or to take concentrated vertical loads.

pilaster An engaged pier or pillar, attached to a wall, often with capital and base.

pintle Vertical rod attached to window frame to attach shutter.

pitched Sloping, especially referring to a roof.

plinth A platform base supporting a column or pilaster.

pointing, repointing The treatment of joints between bricks, stone, or other masonry components by filling with mortar; also called tuck-pointing.

portico A small porch composed of a roof supported by columns, often found in front of a doorway.

p.s.i. Pounds per square inch, a term generally used when describing water pressure when cleaning a building.

quoin A structural form, usually of masonry, used at the corners of a building for the purpose of structural or visual reinforcement, frequently imitated for decorative purposes.

relief Carved or molded ornament that projects from a flat surface.

repointing See pointing.

return The part of a molding, cornice, or wall surface that changes direction, usually at a right angle, toward the building wall.

reveal The side of an opening for a door or window between the frame and the outer surface of a wall, showing the wall's thickness.

rock-faced Masonry treated as a rough surface that retains or simulates the irregular texture of natural stone.

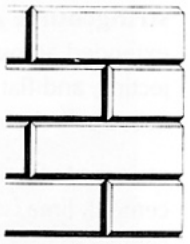
rosette A round floral ornament, usually carved or painted.

round arch A semicircular arch.

rowhouse One of a group of an unbroken line of attached houses that share common side walls, known as party walls.

rubble stone Irregularly shaped, rough-textured stone laid in an irregular manner.

rustication, rusticated Stonework composed of large blocks of masonry separated by wide, recessed joints; often imitated in other materials for decorative purposes.



rustication

sash The framework of a window which holds the glazing (glass panes) in place; may be operable or fixed; usually constructed of horizontal and vertical members; sash may be subdivided with muntins.

secondary facade The facade or facades that do not face a public thoroughfare or courtyard.

segmental arch An arch which is in the form of a segment of a semicircle.

semidetached A building attached to a similar one on one side but unattached on the other; a "twin."

shaft The vertical segment of a column or pilaster between the case and the capital.

shed dormer A dormer window covered by a single roof slope without a gable.

shingle A unit composed of wood, cement, asphalt compound, slate, tile or the like, employed in an overlapping series to cover roofs and walls.

shouldered arch An arch composed of a square-headed lintel supported at each end by a concave corbel.

shutter dog Metal attachment, often ornamental, which holds shutters in an open position against the face of a building.

sidelight A vertically framed area of fixed glass, often subdivided into panes, flanking a door.

sill The horizontal member at the bottom of a window or door.

soffit The exposed underside of any architectural element, especially an eave.

spalling The chipping or erosion of masonry caused by abuse or weathering.

spandrel A panel between the top of one window and the sill of another window on the story directly above it.

stile A main vertical member of a door or window.

stoop The steps which lead to the front door.

stretcher A masonry unit or brick laid horizontally with its length parallel to the wall.

stringcourse A narrow horizontal band of masonry, extended across the facade, which can be flush or projecting, and flat surfaced, molded, or richly carved; also called a "beltcourse."

stucco A coating for exterior walls made from Portland cement, lime, sand, and water, sometimes referred to as cement plaster.

sub-frame A secondary frame set within a masonry opening.

sugaring A term describing the deterioration of stone caused by the breaking up or dissolving of the stone surface.

surround The ornamental frame of a door or window.

swag A carved ornament in the form of a draped cloth or a festoon of fruits or flowers.

terra cotta Hard-fired clay, either glazed or unglazed, molded into ornamental elements, wall cladding and roof tiles.

tie rod A metal tension rod connecting two structural members, such as gable walls or beams, acting as a brace or reinforcement; often anchored by means of a metal plate in such forms as an "S" or a star.

tracery An ornamental configuration of curved mullions in a Gothic sash.

transom 1. The cross-bar separating a door from the window, panel, or fanlight above it. 2. The window above a transom bar of a door.

transom bar A horizontal element that subdivides an opening, usually between a door and window.

trefoil A three-lobed decorative form used in Gothic architecture.

tuck-pointing See pointing.

turret A small tower, usually supported by corbels.

viga The projecting, exterior end of a roof beam, which is usually decorative only, and found primarily in Spanish Revival or Pueblo style buildings.

volute A carved spiral form in classical architecture; often used in pairs as in the capitals of Ionic columns.

voussoir A wedge-shaped component of an arch.

watertable A ledge or projection, usually at first-floor level, that protects the foundation from water running down the wall of a building.

wrought iron Iron that is worked by being forged or hammered.

Reprinted, with additions, from the New York City Landmarks Preservation Commission Rowhouse Manual

Preservation Resources

A number of resources provide useful information to owners and stewards of historic properties.

Government Agencies

Philadelphia Historical Commission
Room 576 City Hall, Philadelphia, PA 19107
215-686-7660
website: http://www.phila.gov/historical
The Historical Commission is the city agency responsible for designating and regulating historic properties and historic districts listed on the Philadelphia Register of Historic Places. It provides technical advice, maintains records and lists, and serves in an advisory capacity to the mayor and City Council on matters regarding historic preservation.

Pennsylvania Historical and Museum Commission, Bureau for Historic Preservation
Commonwealth Keystone Building, 2nd floor, 400 North St., Harrisburg, PA 17120, 717-787-2891
website: http://www.phmc.state.pa.us
This state commission reviews nominations to the National Register of Historic Places, conducts initial review of federal tax credit applications for compliance with Secretary of the Interior's Standards, and provides information and technical assistance. Its Pennsylvania History and Museum Grants and Keystone Historic Preservation Grants are available to eligible organizations.

National Park Service
Northeast Field Office, 200 Chestnut St., 3rd Floor, Philadelphia, PA 19106, 215-597-0652
website:http://www.nps.gov/chal
The National Park Service is a federal agency within the Department of the Interior. It serves as steward of National Historic Parks, manages the National Register of Historic Places and National Historic Landmarks, and reviews applications for federal tax credits for compliance with Secretary of the Interior's Standards. Technical Preservation Services in Washington, DC specializes in technical assistance and publications and can be reached by phone at 202-343-9583, fax 202-343-3921, email at hps-info@nps.govand on the Internet at http://www.cr.nps.gov

Membership Organizations and Advocacy Groups

Preservation Alliance for Greater Philadelphia
1616 Walnut St., Suite 2110, Philadelphia, PA 19103
215-546-1146
website:www.preservationalliance.com
The Alliance is the Philadelphia region's non-profit preservation organization, dedicated to the protection and appropriate development of Greater Philadelphia's historic resources – buildings, communities, and landscapes. A membership organization, Alliance programs include public advocacy, the acquisition and maintenance of facade easements, and the provision of rehabilitation grants and technical assistance to stewards of historic religious properties and house museums.

Preservation Pennsylvania
257 North St., Harrisburg, PA 17101
717-234-2310
website:http://www.preservationpa.org
This statewide membership organization assists Pennsylvania communities and groups to protect and utilize the historic resources they want to preserve. It also monitors state legislative activity, publishes a newsletter, and administers a grant program for Philadelphia preservation projects.

American Institute of Architects
Philadelphia Chapter, 117 South 17th St., Philadelphia, PA 19103
215-569-3186
e-mail:architect@aiaphila.org
website:http://www.aiaphila.org
The local chapter of the national organization has a long history of preservation advocacy: its Preservation Committee monitors endangered landmarks, advises the chapter on important issues and policies, and bestows the annual Landmark Building Award. RÈsumÈs and portfolios of architects with expertise in historic preservation are kept on file at the Resource Center of the AIA Bookstore and Design Center at 17th and Sansom Streets.

Association for Preservation Technology
P.O. Box 22443, Philadelphia, PA 19110
Contact: Richard I. Ortega, 610-565-1131
email:RICKORTEGA@aol.com
website: http://www.apti.org
This membership organization is devoted to the dissemination of technical information on preservation topics; members include architects, conservators, contractors, engineers, stewards of historic properties, and preservationists. The national organization publishes a scholarly journal and holds an annual conference, training sessions, and tours. The local chapter organizes monthly events, including tours, lectures, and conferences.

National Trust for Historic Preservation
Northeast Field Office, P.O. Box 18889, Philadelphia, PA 19119
215-991-5778
website: http://www.nthp.org
The field office of this private, non-profit organization chartered by Congress in 1949, serves Pennsylvania, Delaware, and New Jersey. The Trust encourages public participation in preservation, provides limited financial assistance through grant and loan programs, and produces numerous preservation publications.

Partners for Sacred Places
1700 Sansom St., 10th floor, Philadelphia, PA 19103
215-567-3234
e-mail: partners@sacredplaces.org
website:http://www.sacredplaces.org
Partners is a national, non-profit, non-sectarian organization founded in 1989 to help Americans embrace, care for, and make good use of older and historic religious properties. Partners' goals are to help congregations and their communities be good stewards of their sacred places, to develop an effective national network of advocates for sacred places, and to enhance public understanding of the value of sacred places as irreplaceable centers that create and sustain community life.

Libraries/Research Facilities

The Athenaeum of Philadelphia
219 S. 6th St., Philadelphia, PA 19106
215-925-2688
e-mail:athena@philaathenaeum.org
website:http://www.philaathenaeum.org and
http://www.philadelphiabuildings.org
The Athenaeum holds an extensive collection of architectural plans and drawings by noted Philadelphia architects and other materials useful in researching old Philadelphia houses. Philadelphiabuildings.org is an on-line resource with information on approximately 20,000 historic properties in the Philadelphia area.

Fisher Fine Arts Library, University of Pennsylvania
220 S. 34th St., Philadelphia, PA 19104
215-898-8326
e-mail: finearts@pobox.upenn.edu
website:http://www.library.upenn.edu
The Fisher Fine Arts Library is open to the public, and has an extensive collection of books and periodicals on architecture, architectural history, and historic preservation.

Free Library of Philadelphia
Logan Square, 1901 Vine St., Philadelphia, PA 19103
215-686-5322
website:http://www.library.phila.gov
The Social Science and History Department provides access to some of the periodicals related to historic preservation and to the techniques involved in alteration, repairs, and rehabilitation of historic structures. The Map Collection and Print and Picture Department contain resources that may help in researching historic houses.

Historical Society of Pennsylvania
1300 Locust St., Philadelphia, PA 19107
215-732-6200
website: http://www.hsp.org
The Society is an excellent source of materials on Philadelphia history, including census records, old newspaper articles, family histories, maps, and atlases. The Society also has a large collection of watercolors and early photographs of various buildings and landscapes throughout the Philadelphia area.

Philadelphia City Archives
3101 Market St., Suite 150, Philadelphia, PA 19104
215-685-9401
e-mail: archives@phila.gov
website: http://www.phila.gov
The City Archives contains deeds and mortgages from the founding of Philadelphia to 1952, birth, death, and cemetery records up to 1915, and an excellent early photograph collection, all invaluable in researching an old Philadelphia house.

Philadelphia Department of Records
City Hall, Room 154, Philadelphia, PA 19103
215-686-2260
website:http://www.phila.gov
The Department of Records stores records of property transfers between 1865 and the present, useful in establishing a chain of title for an old house.

Urban Archives, Temple University
Samuel Paley Library, ground floor, Philadelphia 19122
215-204-8257
e-mail:urban@www.library.temple.edu
website:http://www.library.temple.edu/urbana
The Urban Archives exists to document the social, economic, and physical development of the Philadelphia metropolitan area from the mid-19th century to the present. Among the holdings are books on Philadelphia's history and growth, city directories and atlases, and newspaper clippings, including those from the Philadelphia Bulletin.

Funding

Several City Housing and Economic Development agencies administer various HUD-funded programs that can assist eligible property owners in maintaining or rehabilitating historic buildings. Although most of the housing funding is based on a property owner's income, rather than the historic nature of the property, the following agencies and organizations offer grant programs, low interest loans and need-based services.

Office of Housing and Urban Development
1234 Market St., 17th floor, Philadelphia, PA 19107
215-686-9721
website: http://www.phila.gov/ohcd
OHCD plans and sets housing and community development policy for the City. This City Department receives and allocates federal and state funding to a variety of City and quasi-City agencies and community development corporations.

Philadelphia Housing Development Corporation
1234 Market St., 17th floor, Philadelphia, PA 19107
215-448-3000
website:http://www.phcdhousing.org
PHCD develops and rehabilitates existing buildings and builds new construction for affordable housing. Other programs provide basic system repairs and weatherization services to eligible homeowners.

Redevelopment Authority of the City of Philadelphia
1234 Market St., 16th floor, Philadelphia, PA 19107
215-854-6500
website:http://www.phila.gov/rda
The RDA facilitates the development of underutilized property. In addition to financing the development of affordable housing, the RDA can condemn and acquire property through its power of eminent domain. The RDA also administers the Philadelphia Home Improvement Loan Program (PHIL).

Philadelphia Corporation for the Aging
642 N. Broad St., Philadelphia, PA 19130-3409
215-765-9000
website: http://www.pcaphl.org www.pcaphl.org
PCA provides support services to older Philadelphians and people with disabilities including housing repairs and accessibility modifications.

As of this printing, a stated goal of the Mayor's Neighborhood Transformation Initiative proposes to reorganize and consolidate OHCD, PHDC, and the RDA into one Office of Housing and Neighborhood Preservation. Although many functions and programs will most likely continue, the above addresses and phone numbers are subject to change.

For Further Reading

The National Park Service produces publications on a wide variety of preservation topics. Publications listed with Government Printing Office (GPO) stock numbers are available from the GPO, Superintendent of Documents, P.O. Box 371954, Pittsburgh, PA 15250-7954, (202) 512-1800. Preservation Briefs #1 - 14 can only be purchased by the set - GPO stock number: 024-005-01026-2. The texts of Preservation Briefs #1 - 40 are also available at www.housenet.com/HistoricHomeWorks/PBriefs/pb00-toc.htm

Other National Park Service preservation publications listed are available from the National Technical Information Service, 5285 Port Royal Rd., Springfield, VA 22161, (703) 487-4650.

For further information on ordering, the Park Service's Heritage Preservation Services can be reached by phone at 202-343-9583, e-mail at hps-info@nps.gov or on the Internet at http://www.cr.nps.gov

Introduction:

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