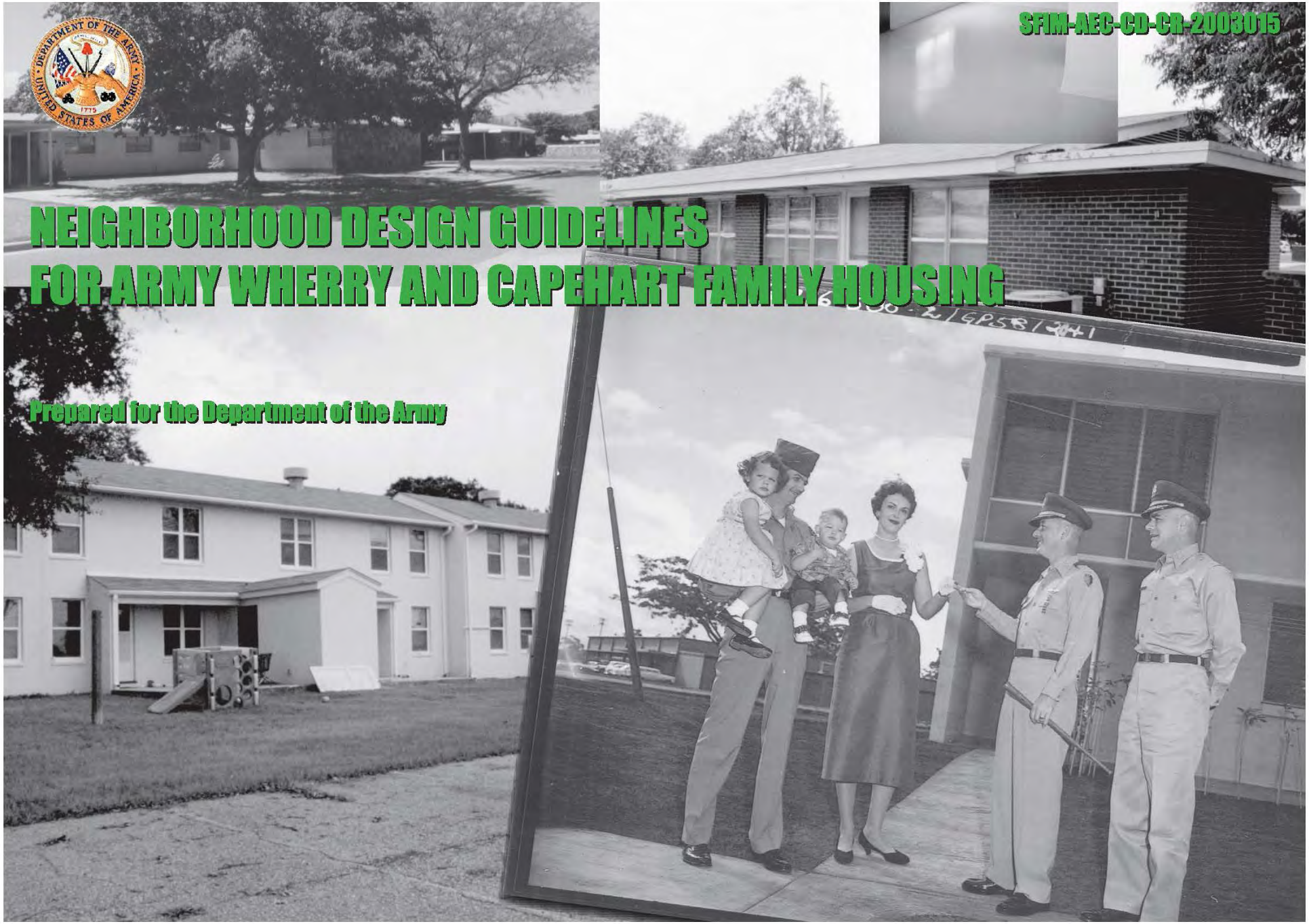

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NEIGHBORHOOD DESIGN GUIDELINES FOR ARMY WHERRY AND CAPEHART FAMILY HOUSING

Prepared for the Department of the Army

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14. ABSTRACT
Capehart and Wherry Era Army Family Housing encompasses all family housing built for the Army between 1949 and 1962. The Neighborhood Design Guidelines provide recommendations for installations that are renovating their Capehart and Wherry era housing in terms of landscape, layout, and exterior features.

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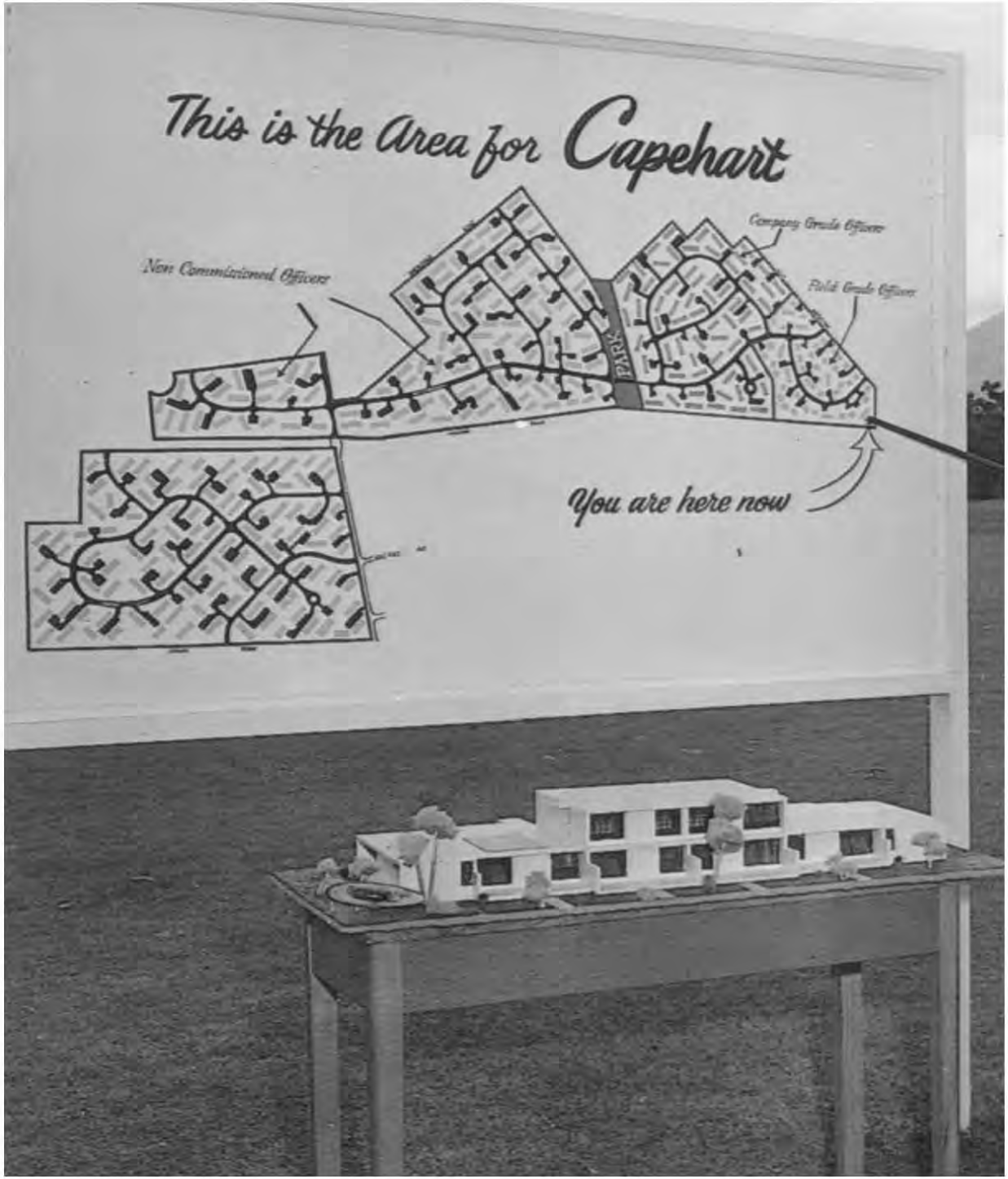
INTRODUCTION

Neighborhood Design Guidelines for Wherry and Capehart Era Army Family Housing were developed on behalf of the Department of the Army to support management decisions for residential developments constructed on Army installations between 1949 and 1962. The *Neighborhood Design Guidelines* are part of an integrated programmatic treatment for Wherry and Capehart era housing that fulfills the requirements of Section 106 of the National Historic Preservation Act of 1966, as amended, and is consistent with the Army's need to provide quality military family housing. The programmatic treatment includes these guidelines, an historic context on Wherry and Capehart era housing, and video documentation of representative neighborhoods.

Wherry and Capehart era neighborhoods account for a large percentage of the Army's residential building stock. Currently, neighborhoods containing 19,617 single-and multi-family buildings from the period are included in the Army housing inventory for active installations. Neighborhoods are similar in overall design approach and organization, while varying in size and architectural detail.

The *Neighborhood Design Guidelines* explore the design approaches used in Wherry and Capehart era neighborhoods and identify compatible treatments for new work. Considerations are presented to assist in planning maintenance, modification, rehabilitation, demolition, and construction activities that will retain the design integrity of the neighborhoods.



Overview of Post-World War II Army Family Housing Programs

The U.S. Army faced an unprecedented family housing shortage in the years following World War II. This shortage of family housing strained Army morale and impacted retention rates, as highly trained soldiers left the service due to family housing conditions. The Army sought to solve the housing shortage through the construction of residential neighborhoods that were comparable to those found in civilian markets.

Congress traditionally funded Army construction through Military Construction, Army (MCA) appropriations. In the first years of the postwar military housing shortage, Congress authorized additional Army family housing but limited funds for construction. Low funding rates resulted in slow progress in meeting the military family housing demand.

The Wherry Act, and later Capehart Act, addressed the military family housing shortage. Innovative solutions were developed involving the private sector through financial incentives extended through the Federal Housing Administration (FHA). The Army housing program was one of the largest residential construction projects for a Federal agency in the 1949-1962 period.

Implementation of the Wherry and Capehart programs was a complex process. Installations assumed responsibility for selecting and contracting with civilian architects and developers. The FHA and Army Corps of Engineers provided oversight applying standardized design guidelines.

Between 1949 and 1962 an estimated 21,000 Wherry housing units and 26,000 Capehart housing units were added to the Army inventory. These units were augmented through the construction of an additional 7,000 MCA housing units.

Wherry Housing (1949-1955)

The Wherry Act was passed by Congress on 8 August 1949 to relieve the severe military family housing shortage. Legislative authority for the Wherry Act, officially titled "Title VIII – Military Housing Insurance," is found in Title VIII of the National Housing Act of 1934, as amended. The legislation was named for Kenneth S. Wherry, the Nebraska Senator who sponsored the bill. The Wherry program was implemented as a public-private partnership among the Federal Housing Administration (FHA), the Department of the Army, and the private sector. Private-sector architects and contractors contracted with the Army to design and to build the neighborhoods. The FHA guaranteed mortgages and worked closely with the Department of the Army and with individual installations to determine rental rates within the military quarters allowances. The design of the neighborhoods and buildings complied with FHA housing standards. After the buildings were completed, the contractors, known as sponsors, retained ownership of the buildings and were responsible for managing the units on behalf of the military. Single-family houses, duplexes, and multi-family buildings of more than eight units were constructed under the program.

Capehart Housing (1955-1962)

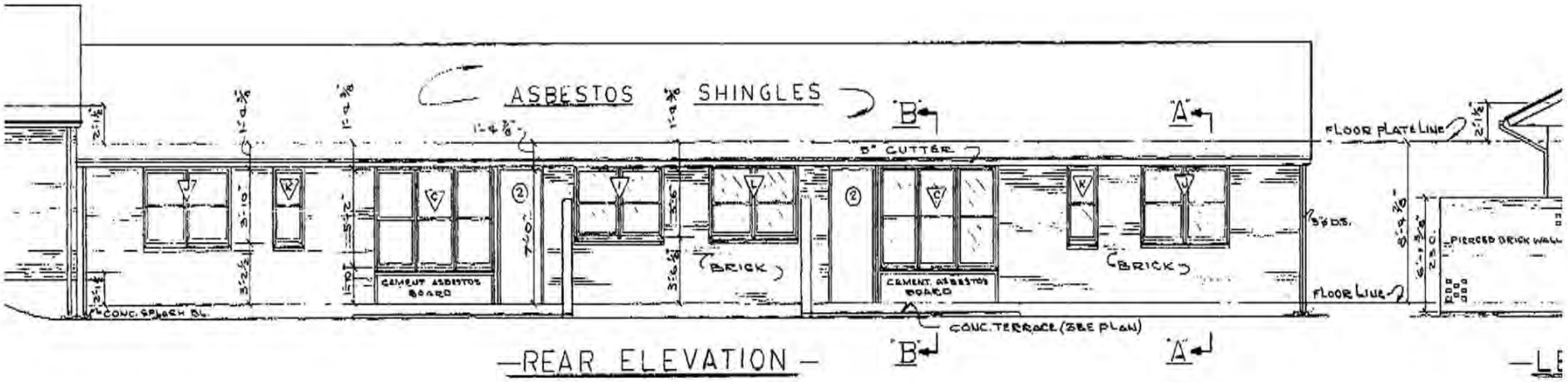
The Capehart legislation was enacted as a more effective method for addressing the military housing shortfall than the Wherry Act. Changes in the Wherry legislation in the mid-1950s made the program less attractive to private sponsors than in the early years. Senator Homer Capehart of Indiana sponsored legislation that became known as the Capehart Act. The bill, officially titled "Title VIII – Armed Services Mortgage Insurance Act," was signed into law on 11 August 1955. The Capehart Act is found in Title VIII of the National Housing Act of 1934, as amended. The Department of the Army still contracted with private-sector architects to design and to build neighborhoods. Also, compliance with FHA neighborhood and building standards remained necessary for sponsors to secure FHA guaranteed mortgages. The buildings were turned over to the military upon completion and the Army managed the buildings. Single-family, duplex, and multi-family buildings with no more than eight units were constructed under the Capehart program.

Military Construction, Army (MCA) 1948-1949

Appropriated funds also were used to construct residential communities. From 1948 to 1949, Congress appropriated funds for the construction of multi-family buildings with no more than eight units. The Army contracted with private-sector architects to design the neighborhoods with construction oversight by the Army Corps of Engineers. The Army owned the buildings and was responsible for maintenance and management.

1954-1962

From 1954 to 1962, Congress appropriated funds for the construction of multi-family, duplex, and single-family buildings. The MCA units supplemented the units constructed under the Capehart program. Private-sector architects partnered with the Army to design the neighborhoods; the Army Corps of Engineers was responsible for construction oversight.



—REAR ELEVATION—

Organization and Application

The *Neighborhood Design Guidelines* are organized into two major sections: **Site Plans** and **Buildings**. Comprehensive neighborhood design is addressed under **Site Plans**. Guidelines useful in planning work for site features are discussed. These site plan features include circulation patterns, landscape plans, and elements found in public and private spaces.

The **Buildings** section explores the design principles of scale, mass, proportion, and materials as applied to housing and ancillary buildings found in Wherry and Capehart era neighborhoods. The guidelines emphasize approaches to the treatment of buildings within the context of the neighborhood design. Interior rehabilitation and modification are not explored. The *Guidelines* are intended to supplement existing U.S. Army regulations and Federal standards, which provide detailed guidance on architecture.

Selected projects undertaken in Wherry and Capehart era neighborhoods might be subject to the Americans with Disabilities Act (ADA). Consult the Americans with Disabilities Act Accessibility Guidelines for guidance on complying with ADA requirements. In addition, buildings with 13 or more units are subject to the DoD Minimum Antiterrorism Standards for Buildings. Consult the Unified Facilities Criteria 4-040-01 for additional information.

The *Neighborhood Design Guidelines* were developed to provide a framework for planning improvements to neighborhoods constructed under the Wherry, Capehart, and MCA programs. The guidelines are particularly timely as the U.S. Army privatizes its housing inventory. Under the Residential Communities Initiative (RCI), experienced private-sector property managers will oversee approximately 80 percent of the Army's family housing in the United States.

Changes to Wherry and Capehart era neighborhoods may be necessary to meet contemporary military housing standards. The *Guidelines* highlight approaches for planning changes that are compatible with the design principles originally used in neighborhood design. Adoption of these strategies will help maintain the overall character and visual integrity of the residential communities.

Criteria for Application of the Neighborhood Design Guidelines

The *Neighborhood Design Guidelines* should be considered when planning improvements to Wherry and Capehart era housing areas. Improvements include repair, maintenance, rehabilitation, demolition, and new construction. Consider planning improvements within the context of the overall neighborhood design. Wherry and Capehart era neighborhoods are designed communities. Features important to their design character include site design as well as the buildings. Wherry and Capehart era neighborhoods are similar in terms of design, site planning, and materials. Uniformity exists within the neighborhoods of a particular installation, although differences are found from installation to installation. Planning efforts should consider the impact of proposed work on the overall plan of the neighborhood as well as on individual elements.

Rehabilitation

Uniformity and standardization are character-defining features of Wherry and Capehart era neighborhoods. Rehabilitation projects, such as work needed to upgrade neighborhoods to current Army family housing standards, should be designed to maintain this uniformity in site design and buildings. Consider neighborhood-wide projects to ensure that improvements are consistent throughout the housing area.

Demolition

Wherry and Capehart era neighborhoods frequently include dense regular development. The removal or substantial alteration of elements of the site plan, including buildings, will alter the overall design by creating "gaps" in the streetscape. Should retaining elements of the neighborhood prove infeasible, consider limiting impacts to the overall plan through the addition of elements of similar scale, mass, proportion, and materials. In cases where entire neighborhoods will be rebuilt, not all of the guidelines will be applicable. For example, the guidelines for landscape and layout might be the only ones that apply when replacing neighborhoods.

New Design and Construction

Wherry and Capehart era neighborhoods often do not include the full range of amenities necessary to support current family housing standards. The addition of new elements, such as parking structures, building additions, and support structures, should relate to the original neighborhood plan in scale, mass, proportion, and materials.

How to Use the Neighborhood Guidelines

Successful project plans for Wherry and Capehart era neighborhoods combine neighborhood data and the strategies presented in the *Guidelines* to develop project solutions that are compatible with neighborhood design. Three steps are recommended for integrating the *Neighborhood Design Guidelines* in the project planning process.

Step 1: Review Neighborhood Data

Wherry and Capehart era neighborhoods are planned residential communities that were designed and constructed on the installation level with program oversight by the Federal Housing Administration and the U.S. Army Corps of Engineers. Original project plans frequently are in active use by facility managers. These plans often are detailed documents and include site plans, utility plans, landscape plans, and architectural plans. Installation records also may include early photographs of the neighborhoods as well as plans related to modifications over time.

Step 2: Review *Guidelines* for Compatible Approaches to Proposed Work

The *Neighborhood Design Guidelines* identify community planning and design elements important to the overall integrity of the residential area. Circulation patterns, landscape design, public spaces, and private spaces are discussed in detail. Approaches to maintenance, rehabilitation, modification, and new construction are developed for each of these elements.

Step 3: Develop Plans for New Work

The original designs and appropriate guidelines provide a design context for contemporary planning. The combination of these data provide direction for developing compatible design that is consistent with the design principles originally applied to the neighborhood organization of housing areas from the period.

Neighborhood Designs

Wherry and Capehart era neighborhoods are planned residential developments. While the neighborhoods vary in design particulars, all share features common to residential communities of the period. Circulation systems, landscape, defined public and private spaces, buildings, and site amenities organize neighborhood plans.

Neighborhood plans range from those emphasizing symmetrical designs and a hierarchy of primary and secondary roads, to communities incorporating the natural topography within clusters of curvilinear streets and cul-de-sacs. Wherry and Capehart era neighborhoods were custom designs for their host installation. Under the housing programs of the period, installations contracted directly with developers for neighborhoods meeting their specific family housing needs. All neighborhoods varied in design but complied with the general standards developed by the Federal Housing Administration and the U.S. Army Corps of Engineers, as well as the budgetary limits imposed by Congress.

Plans for Wherry and Capehart era neighborhoods generally employ curvilinear streets designed to accommodate both traffic and parking; regular streetscapes created by uniform building setbacks and plant materials; and uniform architectural images defined by dwelling and ancillary structures of identical scale, mass, and materials.

Wherry and Capehart era neighborhoods were designed as self-contained residential areas and often are removed from the main cantonment. Modest strip shopping centers were constructed at the periphery of several early Wherry Act projects to support the neighborhoods. Shopping centers were eliminated in later Capehart and MCA projects.

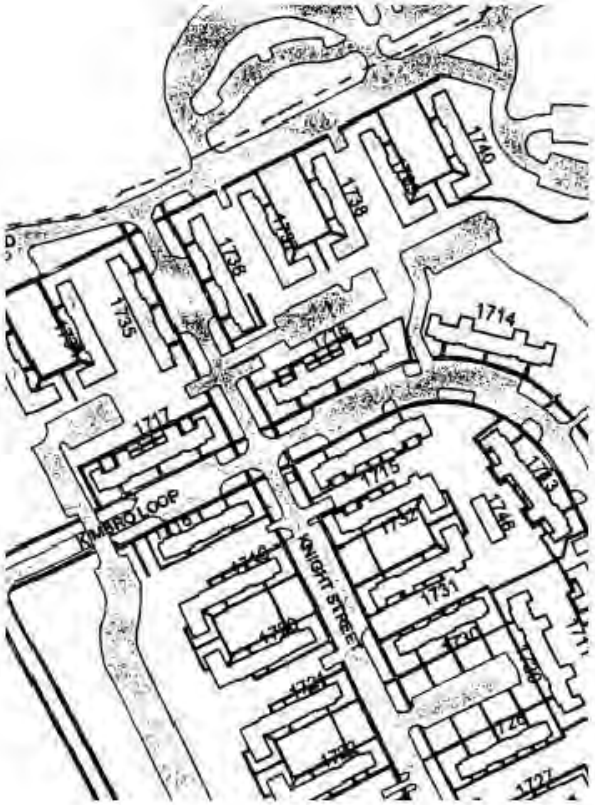
Formal landscape plans were developed for many Wherry and Capehart era neighborhoods. Existing stands of mature trees frequently were integrated into site development plans to buffer residential areas from the surrounding installation. Landscape plans

ranged from elaborate designs for single-family and duplex neighborhoods to minimal foundation accents in neighborhoods dominated by multi-unit buildings. Generally, trees were proposed for front and rear yards. Foundation plantings also were specified.

Building types vary with housing programs. Garden apartment neighborhoods comprising collections of multi-unit buildings commonly were constructed under the Wherry Act. These buildings frequently are recessed from the street and oriented towards open courtyards or parking areas. Neighborhoods of curvilinear streets lined by single-family and multi-unit buildings and duplexes often were constructed under the Wherry and Capehart Acts. Neighborhoods of single-family houses and duplexes sited along cul-de-sacs also were constructed under the Wherry and Capehart Acts. Some neighborhoods are organized into large blocks.

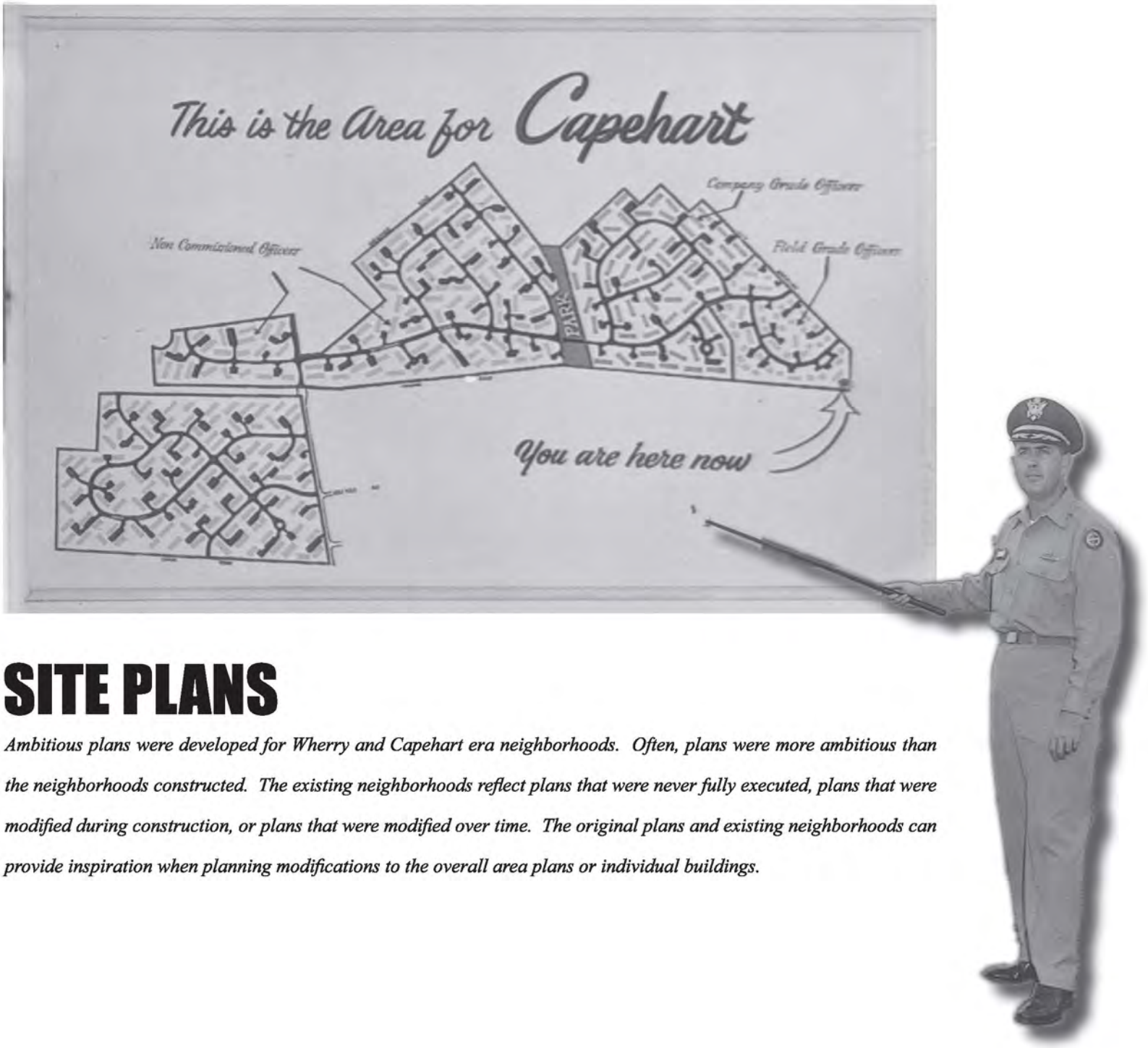
Uniform mass, scale, proportion, and materials generally define the architectural image of the Wherry and Capehart era neighborhoods. Buildings are standardized neighborhood designs emphasizing functionality with minimal architectural ornamentation. Materials reflect construction industry standards in dimensions and manufacture. Wood, stucco, brick veneers, and composite manufactured materials commonly were employed.

Additional detailed information on the design of Wherry and Capehart era neighborhoods and the architects and contractors associated with the programs is available in the historic context *Housing an Army: The Wherry and Capehart Era Solutions to the Family Housing Shortage (1949-1962).*



Design features that define the character of Wherry, Capehart, and MHI housing neighborhoods include:

- Uniform building setbacks
- Open space and common areas
- Curvilinear streets, cul-de-sacs, courtyards, and sidewalks
- Planned residential communities
- Uniform neighborhood plans
- Low-scale buildings
- Accommodation of the automobile
- Ancillary structures including parking and storage facilities

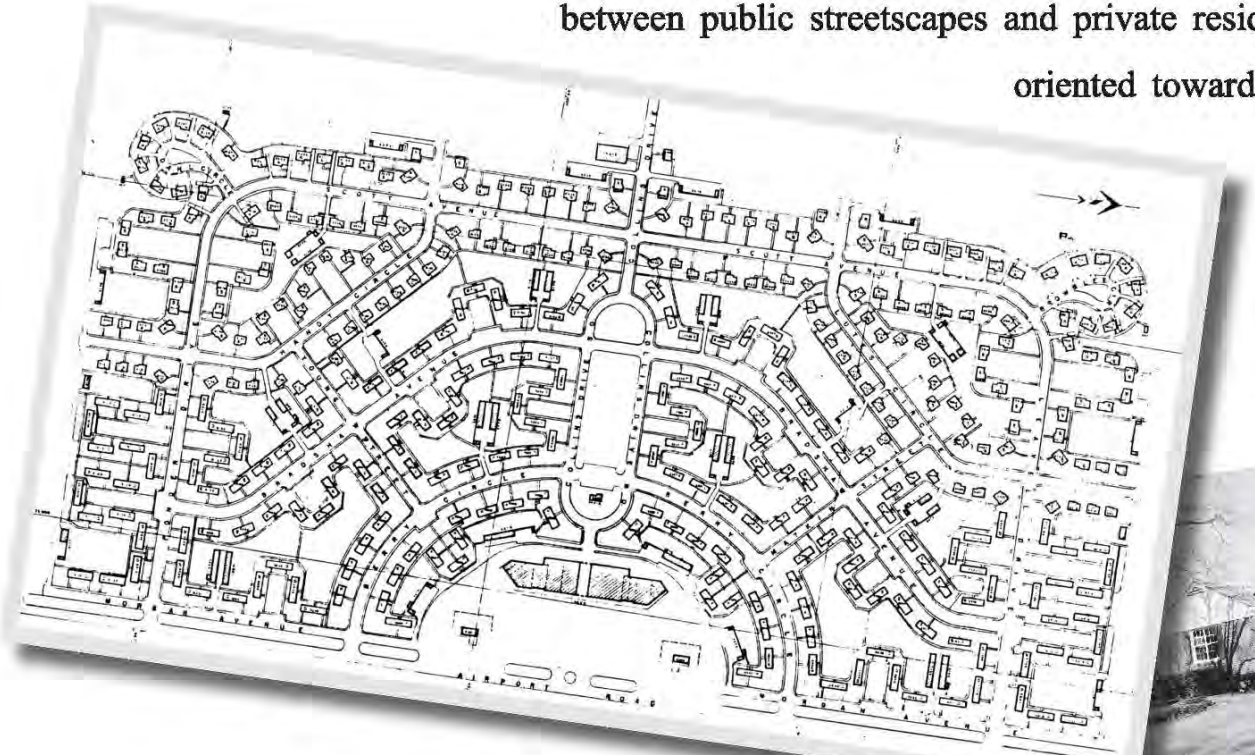


SITE PLANS

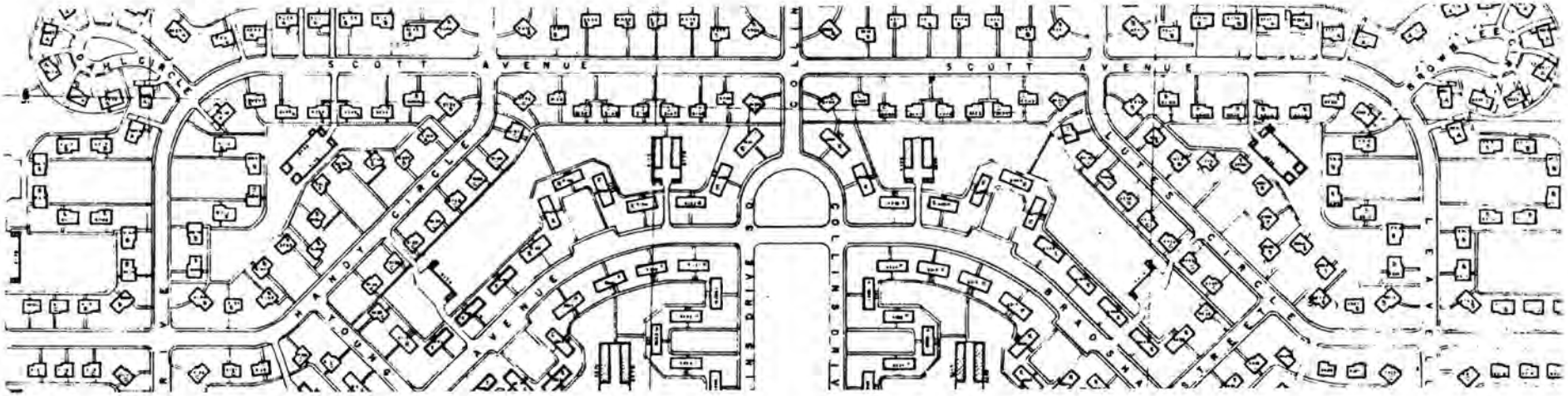
Ambitious plans were developed for Wherry and Capehart era neighborhoods. Often, plans were more ambitious than the neighborhoods constructed. The existing neighborhoods reflect plans that were never fully executed, plans that were modified during construction, or plans that were modified over time. The original plans and existing neighborhoods can provide inspiration when planning modifications to the overall area plans or individual buildings.

Wherry, Capehart, and MCA neighborhoods are planned residential developments designed for the particular family housing needs of the installation. Neighborhoods are characterized by uniform streetscape, landscaping, and architectural image. Key features of Wherry and Capehart era neighborhoods include building setbacks, courtyards, and open space. These are elements that give the neighborhoods their sense of place.

Circulation systems of Wherry and Capehart era residential communities define the neighborhood plan and consist of curvilinear streets, courtyards, and cul-de-sacs. Designed and natural landscapes often are part of the neighborhood site plans. Amenities, such as streetlights and bus shelters, were not originally included in the neighborhood design. Some amenities subsequently were added. Neighborhoods are divided into public and private space, with dwelling units providing the transition between public streetscapes and private residential areas. Public space generally is oriented towards the street, and includes neighborhood playgrounds and collective parking. Private space extends to the rear of the living units and often is separated by privacy fences.



CIRCULATION



The neighborhood circulation system is divided into streets and sidewalks.

Streets

Wide, gently curving streets are found in many Wherry, Capehart, and MCA neighborhoods. Site plans also included cul-de-sacs and courtyards within the street network to create variety in design. Streets are dual-drive, and often accommodate parking on both sides of the street. Streets and collective parking lots generally are paved in asphalt and abut concrete curbs; driveways and parking pads are poured concrete.

Guidelines for Neighborhood Design: Streets

- Consult original project plans for site plans depicting streets, curb cuts, and driveways.
- Maintain the existing circulation network including courtyards, cul-de-sacs, and curbs.
- Repair paving and curbing materials with materials that match the original in color and texture.
- New road design should adopt dimensions and materials similar to the existing system.

Sidewalks

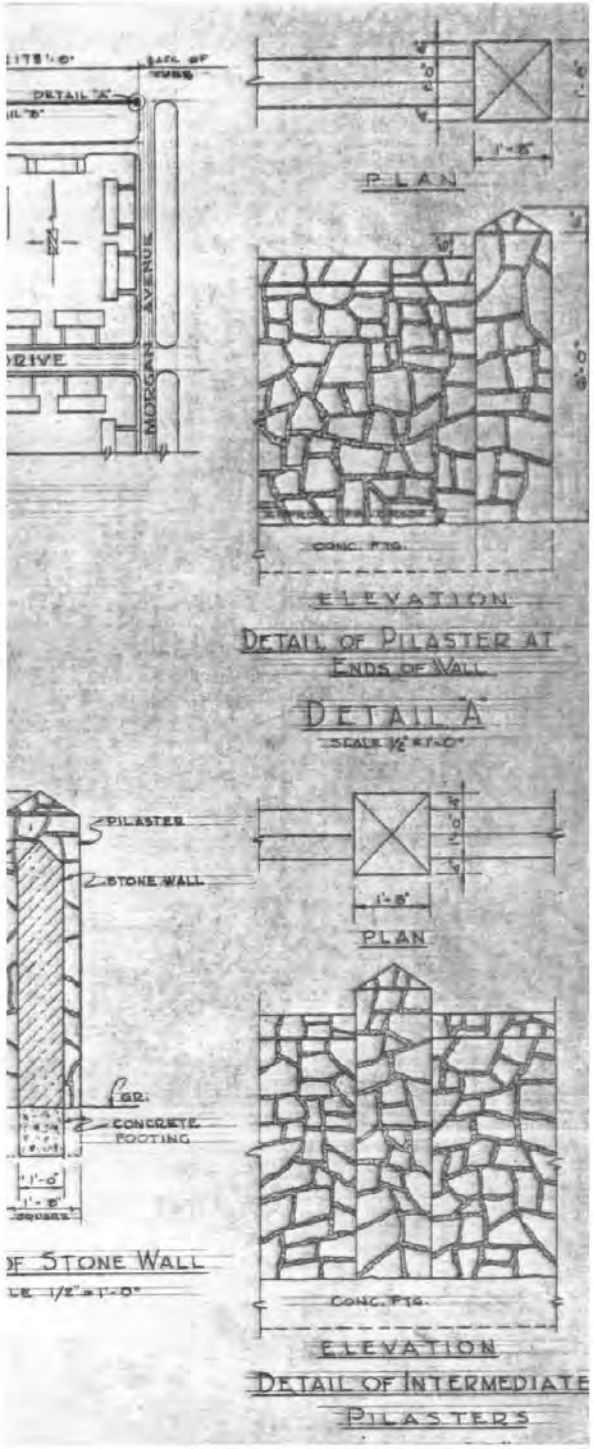
Concrete sidewalks connect streets and parking areas with housing units. The neighborhood sidewalks often line one or both sides of the street, depending on the neighborhood. The sidewalks generally extend directly to the curb, without a planting strip between the sidewalk and the curb.

Guidelines for Neighborhood Design: Sidewalks

- Consult original project plans for the location of sidewalks.
- Maintain the existing sidewalk network.
- Repair and replace paving materials with materials that match existing paving in color and texture. Consult original drawings for data on original materials.
- Avoid alterations or changes to the original sidewalk network.
- New sidewalks should adopt the dimensions and materials used in the original design.

LANDSCAPE PLANS

Landscape plans were developed for the Wherry, Capehart, and MCA neighborhoods. Few plans were completely executed. Landscaping in Wherry, Capehart, and MCA neighborhoods generally is minimal. Landscaping in neighborhoods with single-family and duplex buildings often consists of formal designs that include foundation shrubs and trees. The natural landscape often was included in Wherry, Capehart, and MCA neighborhoods. Wooded areas serve as buffers for the residential neighborhoods. Landscape features of Wherry, Capehart, and MCA neighborhoods include walls and fences, plant materials, topography, natural and designed landscapes, and amenities such as street furniture, collective mailboxes, and shelters for refuse collection.



Walls and fences

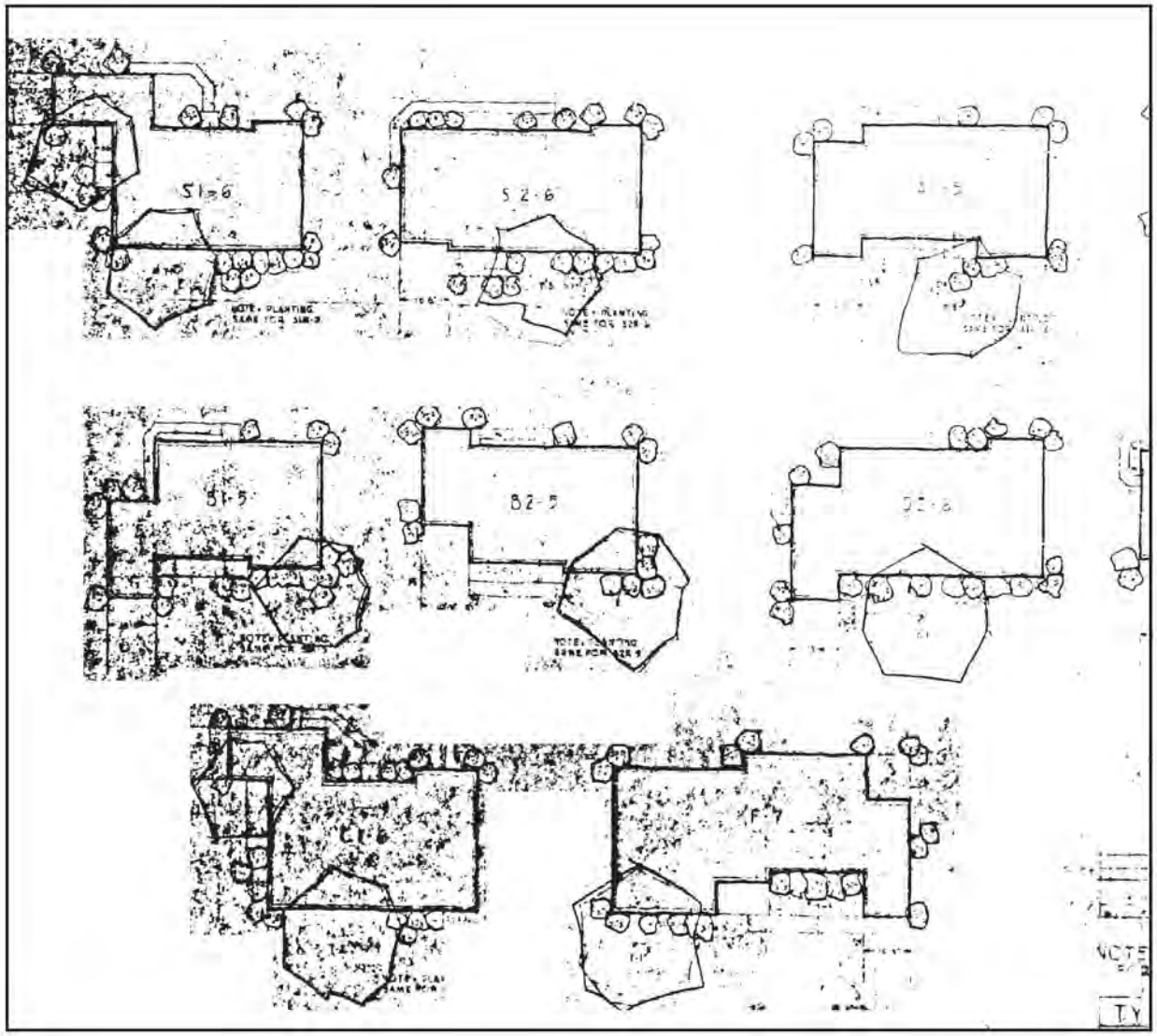
Selected Wherry and Capehart neighborhoods include low-scale masonry walls that were built shortly after the neighborhoods were completed. These structures define the neighborhoods and contribute to their character. House lots often were constructed with masonry walls or wood privacy fences. Privacy fences continue to be constructed between single-family and duplex units.

Guidelines for Neighborhood Design: Walls and Fences

- Consult original drawings when undertaking rehabilitation, repair, or alterations of walls and fences. Original project plans may provide a source of information on the type, location, and construction of walls and fences.
- Maintain existing masonry walls and wood privacy fences.
- Adopt a regular painting schedule for wood privacy fences to ensure their longevity.
- Regularly inspect walls and privacy fences for maintenance and repair needs.
- Repair sections of walls and fences using in-kind materials and methods.

Plant Materials

Landscape plans for Wherry and Capehart era neighborhoods often presented formal designs specifying the type and location of plant materials. Plants frequently selected were indigenous to the region.



Guidelines for Neighborhood Design: Plant Materials

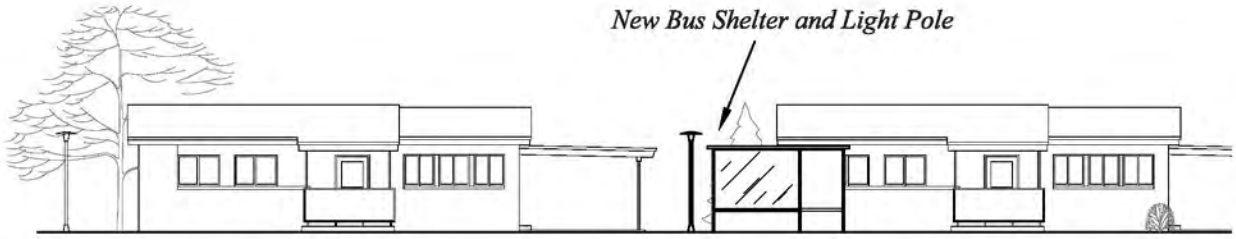
- Consult original landscape plans when undertaking rehabilitation, repair, or alterations of neighborhood landscape designs. Such plans contain information on the original design and plant materials.
- Indigenous plants are encouraged, particularly when original plantings included invasive species.
- Drought-tolerant plantings should be planted at Western installations with hot, arid climates.
- Maintain existing plant materials on a regular basis, including wooded landscape buffers and formal landscaping.
- Remove diseased or dying plant material and select replacement materials that match the original in species and location.

Amenities

Neighborhood amenities are accessory features found in Wherry, Capehart, and MCA residential communities and include street furniture, collective mailboxes, streetlights, and shelters for refuse collection.

Guidelines for Neighborhood Design: Amenities

- Review original site plans for the location, material, type, and size of site amenities.
- Maintain existing site amenities.
- Repair or replace site amenities to match the original design in style, materials, size, scale, and location.
- Design new amenities, such as bus shelters and streetlights, to be compatible with the character of the neighborhood in style, materials, mass, scale, and location.



Consider compatible new amenities, such as mailboxes, light poles, and bus shelters, similar in style, materials, mass, scale, and location to those found the neighborhood.

PUBLIC SPACE

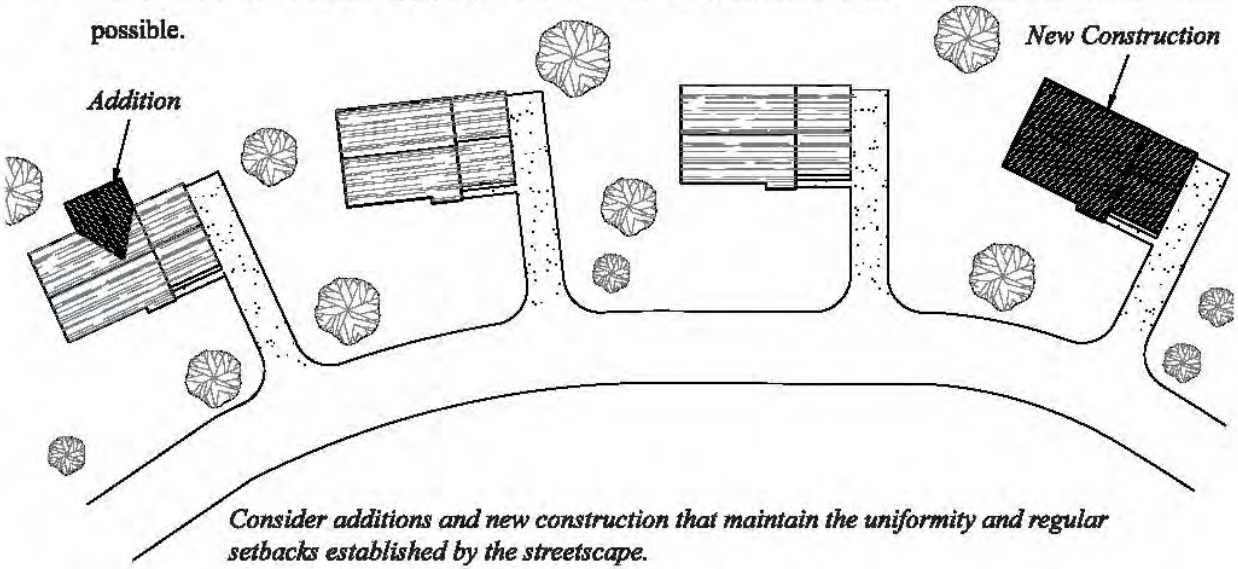
Wherry and Capehart era neighborhoods included public space for support services, and active or passive recreation. Public space was created as part of the streetscape by uniform building setbacks, collective parking areas, and courtyards. Neighborhood playgrounds often were located in the interior of residential blocks. Early Wherry Act neighborhoods included commercial shopping centers located at the periphery of housing areas.

Streetscapes and Building Setbacks

Streetscapes present a uniform architectural image defined by residential use, circulation patterns, building setbacks, and consistent scale and materials. The open space created by uniform building setbacks is a key element of Wherry and Capehart era neighborhoods. New additions and buildings should maintain the established uniform setback. Landscape plans and standardized buffers between buildings reinforce uniformity in streetscapes.

Guidelines for Neighborhood Design: Streetscapes

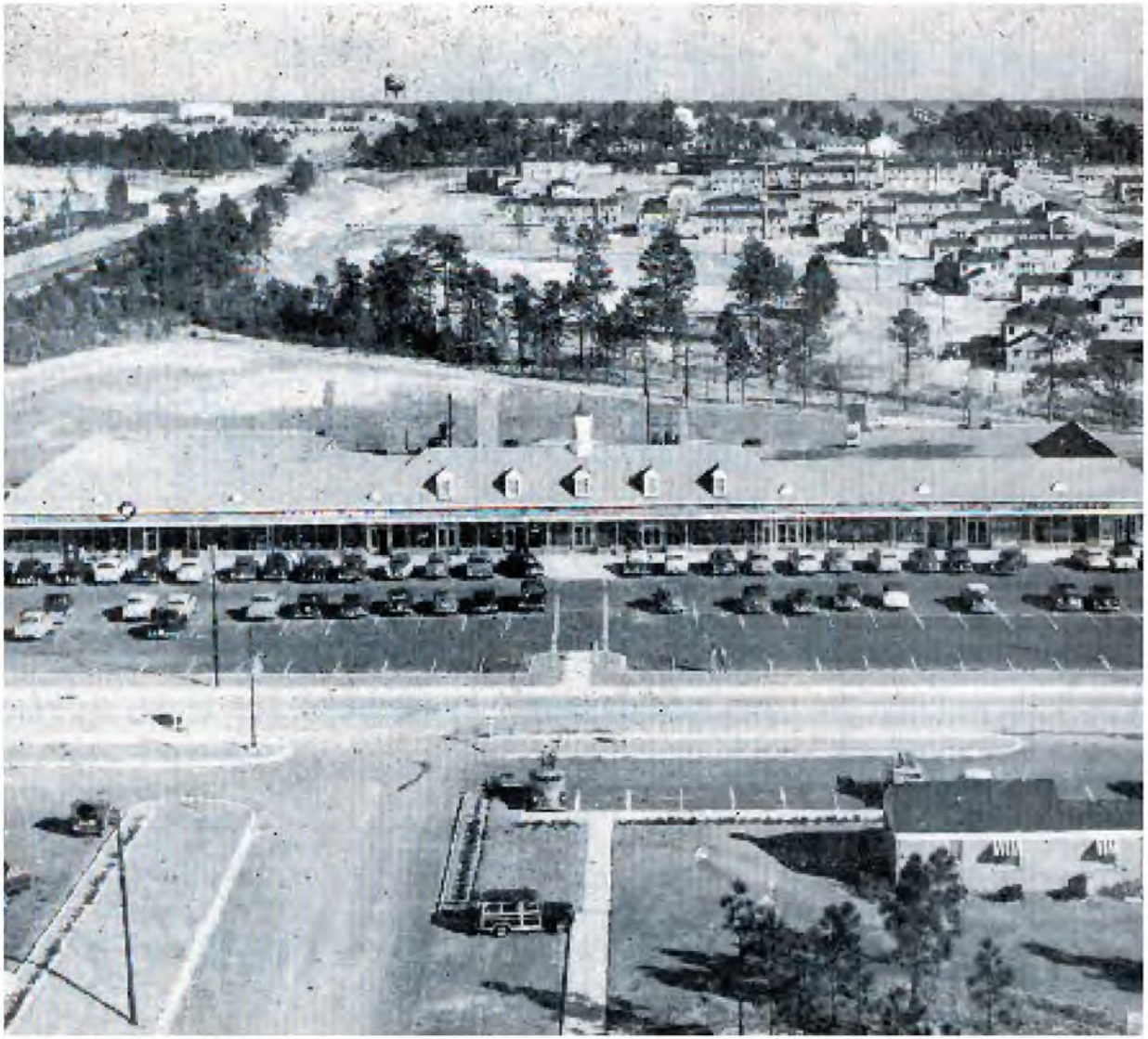
- Identify elements contributing to uniform streetscapes.
- Retain elements that contribute to the character of the streetscape, when possible.
- Introduce new features into the streetscape in a uniform manner throughout the neighborhood, when possible.
- Design new construction applying established building setbacks, scale, mass, and materials, when possible.



Consider additions and new construction that maintain the uniformity and regular setbacks established by the streetscape.

Shopping Centers

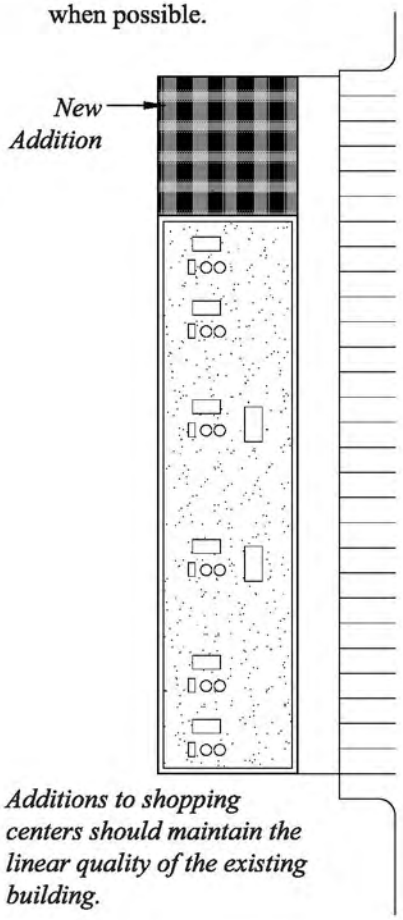
Some early neighborhoods constructed under the Wherry program included neighborhood shopping centers. Shopping centers generally adopt contemporary strip designs comprising multiple commercial fronts. Open, covered pedestrian arcades frequently are integrated into the façade. Commercial centers are recessed from the street to accommodate formal parking lots. The centers are integrated into the housing area or located on its periphery. Neighborhood commercial centers housed convenience stores, dry cleaners, and beauty and barbershops.



Guidelines for Neighborhood Design:

Shopping Centers

- Identify character-defining features of the neighborhood shopping center. These features generally include multiple-unit buildings, pedestrian arcades, and parking lots.
- Retain original design relationship of character defining features, when possible.
- Design new commercial units and parking areas as linear additions to existing centers, when possible.



Additions to shopping centers should maintain the linear quality of the existing building.

Playgrounds

Many neighborhoods containing multi-family buildings include playgrounds. Playgrounds often are located in the open space at the rear of the buildings. Original playground equipment rarely survives. New equipment reflects current safety concerns. Neighborhood playgrounds are a common addition to the original plans of Wherry and Capehart era housing areas.

Guidelines for Neighborhood Design: Playgrounds

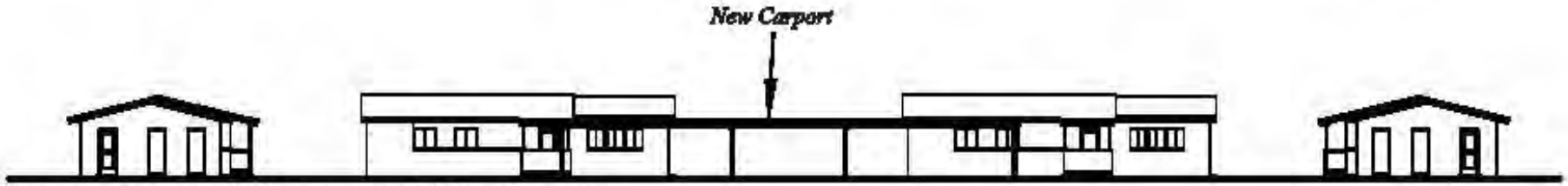
- Retain established open space, where possible.
- Consider original landscape designs and plant materials in designing landscape improvements.
- Design new playgrounds that are similar in scale, placement, and overall design to original facilities, when possible.
- New play equipment should reflect current safety standards.

Courtyards

Courtyards are key elements in Wherry and MCA neighborhoods with multi-unit buildings. Multi-family buildings are recessed from the street, adopting a garden apartment plan oriented around landscaped courtyards. Courtyards provide open space and common parking. Landscaped courtyards created visual interest and eliminated monotony in neighborhood streetscapes. Courtyards are characteristic neighborhood features of multi-family Wherry and MCA neighborhoods. They are not common in Capehart neighborhoods with multi-family buildings.

Guidelines for Neighborhood Design: Courtyards

- Retain courtyards as open space, when possible.
- Parking improvements, such as carports, should be open, low-scale designs that retain the illusion of open space.
- Landscape designs should be retained, when possible.
- Replacement plant materials should be similar in species and placement to original materials.



New carports should maintain the courtyard's feeling of openness.

Parking areas

Community parking was comprehensively designed as a neighborhood feature. Several types of parking facilities were constructed depending on the neighborhood and the rank of the original occupants. Collective parking lots are common in neighborhoods with multi-family buildings. In neighborhoods of multi-family buildings, shallow parking lots often are located immediately in front of the courtyards. Collective parking is located immediately adjacent to the buildings in other neighborhoods. A third option for collective parking was wide roads accommodating curbside parking. Many neighborhoods with single-family and duplex buildings included driveways, some with attached or detached carports. Parking lots were paved in asphalt; driveways and parking pads were paved in poured concrete. Carports have been added over time to some of the buildings and parking lots.

Guidelines for Planning Improvements to Parking Areas

- Maintain and repair existing parking lots and driveways.
- Replace paving materials that match the original in terms of visual quality, texture, and material.
- Repair and replace deteriorated carport features such as support posts and roofs to the original in terms of design and materials.
- Create new parking lots that are similar in design, placement, location, size, and materials as the existing.
- Consider new garages and carports that are compatible in terms of materials, scale, and design to existing examples.

PRIVATE SPACES

Wherry and Capehart era neighborhoods incorporated both interior and exterior private spaces designed for the privacy of the residents. The façade of residential units provides the transition between the public streetscape and the private interior and rear yard. Rear yards serve as extensions of primary living areas. Many neighborhoods originally were designed with patios and rear yard privacy walls and fences.

Patios

Typically, single-family and duplex buildings were designed with patios. The patios act as an extension of the living room, which usually was placed near the rear of the building. Patios and private backyards are less frequent in large-scale multi-family buildings with more than eight units, although they are common in small-scale, multi-family buildings.

Guidelines for Neighborhood Design: Patios

- Maintain the existing spatial relationship between the housing units and the patios.
- Avoid removing doors to back yards.
- Repair or replace deteriorated patios using designs that match original patio design in size, color, and materials.

Yards

Rear yards provide private exterior space for neighborhood residents. Many neighborhood designs included rear yard concrete patios. Masonry walls and wood privacy fences often were designed as integral components of the yard.

Original fencing materials included wood, stone, concrete block, brick, and metal. Generally, wood fences were designed for buildings clad in wood or stucco and concrete block and metal privacy walls were designed for brick buildings. Chain link fences often were added to reinforce the distinction between public and private spaces. Chain link fences maintained the open quality of the original neighborhood design, while affording privacy.

Guidelines for Neighborhood Design: Yards

- Maintain existing size and dimensions of back yards.
- Repair and replace backyard features such as concrete patios, walls and fences with designs and construction techniques matching the original elements in scale, materials, and location.
- Construct new fences and patios that are compatible with the scale, design, and materials of elements found elsewhere in the neighborhood.
- Consult original project plans for information on the location, design, and materials of original features that have been removed over time.
- Lawn furniture, sheds, and play equipment can be added to backyards without altering the character of the neighborhood. Consult applicable installation policies and Army regulations regarding the placement of permissible sheds and fences.

Service porches and yards

Service porches and screening accommodate utility access and storage for refuse containers in Wherry and Capehart era neighborhoods. Single-family and duplexes include integrated service porches. Brick or concrete walls screen recessed porches, which are accessible from the exterior of the building. Additional storage for refuse containers is found under or adjacent to carports and is screened from the road by low-scale brick or concrete walls. Less common are service yards that are screened by tall fences. Located at the front of the building, these service yards house laundry lines as well as refuse storage.

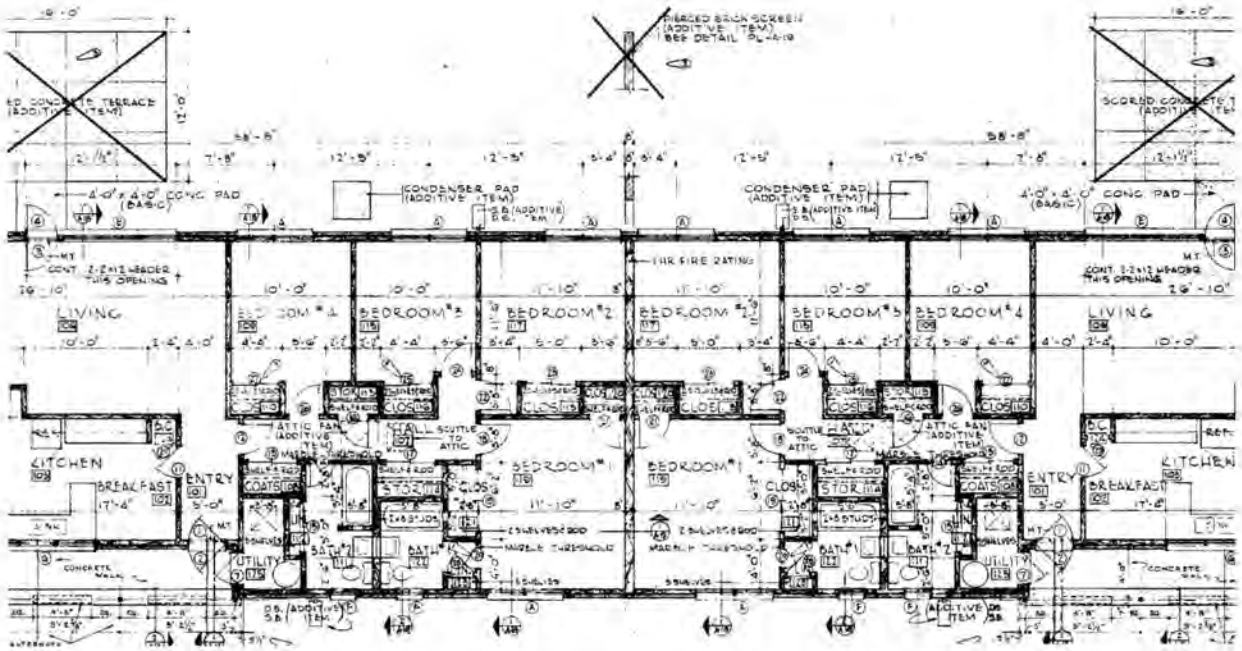
Guidelines for Neighborhood Design:

Service Porches and Yards

- Maintain existing service areas.
- Repair or replace deteriorated screening materials with materials that match the original materials in type, color, texture, and scale.
- Demolish service-screening walls that have deteriorated beyond repair and replacement.
- Avoid filling recessed service porches.
- Construct new service screening that matches the scale and design of the primary building.
- Consult original project plans for information on the location, design, and materials of original service porches and screening.

BUILDINGS

Wherry and Capehart era neighborhoods contain single-family, duplex, and multi-unit dwellings. Uniform setbacks, low scale, and similar materials characterize these residential neighborhoods.



Footprint

Generally, Wherry, Capehart, and MCA buildings are linear designs. Building footprints generally are rectangular with the longitudinal axis oriented parallel to the street. L-, C-, or E-shaped footprints are common. Single-family Wherry houses generally have square, geometric footprints.

Guidelines for Neighborhood Design: Footprint

- Maintain the existing building footprint, when possible.
- Avoid infilling the recesses to accommodate new additions.
- Construct additions to rear or side elevations of the building to maintain the footprint design.
- Design additions to match the scale, design, proportion, massing, and materials of the existing building.
- Maintain uniform setbacks between neighboring buildings and the street.
- New or infill construction should maintain the footprint established by existing buildings.

Scale, Mass, and Proportion

Low-scale, two-story buildings dominate Wherry and Capehart era neighborhoods. Buildings generally are rectangular masses punctuated by either recessed or projecting entries. Both symmetrical designs, with balanced patterns of doors and windows, and asymmetrical designs, with off-centered patterns of doors and windows, are found. Neighborhood buildings exhibit a strong horizontal emphasis. Building height, linear plans, rectangular mass, pattern of windows, and the roof structure create buildings that "read" as horizontal designs. Wide streets and uniform setbacks contribute to the low-scale feeling.

Guidelines for Neighborhood Design: Scale, Mass, and Proportion

- Maintain existing neighborhood scale, mass, and proportions established by housing.
- Construct additions to the rear or side of the buildings to maintain architectural identity of the neighborhood, if possible.
- Consider matching new buildings to the scale, mass, and proportion of the existing buildings in the neighborhood.
- Consult original project plans for information on the neighborhood architectural identity.
- Avoid infilling recessed porches and entries, when possible.

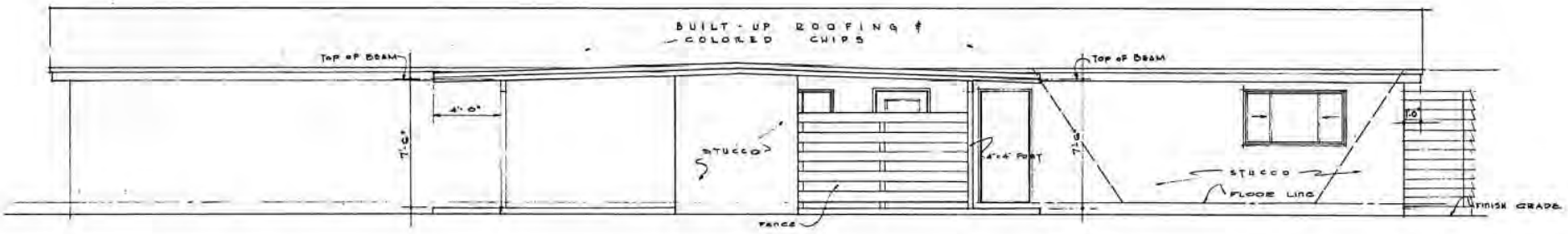
Elevations

Wherry and Capehart neighborhoods include linear buildings with regular "flat" elevations. Façades are broken by projecting or recessed entries. Elevations are symmetrical, with a regular rhythm of window and door openings, or asymmetrical, or with an off-center pattern of window and door openings. The exteriors of the buildings are faced in brick veneer, stucco, or synthetic siding. Shallow roof pitches and extended eave lines characterize many designs. Minimal ornamentation is used. The neighborhood architectural image is created by the regular sequence of uniform buildings sited with uniform setbacks. Visual interest is created by the overall pattern of materials.

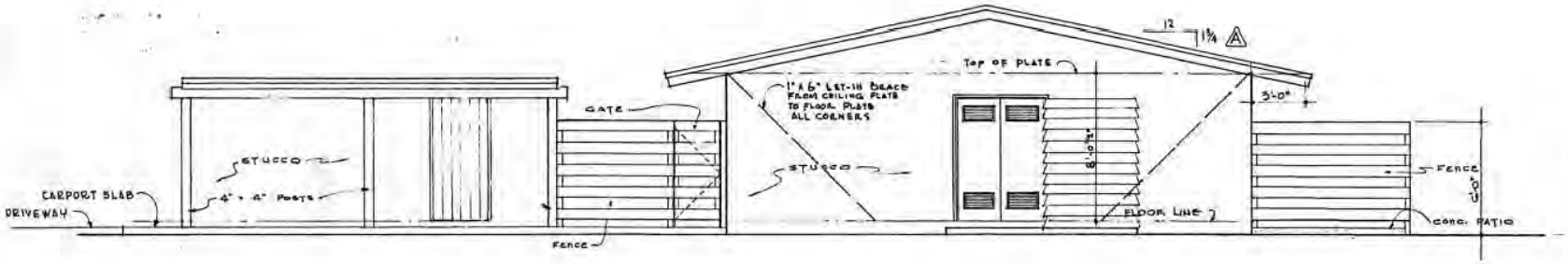
The scale, mass, proportion, and materials of the existing building are elements that should be considered when developing plans for new construction and renovation. For example, if windows need to be replaced, the new windows should match the original window opening and glazing pattern. Replacement-in-kind, in terms of material and visual quality can convey the intent of the original design without adversely affecting neighborhood character.

Guidelines for Neighborhood Design: Elevations

- Maintain the flat façade created by the existing rhythm of windows and doors within the neighborhood.
- Maintain existing building materials.
- Repair and replace deteriorated materials to match the originals in design and visual quality.
- Construct additions on rear or side elevations to retain overall streetscape design.
- Consult original project plans for information on original architectural designs.



ELEVATION "A"



Guidelines for Neighborhood Design: Windows

- Maintain existing windows.
- Repair window components including frames, sash, muntins, glazing, sills, heads, and jambs rather than replacing them.
- Replace deteriorated replacement windows with units similar in design and configuration to those depicted in original drawings.
- Match replacement elements to the original elements in design, profile, scale, and materials.
- Avoid enlarging window openings and installing oversized units.

Windows

A variety of window types are found on Wherry, Capehart, and MCA buildings. Window types include double-hung, horizontal sliders, garden, and bay windows. Multi-light metal casement units frequently were originally found in Wherry and Capehart era neighborhoods. Replacement units generally are installed within original window openings.

Roofs

Flat, gable, and compound gable roofs are found in Wherry and Capehart era neighborhoods. Original roofing materials have been replaced over the years. Composition shingles, or built-up roofs were installed.

Guidelines for Neighborhood Design: Roofs

- Maintain existing roof type and elements such as chimneys.
- Maintain roof, flashing, drains, gutters, and downspouts.
- Consider replacement roofing materials that match the original cladding in color, texture, design, scale, and reflective quality.

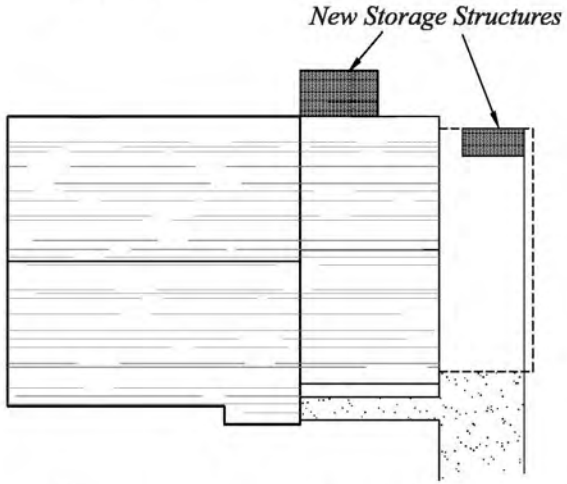
Ancillary structures

Storage

Few Wherry and early MCA neighborhoods included outdoor storage buildings. Storage structures in these neighborhoods are later additions. Capehart and late MCA neighborhoods included specialized storage areas located at the rear or side of the buildings. Additional storage space often was added. Attached, detached, or integrated designs were used. New and replacement structures generally are constructed of materials that are similar to those found on the primary building. Materials include masonary and vinyl siding. Asphalt shingle roofs or built-up roofs are common.

Guidelines for Neighborhood Design: Storage Buildings and Structures

- Maintain existing storage facilities.
- Repair or replace deteriorated elements of the storage structure using materials that match the main building in color, texture, and type.
- Consult project plans for information on the design, location, size, and materials used for original storage structures.

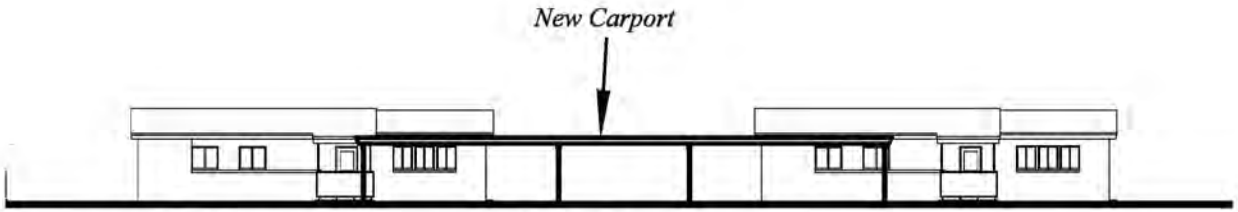


Consider the addition of new storage structures at the end of the driveway or behind the building.

- Site new structures at the end of driveways, within the carports, or to the rear of the buildings, when possible.
- Variety existed in the placement of storage structures. New storage structures can be attached or detached. Consult project plans and the neighborhood for guidance on the placement of new storage facilities.

Carports

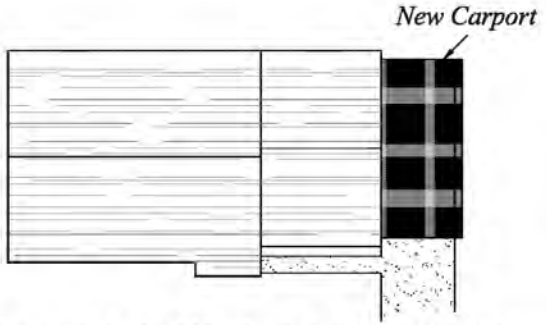
Neighborhoods with single-family and duplex buildings often were designed with attached or freestanding carports. Some carports have been replaced and rebuilt over the years. Parking lots of multi-family buildings generally were not designed originally with covered parking. New and replacement carports generally are constructed in brick, vinyl siding, and wood, with asphalt shingles or built-up roofs. These materials are similar to those found on the primary building.



New carports should maintain the courtyard's feeling of openness.

Guidelines for Neighborhood Design: Carports

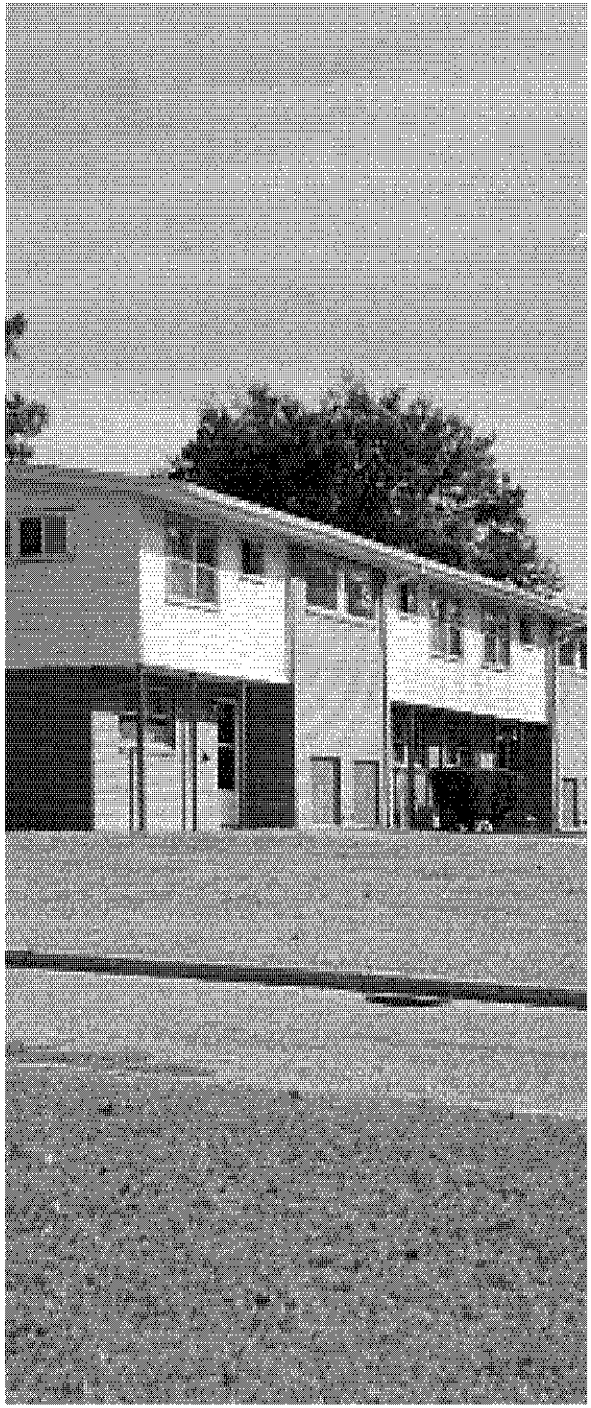
- Maintain existing carports.
- Repair or replace deteriorated carport features. Match the replacement features to the original design and materials.
- Maintain the open space in courtyards in planning the construction of new carports in parking lots. Consider designs and materials similar to those found on the primary structure.
- Consult project plans for information on original carport design and construction.



New carports should be simple in design. The scale, mass, and materials should match the primary building.

Similar materials were used in Wherry, Capehart, and MCA neighborhoods. Materials reflect technological advances in the construction industry. Brick and stone veneer, asbestos, concrete, and stucco were used for buildings constructed in Wherry and Capehart era residential communities. Uniform materials are an important feature of Wherry, Capehart, and MCA neighborhoods.

GUIDELINES FOR MATERIALS



Generally, neighborhood construction materials reflect regional variations and local preferences. Brick and stone veneers over wood frame are common in the South and Northeast; stucco was used in the Southwest. Built-up roofs and asphalt shingles were used for roofing materials. Wood was used for building details such as fascia boards, soffits, and window and door surrounds. Many buildings originally were constructed using materials that are now known to be hazardous. Asbestos was used for clapboard siding and roof shingles. Original construction materials frequently have been replaced as part of maintenance, improvement, or abatement projects.

Guidelines for Neighborhood Design: Materials

- In-kind replacement materials that match the original in terms of profile, size, color, texture, and scale can be substituted in cases where toxic materials originally were used.
- Repair or replace deteriorated materials with materials that match the originals in profile, size, color, texture, and scale.
- Review original project plans for information when replacing and repairing materials. Match original materials in profile, size, color, texture, and scale.

Masonry (including brick and stone veneer, concrete, and stucco)

Water is a major cause of masonry deterioration. Masonry should be inspected carefully for signs of water penetration. Moisture penetration into masonry can lead to serious and costly damage to masonry either through freeze-thaw damage or chemical reactions between materials. For these reasons, roof, flashing, drains, gutters, and downspouts should be maintained regularly. Conditions conducive to materials deterioration should be identified and corrected. Repairs should be made to affected masonry.

When desirable, masonry should be cleaned using the gentlest means possible. Low-pressure water wash with soft bristle brushes and mild detergents generally are appropriate. Abrasive cleaning techniques, such as sandblasting or strong chemical solutions, can erode masonry as well as dirt and may increase future maintenance costs.

BRICK AND STONE VENEER

- Deteriorated mortar, cracks in joints, and loose bricks and stone are evidence of mortar failure. Repointing may be necessary. Take care to match the original color, material, composition, size, and profile of the existing mortar joints when repointing.
- Cracking and bowing in veneer may be evidence of failure in the veneer anchoring system. Repair ties to correct bowing and cracking.
- Inspect flashing and drainage systems regularly to prevent water penetration into walls or conditions leading to moisture condensation.

STUCCO

- Repair hairline cracks by sealing with paint or whitewash.
- Consider patching damaged stucco rather than replacing an entire wall coating.
- Complete test patches to ensure that the new stucco is compatible with the existing stucco.
- Paint the patch area to match the existing paint. Make sure the new paint is compatible with the existing paint.
- Severe deterioration may require stucco replacement. Consider replacement of stucco if 40 to 50 percent of the stucco has failed.

CONCRETE

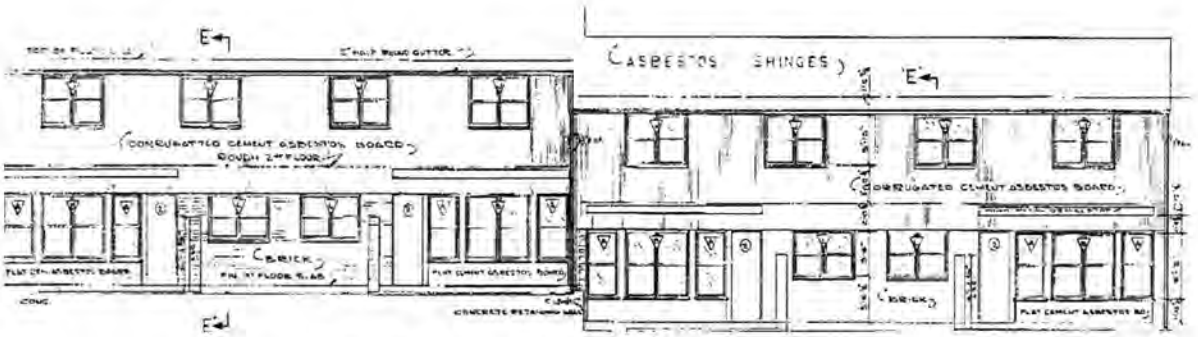
- Inspect materials for conditions contributing to failure.
- Repair cracked concrete by patching with original mix or mix compatible with the original. Review original project plans for specifics on original mortar mixes. Concrete patches should be compatible with existing concrete as well as surface treatments, such as paint or stucco.
- Match the color and texture of patching materials with original concrete.

WOOD

- Maintenance, including regular painting, prolongs the useful service of wood doors, fascia boards, siding, window and door casings, and fences.
- Consider selective repair of wood elements rather than replacement, when possible.
- Replace deteriorated elements to match the original elements in size, material, and design. Original project plans may provide details on original elements.

ALUMINUM AND VINYL SIDING

- Aluminum and vinyl sidings were installed frequently to replace original siding and wood elements, such as fascia boards, soffits, and trim for maintenance or to abate hazardous materials, such as asbestos.
- Repair and secure loose siding to prevent moisture penetration.
- Replace dented siding.
- Inspect buildings for cladding deflections, bows, and other irregularities that may be caused by water damage and lumber shrinkage.
- Paint on vinyl and aluminum siding generally will require renewal in six to fourteen years of installation.



Hazardous Materials

Many Wherry, Capehart, and MCA buildings were constructed using materials that are now known to be hazardous. Treatment and elimination of hazardous materials, such as asbestos and lead-based paint, should be undertaken applying appropriate abatement procedures.

CEMENT ASBESTOS BOARD AND ASBESTOS SHINGLES

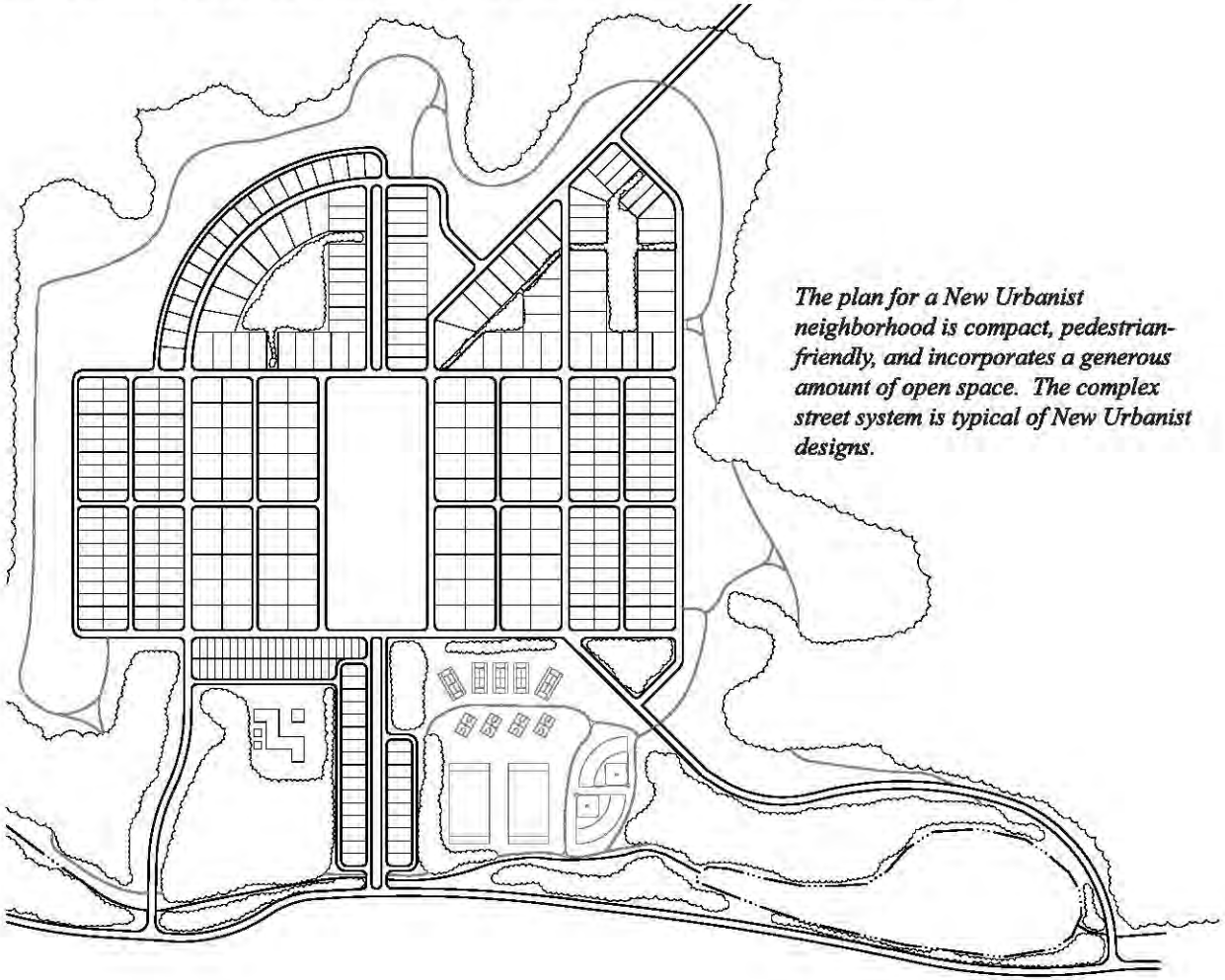
- Many Wherry and Capehart era buildings originally were clad in asbestos shingles. Asbestos products also were used for roofing, siding, and flooring materials for their fireproof-qualities. Cement asbestos board is composed of Portland cement, sand, and asbestos.
- Inspect cement asbestos board for cracked and broken pieces. Refer to the Department of the Army's Public Works Technical Bulletin 420-70-8 for treatment guidance.
- Maintain, repair, and protect against materials with asbestos. The condition of the asbestos will determine which course of action to take: removal, enclosure, or encapsulation.
- Monitor asbestos for changes in the condition of the material that may require removal, enclosure, or encapsulation.
- Match replacement materials to the original asbestos element in color, texture, size, and scale.
- Refer to the installation's asbestos management plan for additional guidance.

Lead Paint

Lead paint was used in residential buildings until 1977. Buildings in Wherry and Capehart era neighborhoods predate 1977. Refer to the Installation Lead Hazard Management Plan for guidance on the treatment of lead-based paint.

NEW NEIGHBORHOODS

In some cases, new houses will be constructed on the site of Wherry and Capehart era neighborhoods. Wherry, Capehart, and MCA neighborhoods reflected suburban design aesthetics popular during the post-World War II period. Typical features of postwar suburbs included wide, curvilinear streets and cul-de-sacs; the segregation of residential and commercial uses; and low-scale dwellings with uniform setbacks and rear yards. Design professionals in recent years have drawn inspiration from traditional nineteenth and early twentieth century neighborhoods to develop plans for new pedestrian-friendly, mixed-use developments in response to the sprawl and congestion associated with modern suburbs. Proponents of a return to traditional neighborhood design generally ascribe to the principles of New Urbanism. For a more detailed discussion on New Urbanism, refer to www.cnu.org.



The plan for a New Urbanist neighborhood is compact, pedestrian-friendly, and incorporates a generous amount of open space. The complex street system is typical of New Urbanist designs.

CHARACTERISTICS OF NEW URBANIST NEIGHBORHOODS:

- Compact, pedestrian-friendly, and mixed-use
- Encourage community activities within walking distance
- Offer a wide range of housing types
- Include variety in type and size of open spaces including tot-lots, neighborhood greens, ballfields, and community gardens
- Encourage pedestrian activities
- Incorporate a complex street plan of neighborhood streets, alleys, and boulevards for through traffic
- Streets terminate at public space
- Alleys provide vehicular access to detached garages located at the rear of the property
- Shallow front yard setbacks
- Pedestrian-friendly sidewalks, crosswalks, and paths link buildings together

Additional Information

Army Regulations and Technical Bulletins

1992 Army Regulation AR420-70, Buildings and Structures, 29 May.

1997 Army Regulation AR 200-1, Environmental Protections and Enhancement, 21 February.

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Pamphlets

The following briefs are available through the National Park Service. They can be downloaded from the National Park Service website at www.nps.gov.

Preservation Brief No. 1: The Cleaning and Waterproof Coating of Masonry Buildings.

Preservation Brief No. 2: Repointing Mortar Joints in Historic Masonry Buildings.

Preservation Brief No. 4: Roofing for Historic Buildings.

Preservation Brief No. 6: Dangers of Abrasive Cleaning to Historic Buildings.

Preservation Brief No. 9: The Repair of Historic Wooden Windows.

Preservation Brief No. 10: Exterior Paint Problems on Historic Woodwork.

Preservation Brief No. 14: New Exterior Additions to Historic Buildings: Preservation Concerns.

Preservation Brief No. 16: The Use of Substitute Materials on Historic Building Exteriors.

Preservation Brief No. 22: The Preservation and Repair of Historic Stucco.

Preservation Brief No. 24: Heating, Ventilating, and Cooling Historic Buildings: Problems and Recommended Approaches.

Preservation Brief No. 37: Appropriate Methods for Reducing Lead-Paint Hazards in Historic Housing.

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Pages 13 (left), 26 (left)

Fort Belvoir Housing Office, Fort Belvoir, Virginia

Page 15

Fort Benning Directorate of Facilities Engineering, Fort Benning, Georgia

Pages 10, 35, 46

Fort Bliss Directorate of Environment, Fort Bliss, Texas

Pages 13 (right), 17 (left), 18, 21 (left), 22

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(all but bottom right cover), 19, 20, 21(right), 23(all), 25 (both), 27, 28 (both, 29, 30,31 (both), 32, 33, 34, 36, 38 (both), 39 (both), 4-(all), 41, 42,43,44,45,47,48

History Office, U.S. Army Engineer School, Fort Leonard Wood, Missouri

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National Archives and Record Center, College Park, Maryland. Record Group 111 SC Army Signal Corps

Pages (bottom right cover), 4, 5,6,8,9,11,12,14

Yuma Proving Ground, Master Planner, Yuma Proving Ground, Arizona

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Photo Discriptions

Page 4: Schofield Barracks, Capehart Housing, Fort Schafter, HI, 1959.

Page 5: Schofield Barracks, Capehart Housing, Fort Schafter, HI, 1959.

Page 6: Schofield Barracks, Capehart Housing, Fort Schafter, HI, 1959.

Page 8: Schofield Barracks, Capehart Housing, Fort Schafter, HI, 1957.

Page 9: Capehart Housing, White Sands Proving Ground, NM, 1958.

Page 10: Wherry Housing, Fort Benning, GA, ca. 1950.

Page 11: Schofield Barracks, Capehart Housing, Fort Schafter, HI, 1959.

Page 12: Schofield Barracks, Capehart Housing, Fort Schafter, HI, 1959.

Page 13: Wherry Housing, Fort Bragg, NC, ca. 1950 (photo).
Aero Vista, Wherry Housing, Fort Bliss, TX, ca. 1950 (drawing).

Page 14: Capehart Housing, White Sands Proving Ground, NM, 1958.

Page 15: Lewis Heights Village, Wherry Housing, Fort Bragg, NC.

Page 16: Schofield Barracks, Capehart Housing, Fort Schafter, HI, 1957.

Page 17: Van Horne Park, Wherry Housing, Fort Bliss, TX (drawing).
Wherry Housing, Fort Bragg, NC, 2002 (photo).

Page 18: Van Horne Park, Wherry Housing, Fort Bliss, TX.

Page 19: Van Horne Park, Wherry Housing, Fort Bliss, TX, 2002.

Page 20: Wherry Housing, Fort Benning, GA, 2002.

Page 21: Van Horne Park, Wherry Housing, Fort Bliss, TX ca. 1957 (drawing).
Capehart Housing, Fort Bliss, TX, 2002 (photo).

Page 22: Aero Vista, Wherry Housing, Fort Bliss, TX, 1957.

Page 23: Capehart Housing, Fort Leonard Wood, MO, 2002 (both).

Page 24: Capehart Housing, Fort Leonard Wood, MO, ca. 1965.

Page 25: Capehart Housing, Fort Benning, GA, 2002.

Page 26: Mallonee Village, Wherry Housing, Fort Bragg, NC, ca. 1950.

Page 27: MCA Housing, Fort Benning, GA, 2002.

Page 28: Vandenberg Village, Wherry Housing, Selfridge Air National Guard Base, MI, 2002.

Page 29: Van Horne Park, Wherry Housing, Fort Bliss, TX, 2002..

Photo Discriptions (continued)

Page 30: MCA Housing, Fort Benning, GA, 2002.

Page 31: Capehart Housing, Fort Benning, GA, 2002 (left).
MCA Housing, Fort Benning, GA, 2002 (right).

Page 32: Capehart Housing, Fort Benning, GA, 2002.

Page 33: Capehart Housing, Fort Bliss, TX, 2002.

Page 34: Capehart Housing, Fort Benning, GA, 2002.

Page 35: Capehart Housing, Fort Benning, GA

Page 36: Capehart Housing, Fort Benning, GA, 2002.

Page 37: Capehart Housing, Yuma Proving Ground, AZ, 1956.

Page 38: Wherry Housing, Fort Benning, GA, 2002 (both).

Page 39: Capehart Housing, Fort Bliss, TX, 2002.

Page 40: Wherry Housing, Fort Benning, GA, 2002.

Page 41: Detail, Capehart Housing, Fort Bliss, TX, 2002.

Page 42: Capehart Housing, Fort Bragg, NC, 2002.

Page 43: Capehart Housing, Fort Belvoir, VA, 2002.

Page 44: Ironwood, Capehart Housing, Yuma Proving Ground, AZ, 2002.

Page 45: Van Horne Park, Wherry Housing, Fort Bliss, TX, 2002.

Page 46: Wherry Housing, Fort Benning, GA, ca. 1950.

Page 47: Wherry Housing, Fort Benning, GA, 2002.

Acknowledgements

Many people assisted with the development of the Neighborhood Design Guidelines. David Guldenzopf, Ph.D. and Ms. Sarah Killinger of the U.S. Army Environmental Center provided valuable information and insights on the Army's housing privatization efforts. We gratefully acknowledge the assistance of Shannyn Scassero of the U.S. Army Medical Research Acquisition Activity, Fort Detrick, Maryland.