CONTRIBUTING RESOURCE
MARYLAND HISTORICAL TRUST
INTERNAL NR-ELIGIBILITY REVIEW FORM

Property Name: Buildings 193A,B and D Survey Number: P.G. #62-25

Property Address: North Dairy Rd, Central Farm, Beltsville Agricultural Research Center (BARC)

Project: Section 110 Agency: F/USDA

Site visit by MHT Staff: X no ___ yes Name _____ Date _____

District Name: BARC Historic District Survey Number: PG

___ Listed X Eligible _____ Comment

Criteria: X A ___B X C ___D Considerations: ___A ___B ___C ___D ___E ___F ___G ___None

The resource ___ contributes/___ does not contribute to the historic significance of this historic district in:

X Location X Design X Setting X Materials

X Workmanship X Feeling X Association

Justification for decision: (Use continuation sheet if necessary and attach map)

Buildings 193A, B and D, known as the Expansible Farmhouses, were built between 1952-1954. The simple one story frame dwellings were designed to provide inexpensive housing for BARC employees. Experimentation included possible expansion and altering construction methods and materials while maintaining the basic plan. USDA and the Trust concurred that the entire BARC property of 6582 acres is NR eligible. The Trust concurred with this determination. Because these buildings are less than fifty years old, they have been determined to be non-contributing resources since they do not appear possess exceptional significance. However, when the three buildings reach the 50 year mark, re-evaluation will be necessary.

Documentation on the property is presented in: documentation report on BARC PR 229 in MHT library, in the MIH

Prepared by: Robinson & Associates

Lauren Bowlin — 2/00
Reviewer, Office of Preservation Services — Date

NR program concurrence: X yes ___ no ___ not applicable

B Kintz — 2/29/00
Reviewer, NR program — Date

Survey No. PG-62-25

MARYLAND COMPREHENSIVE HISTORIC PRESERVATION PLAN DATA - HISTORIC CONTEXT

I. Geographic Region:

____	Eastern Shore	(all Eastern Shore counties, and Cecil)
__X__	Western Shore	(Anne Arundel, Calvert, Charles, Prince George's and St. Mary's)
____	Piedmont	(Baltimore City, Baltimore, Carroll, Frederick, Harford, Howard, Montgomery)
____	Western Maryland	(Allegany, Garrett and Washington)

II. Chronological/Developmental Periods:

_____	Paleo-Indian	10000-7500 B.C.
_____	Early Archaic	7500-6000 B.C.
_____	Middle Archaic	6000-4000 B.C.
_____	Late Archaic	4000-2000 B.C.
_____	Early Woodland	2000-500 B.C.
_____	Middle Woodland	500 B.C. - A.D. 900
_____	Late Woodland/Archaic	A.D. 900-1600
_____	Contact and Settlement	A.D. 1570-1750
_____	Rural Agrarian Intensification	A.D. 1680-1815
_____	Agricultural-Industrial Transition	A.D. 1815-1870
___	Industrial/Urban Dominance	A.D. 1870-1930
__X__	Modern Period	A.D. 1930-Present
_____	Unknown Period (___ prehistoric	____ historic)

III. Prehistoric Period Themes:

_____	Subsistence
_____	Settlement
_____	Political
_____	Demographic
_____	Religion
_____	Technology
_____	Environmental Adaption

IV. Historic Period Themes:

__X__	Agriculture
__X__	Architecture, Landscape Architecture, and Community Planning
_____	Economic (Commercial and Industrial)
__X__	Government/Law
_____	Military
_____	Religion
_____	Social/Educational/Cultural
_____	Transportation

V. Resource Type:

Category: Buildings

Historic Environment: rural

Historic Function(s) and Use(s): domestic/ dwelling

Known Design Source: Agricultural Research Service/Ag Engineering Research Div.

ADMINISTRATIVE/EXECUTIVE SUMMARY

In connection with the Beltsville Agricultural Research Center (BARC) Master Plan project, the Agricultural Research Service (ARS) initiated procedures to comply with Section 110 of the National Historic Preservation Act of 1966 (as amended). In August 1995, Robinson & Associates, Inc., an architectural history and historic preservation consulting firm, was retained as consultants to conduct a survey of residences on the BARC property. A total of 18 residential buildings were identified by ARS for inclusion in the survey, which is being completed in phases. This report presents an assessment of eligibility for a group of buildings in the final phase of evaluation.

Buildings 193A, B, and D (the Expansible Farmhouses) at Beltsville Agricultural Research Center (BARC) were constructed in the early and mid-1950s as low-cost experimental structures and to house employees. The buildings were designed so as to be easily enlarged and were constructed using a variety of construction methods and materials, some of which were experimental. A number of articles discussing various aspects of the houses were published by the USDA, and the plans for the buildings were published and made available through state agricultural extension services.

Because the buildings are less than fifty years old, in order to qualify for listing on the National Register of Historic Places they must demonstrate exceptional significance. Although the buildings do appear to have had an influence, in particular on subsequent design work by agricultural engineers at the USDA, they do not appear to rise to the exceptional level of historic and/or architectural significance necessary for listing on the National Register. They also do not appear to be a part of a significant collection of buildings (of older vintage) that may qualify as a historic district.

METHODOLOGY

Soon after the initiation of the residential Determination of Eligibility project, a windshield survey of 18 residences at the Beltsville Agricultural Research Center, including Buildings 193A, B, and D, was conducted. A subsequent site visit to Buildings 193A, B, and D enabled closer investigation of both the interior and exterior of the residences; photographs were taken at this time.

Archival research related to Buildings 193A, B, and D was conducted primarily at the National Agricultural Library. Because of their relatively recent date no information was located on the buildings at the National Archives and Records Administration. Oral histories with former USDA employees, however, were another major source of information on the buildings. Previous work by Robinson & Associates on the history of BARC (Robinson &

Associates, Inc., "Beltsville Agricultural Research Center, Phase III Report," December 1995) provided information on the establishment of BARC in Beltsville.

A Maryland Historical Trust Inventory Form was prepared for the residence, based on the requirements specified in the *Guidelines for Completing the Maryland Inventory of Historic Properties Form.*

EVALUATION OF INDIVIDUAL ELIGIBILITY

Buildings 193A, B, and D were evaluated under National Register Criteria A, B, and C at the local and national levels of significance. The relevant criteria, as listed in the *National Register Bulletin 16* (U.S. Department of the Interior, National Park Service, Interagency Resources Division), read as follows:

> The quality of **significance** in American history, architecture, archeology, and culture is present in districts, sites, buildings, structures, and objects that possess integrity of location, design, setting, materials, workmanship, feeling, and association, and:
>
> **A. that are associated with events that have made a significant contribution to the broad patterns of our history; or**
>
> **B. that are associated with the lives of persons significant in our past; or**
>
> **C. that embody the distinctive characteristics of a type, period, or method of construction or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction; . . .**

In addition to meeting the criteria, in order to qualify for listing on the National Register of Historic Places, resources must also retain the qualities of integrity, and must not represent a type usually excluded from the National Register. In the latter category, properties that have achieved significance in the last 50 years (such as Building 193B, A, and D) generally do not qualify for listing on the National Register of Historic Places. However, the 50-year guideline is not an absolute rule. Under the National Register Criteria for Evaluation, nomination of recently significant properties is permitted if: (1) they are of exceptional importance to a community, state, region, or the nation, (2) they are integral parts of districts that are eligible for listing in the National Register, or (3) they otherwise qualify and are resources which are so fragile or short-lived that they may not usually last 50 years.

Buildings 193A, B, and D (the Expansible Farmhouses) do not appear to rise to the exceptional level required to list the property on the National Register of Historic Places at this time. However, given what is known about the resources and their significance relating to materials use/construction methods, planning, and minimum standards it is important that the buildings be re-evaluated when they have reached the fifty year mark.

EVALUATION AS PART OF A DISTRICT

The Expansible Farmhouse grouping does not appear to be part of a cluster of buildings at BARC that may otherwise qualify for listing on the National Register as a historic district. Although there are other farm buildings in the general vicinity, this grouping does not bear any particular historical association with those buildings and, geographically, the buildings constitute a quite separate cluster. Robinson & Associates, Inc., is currently conducting an ARS-funded Phase I cultural resource survey of the entire BARC site, and issues relating to the presence of historic districts within the BARC site should be clarified in the study.

PG: 62-25
EXPANSIBLE FARMHOUSES (BUILDINGS 193A, B, & D) -- BELTSVILLE AGRICULTURAL RESEARCH CENTER

Location: Beltsville, MD (Prince Georges County)
Date of Construction: 1952-54
Access: Public

The Expansible Farmhouses were constructed between 1952 (Buildings 193A and B) and 1954 (Building 193D) at the Beltsville Agricultural Research Center. The buildings are simple, one-story frame buildings. Although the basic units of all were originally roughly the same dimensions (20' X 30'), the plans of the buildings show variations in both layout and materials which reflect the experimental origins of the houses. The Expansible Farmhouses were designed as a collaborative effort of agricultural engineers and home economists from the Agricultural Research Service. They were constructed as low-cost experimental structures and to house employees. The buildings were designed so as to be easily enlarged and were constructed using a variety of construction methods and materials, which were selected to test new and/or low-cost features. A number of articles discussing various aspects of the experimental houses were published by the USDA. The plans for all of the buildings were also published and made available through state agricultural extension services.

HISTORIC CONTEXT

MARYLAND COMPREHENSIVE HISTORIC PRESERVATION PLAN DATA

Geographical Organization: Western Shore

Chronological/Developmental Periods: Industrial/Urban Dominance

Prehistoric/Historic Period Theme(s): Agriculture

Resource Type:

Category: buildings

Historic Environment: rural

Historic Function(s) and Use(s): domestic

Known Design Source: U.S. Department of Agriculture, Agricultural Research Service, Agricultural Engineering Research Division (Farm Electrification Research and Livestock Engineering and Farm Structures Research Branches)

Survey No. P.G. #62-25
Magi No.
DOE ___yes ___no

Maryland Historical Trust
State Historic Sites Inventory Form
Maryland Inventory of Historic Properties

1. Name

Historic Name Expansible Farmhouses

Common Name and Building Number Buildings 193A, 193B, and 193D

2. Location

Street and Number Beltsville Agricultural Research Center

City, Town Beltsville Congressional District

State MD 20705 County Prince George's

3. Classification

Category	Ownership	Status	Present use	
__ District	__ Public	__ Occupied	__ Agriculture	__ Museum
__ Building(s)	__ Private	__ Unoccupied	__ Commercial	__ Park
__ Structure	__ Both	__ Work in Progress	__ Educational	__ Private Residence
__ Site	**Public Acquisition**	**Accessible**	__ Entertainment	__ Religious
__ Object	__ In Process	__ Yes: Restricted	__ Government	__ Scientific
	__ Being Considered	__ Yes: Unrestricted	__ Industrial	__ Transportation
	__ Not Applicable	__ No	__ Military	__ Other: Housing

4. Owner of Property (all owners)

Name U.S. Department of Agriculture

Street & Number 10300 Baltimore Avenue Telephone No. (301) 504-5187

City, Town Beltsville State and Zip Code MD 20705

5. Location of Legal Description

Courthouse, Registry of Deeds, etc. Prince George's County Courthouse Liber# _ Folio# _

Street & Number Main Street

City, Town Upper Marlboro State and Zip Code MD

6. Representation in Existing Historic Survey _Yes _No

Title

Date Federal____ State____ County____ Local____

Depository for Survey Records

City, Town State and Zip Code

7. Description

Survey No. P.G. #62-25

Condition

__ Excellent	__ Deteriorated	__ Unaltered	__ Original Site	
__ Good	__ Ruins	__ Altered	__ Moved	Date of Move _____
__ Fair	__ Unexposed			

See continuation sheet.

DESCRIPTION

Overview

The Expansible Farmhouses were constructed between 1952 (Buildings 193A and B) and 1954 (Building 193D). Part of a cluster that originally included five experimental houses,[1] the three houses (and one garage) are located in the area of the Beltsville Agricultural Research Center historically associated with dairy husbandry. They were designed as a collaborative effort of the Agricultural Research Service's Agricultural Engineering Research Division (Farm Electrification Research and Livestock Engineering and Farm Structures Research Branches) and its Clothing and Housing Research Division, Institute of Home Economics.[2] The buildings are simple, one-story frame buildings. Although the basic units of all were originally roughly the same dimensions (20' X 30'), the plans of the buildings show variations in both layout and materials which reflect the experimental origins of the houses.

Architectural Description

Buildings 193A, B, and D are located off of North Dairy Road in the northwest section of BARC's Central Farm. This area was historically part of the Dairy Husbandry farm. The buildings are clustered together on a small wooded knoll to the north of the main dairy area. The grouping of buildings originally included two other experimental houses which are no longer standing: Building 193 located approximately 80 feet to the west of Building 193A, and Building 193C located approximately 70 feet to the east of Building 193D (north of Building 193B) (see site plan).[3] Otherwise the setting of the buildings is intact; today, as originally, barns and farm pens are located slightly to the north and the west of the buildings, but otherwise the area is surrounded by cultivated fields.

The three houses share certain basic characteristics. All are small one-story frame houses with simple gabled roofs. The "basic unit" of each of the three buildings is roughly 20 feet long by 30 feet wide. [4]

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[1]As described below, two of the expansible houses have been demolished.

[2]During the course of the construction of the buildings, the Bureau of Plant Industry, Soils, and Agricultural Engineering and the Bureau of Human Nutrition and Home Economics, which initiated the project, were abolished. The functions of these bureaus (as well as a number of others) were transferred to the Agricultural Research Service, which was established on November 2, 1953.

[3]The buildings were originally referred to as House A (Building 193B), House B (Building 193C), House C (Building 193A), House D (Building 193), and House E (Building 193D).

[4]As used here and in contemporary articles on the buildings, "basic units" refers to the houses in their unenlarged state, i.e., the basic 20' x 30' rectangle. An addition to Building 193A made

All of the buildings were designed to be both readily expandable (thus "expansible") and relatively inexpensive to build. To accomplish these and other design goals, the buildings were built with exterior walls of differing materials, and varying interior plans and construction methods.

Building 193B (House A)

Completed in the summer of 1952, Building 193B was one of two buildings with identical plans built on the site. (The other, Building 193C, was demolished.) The building's foundations consist of a six-inch reinforced concrete beam laid on concrete posts set two feet below grade. It has a concrete slab-on-grade floor underlaid with roll roofing. The exterior walls of the building are composed of four-feet-by-eight-feet-wide vertical asbestos cement panels.[5] The roof is covered with asphalt shingles. Windows are frameless (the wood studs are used as jambs). They consist of both fixed glass and double-hung sash.

The front (east) facade of the building is an asymmetrical, three-bay-wide composition. It features a simple entry located roughly in the center of the building and two window groupings on the north end of the facade. These include a large (six-foot wide) window grouping consisting of two one-over-one windows each topped by individual fixed windows and, on the north end of the building, a pair of one-over-one double-hung windows. The south facade of the building consists of a slightly off-center nine-unit window consisting of three single-pane double-hung windows capped by single-pane fixed windows. Fenestration on the rear facade consists of two small single-pane windows on the east side and a single one-over-one window on the west side. The north facade of the building features a small ground-level porch with a shed roof. Alterations to the exterior of the building include the removal of a wood divider/grille that was located on the front facade. The divider, which ran perpendicular to the plan of the house articulated the entry area. Other alterations include changes to the windows. The hinged barn sash which swiveled open to provide ventilation has been replaced with one-over-one double-hung sash of the same dimensions.

The interior of Building 193B has a rectangular floor plan, with the southern end of the house occupied by a large, multipurpose room (the living room/bedroom). The rest of the house is arranged around a central utility/storage area, creating a circular circulation pattern. The kitchen is located in the northeast corner, the bathroom in the northwest corner. Along the western wall is a small hallway leading between the living room/bedroom and the bath, and along the eastern wall is a small alcove now used as a study area and hallway.

The large room at the south end of the house is today arranged as a bedroom. The room is illuminated by a set of three large windows on the southern wall and a single window on the western wall. The main entrance to the house opens into this room on its eastern wall. At the other end of

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immediately after its construction changed its dimensions.

[5]The ARS-31 Card for this building refers to this material as "Transite."

the house is the U-shaped kitchen. It is a small area characterized by multiple (nonoriginal) cupboards and counterspace which is connected to the adjacent alcove by a passthrough counter. The alcove, which originally served as a dining room, is now arranged for use as a study. It is separated from the living room area by a built-in, floor-to-ceiling, room divider/grille which is original to the house. From the alcove area, a hallway runs on an east-west axis, providing access to the bathroom as well as the closet space located in the central storage block. There is a trap door in the ceiling here, presumably providing access to a crawl space in the gable area of the roof.

Interior walls throughout the building are covered with dry wall.

Building 193A (House C)

Like Building 193B, both the "basic unit" and the bedroom addition to Building 193A were also completed in the summer of 1952. (Construction began in the summer of 1952.) Of the five expansible farmhouses, Building 193A was designed in the most conventional manner and with the fewest experimental features. The building is constructed on 12-inch-square brick piers on concrete footings set 2 feet below grade and extending 18 inches above grade. The foundations support a double wood floor over a crawl space which is covered with asbestos cement boards. The exterior walls of the building consist of diagonal sheathing covered with vertical tongue and groove siding which has been painted blue. Floors and windows are of wood construction. Windows are six-over-six double-hung. The roof is covered with asphalt shingles.

The front (east) facade of the building is a simple symmetrical three-bay design. On the north and south ends of this facade are paired windows located on either side of a central entrance. The north facade features a small, shed-roofed porch which is reached from three concrete steps. The porch, which was originally open, is now partially covered with screening and partially filled in with wood siding. The rear facade features a large L-shaped bedroom addition which roughly doubles the size of the house. The addition, begun almost immediately after the building was completed, was constructed in materials to match the original. The addition is recessed at the intersection with the main portion of the house to accommodate a small porch. The rear of the addition features off-center, paired, double windows. The south side of the building features three sets of paired windows, two located on either end of the addition and one centered on the wall of the original section of the house.

With the large addition, the interior plan of Building 193A is the most spacious of the expansible houses. The original section of the house, arranged along a north-south axis, contains an expansive kitchen/dining room at the north end and a large living room in the south end. The main entrance to the house opens onto the central vestibule, facing a storage/utility area enclosed by a metal-screen door. The kitchen/dining area has a secondary entrance, located along the north wall. It has a ceiling fan and a trap door presumably providing access to a crawl space in the gable area of the roof. There are cupboards (nonoriginal) along the west wall of the kitchen. The living room is a large room, square in plan, illuminated by windows on the south and east walls. The floor is covered in wall-to-wall carpeting.

At the northwest corner of the living room, a hallway leads into the bedroom addition. At the end of the hallway closest to the rest of the house is a closet, and a door that leads to the bathroom. There is a third exterior entrance located along the north wall of this hallway, leading to a small deck and the back yard of the property. The carpeted hallway leads to two rooms, one at the end of the addition, running the entire width of the western wall, and the other along the south wall of the house halfway down the hall. The room at the end of the hall contains closets along the north wall and a cluster of windows in the southwest corner.

Interior walls throughout the building are of gypsum plaster, and partitions and ceilings are of gypsum lath and plaster.

Building 193D (House E)

The most recent of the expansible farmhouses, Building 193D, was completed in the fall of 1954 and first occupied in November 1955. The foundations of the building are of six-inch thick reinforced concrete set ten inches below grade. The floor is a concrete slab laid over twelve beds of alternating gravel and earth (one-half of the slab was underlaid with a vapor barrier). The exterior walls of the building are of 1 1/4 inch corrugated aluminum.[6] Some windows in the building are fixed sash and others are horizontal sliding aluminum sash.

The front (north) elevation, is an asymmetrical composition that has as its major feature paired full-length window units that consist of single, square, fixed-panes over double sliding panes. These two units are on the east side of the elevation and are immediately adjacent to the entry. To the west are paired windows with sliding sash. The west elevation of the building features a single, central, full-length window unit similar to that on the front elevation. Fenestration on the east elevation includes a single window unit similar to that on the east elevation and a casement window. The rear (south) elevation consists of paired, fixed, single-pane windows on the east side, a central boxed-in entrance and, on the west side, a sliding glass window.

The interior of Building 193D is arranged on a rectangular floor plan, divided into four roughly equal quadrants. The eastern half of the house, split between the living room on the north and the kitchen on the south, rises to the full height of the gabled roof. The north entrance of the house opens onto the living room, lit by floor-to-ceiling windows on the north and east elevations. The partition wall separating the living room and the kitchen is open at top, with vertical posts at each intersection of the roof beams. The L-shaped kitchen is illuminated by smaller casement windows, permitting most of the wall area to be covered with (nonoriginal) countertops and cupboards. The kitchen and living room are accessed from the western side of the house by a small hallway.

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[6]The house was referred to as "the aluminum house." Archie A. Biggs and Joan C. Courtless, *Evaluation of Construction, Materials, and Livability of Five Expansible Farmhouses.* Agricultural Research Service. [ARS 42-45] April 1961, p. 21.

The western side of the house, containing the bedroom on the north, the hallway in the middle, and the bath on the south, has lower ceiling heights. The hallway has the lowest ceiling height of the house; it is of corrugated aluminum. The bedroom is located in the northwest corner of the house and it is entered from the hallway. South of the hallway is a small alcove leading to the rear door on the south wall. In the alcove are utilities, various closets, and the entrance to the bathroom. Like the other expansible houses, Building 193D is notable for its creative and ample storage space.

Interior walls are of plywood, hard board (bath), and asbestos cement board (utility area).

Building 193E

Building 193E is a garage/storage building located in the center of the cluster of experimental houses. It was built around 1960 as a storage facility for the surrounding houses. The building is of frame construction, with exterior walls of asbestos cement board panels. The building and its bays are outlined in decorative wood. The building has an intersecting gabled roof. The front (east facade) of the building is three bays wide. The north and south bays feature narrow fixed windows located at eye level. The center bay has a roll-type garage door.

8. Significance

Survey No. P.G. #62-25

Period	Areas of Significance - Check and justify below			
__Prehistoric	__Archeology-Prehistoric	__Community Planning	__Landscape Architecture	__Religion
__1400-1499	__Archeology-Historic	__Conservation	__Law	__Science
__1500-1599	__Agriculture	__Economics	__Literature	__Sculpture
__1600-1699	__Architecture	__Education	__Military	__Social/Humanitarian
__1700-1799	__Art	__Engineering	__Music	__Theater
__1800-1899	__Commerce	__Exploration/Settlement	__Philosophy	__Transportation
X 1900-	__Communications	__Industry	__Politics/Government	__Other (specify)
		__Invention		

Specific Dates	Architect	Builder	Area
1952, 1954	ARS Agricultural Engineering Research Div.		Unknown N/A

Applicable Criteria:	__A	__B	__C	__D			
Applicable Exception	__A	__B	__C	__D	__E	__F	__G
Level of Significance	__National		__State		__Local		

See continuation sheet.

SIGNIFICANCE

Overview

The Expansible Farmhouses at Beltsville Agricultural Research Center (BARC) were constructed as low-cost experimental structures and to house employees. The buildings were designed so as to be easily enlarged and were constructed using a variety of construction methods and materials, which were selected to test new and/or low-cost features. A number of articles discussing various aspects of the experimental houses were published by the USDA. The plans for all five buildings were also published and made available through state agricultural extension services.

Background of the Beltsville Agricultural Research Center

The Beltsville Agricultural Research Center (BARC) is one of the largest research facilities of the Agricultural Research Service (ARS), the main research agency of the U.S. Department of Agriculture. For 60 years it has been one of the Department of Agriculture's principal experimental areas and the leading and most diversified agricultural research complex in the world.

Department of Agriculture facilities first came to the Beltsville area in 1910. At that time the Bureau purchased 475 acres of farmland located in what is now part of the large Central Farm section of BARC. By 1928, the Animal Husbandry Division had acquired 1,370 acres and the Bureau of Dairy Industry had acquired 316 acres. In an effort to establish "a model experiment station for agriculture" in the 1930s there were major land acquisitions and massive construction projects at the site. As part of this expansion, which was largely funded by New Deal programs, approximately 6,700 acres were added to the Beltsville site. In the years following the Depression, there was further growth in the work done at the site. By 1950, there were around 2,399 people working at Beltsville, 3,000 experimental farm animals, 10,000 laying and breeding fowls, 600 head of cattle, and 5,500 small animals for use in laboratory tests.

Design and Construction History of the Expansible Houses

The concept of designing a group of experimental houses at the Beltsville site to house farm workers originated in the early 1950s. According to one source,[7] there was a coincident need for research relating to low-cost housing and a need for additional employee housing in the dairy area of BARC.

More specifically, researchers from the Divisions of Agricultural Engineering Research and the Clothing and Housing Research of the Agricultural Research Service saw the construction of small

[7]Telephone interview with Robert Yeck, 12/03/97.

houses as an opportunity to answer a number of experimental questions.[8] As stated in one article published on the houses, the primary research objectives were to obtain information on:

> (1) effectiveness of certain building materials and heating installations, (2) livability of the basic and expanded floor plans as determined by observations and reactions of the occupants, (3) climatic responses of the various buildings designs and materials and effect on fuel requirements, and (4) possible cost reduction through simplified construction methods which would be consistent with good practice and be available to the average farmer-builder.[9]

In addition to these questions, another primary research question related to the idea of "expansibility." That is, how practical was it to design a small house so that it could be easily and inexpensively expanded in the future?

To answer these questions the houses were designed with varied plans, materials, heating methods, and construction techniques. In many cases the materials and/or construction techniques were innovative. In this category were the use of exposed brick for interior surfaces (Building 193, now demolished), spaced sheathing under wood siding, (Building 193A), frameless windows (Building 193B), and corrugated aluminum exterior sheathing (Building 193B). Concrete slab-on-grade floors, exposed rafter roof construction, and large window areas were already popular items by this time, however, they were used in the expansible farmhouses to evaluate their "in-use" performance.

The basic designs of the buildings apparently drew upon existing USDA designs for expansible houses.[10] The basic units of the houses were not designed to house families; instead, they were built as homes for young couples without families, or for the "hired hand."

The actual design of the buildings was done by architects and engineers from the Agricultural Engineering Division. J. Robert Dodge was apparently the architect who was chiefly responsible for the design. Others who were involved in the design from Agricultural Engineering included Archie A. Biggs, Russell Parker, and Dick Rule. Wallace Ashby was the head of the housing division at the time. (Harold J. Thompson and Joseph W. Simons were involved in later research work on the

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[8]Given the extreme post-war housing shortage, at this time there was also an overall interest in fast and inexpensive housing construction throughout the country.

[9]Biggs and Courtless, p. 1.

[10]". . . But How are You Going to Keep them Down on the Farm?" *Washington Post.* No Date [Circa 1951-52].

houses.)[11]

Involved in the planning of the houses from the Housing Division were Genevieve [Tayloe] Steele, Mildred Howard, Lenore Thye, and Avis Woolrich. No articles in professional publications have been found detailing their participation in the design of the buildings. However, based on conversations with one of the home economists involved in the project, much of their work involved providing information on storage and space requirements in a house that was intended to be as inexpensive as possible. Examples of their input included help on planning the kitchens -- for instance, the storage space needed to accommodate frying pans, and the best organizational scheme for organizing a kitchen of this size. The Housing Division also provided input into the minimum size for closets and cupboards.

There is little information available concerning the actual construction of the houses. The builder of the houses is unknown, although given their small size and simple plan, it is not impossible that they were built in-house by USDA workers. The basic unit of Building 193B was constructed in the summer of 1953 as were the basic units of 193C (demolished) and 193A. Bedroom additions to each of the latter two houses were also completed in the summer of 1952. Building 193, a brick split-level house which is no longer standing, was completed in the spring of 1954. The last of the expansible farmhouses, Building 193D was completed in the fall of 1954. It was constructed using exterior

[11]The architectural and engineering functions within the Department of Agriculture have come under a number of titles within the agency. In 1915, farm architecture and machinery work previously done by the Office of Farm Management were consolidated into the Office of Public Roads and Rural Engineering. In 1918 this Office was renamed the Bureau of Public Roads. Three years later, the rural engineering work (both structures and machinery) were brought together in the Division of Agricultural Engineering. In 1931, the Division became a Bureau, and seven years later, it was merged with the Bureau of Chemistry and Soils. The new division was called the Bureau of Agricultural Chemistry and Engineering. In 1943, engineering functions of this bureau were transferred to the newly created Bureau of Plant Industry Soils, and Agricultural Engineering. Ten years later, this bureau was abolished and its functions transferred to the newly created Agricultural Research Service. One of the division's primary tasks was providing architectural and engineering services for specific USDA buildings and projects. The division and its precursors, for instance, designed nearly all of the pre-1960s buildings at BARC. The division also prepared specifications and cost estimates. Another primary duty of the division was assisting in the dissemination of plans for farm buildings. Prior to the 1930s, the agricultural engineers came up with farm plans (mostly barns) by driving around and finding existing buildings that they thought were good, and then drawing up the plans from them. These plans were mostly published in the Farm Bulletin series. Later the Cooperative Farm Building Exchange was formed. Agricultural Engineers from USDA participated in the Plan Exchange and maintained the master set of plans.

aluminum supplied by one of the major aluminum companies.[12] The cost to build the houses, although estimated to be around $6,500 per house, actually was far higher.[13]

The houses were occupied relatively soon after their completion,[14] and over the next ten years data was collected about a number of issues related to the houses.

Experimental Results and the Impact of the Expansible Houses

The first articles to appear about the houses were in the popular press. One article, in the *Washington Post*, emphasized the many experimental features of the houses, and their potential applicability.[15] Another article described the interior design of Building 193B. After the houses were completed, the Housing and Household Equipment Division furnished and decorated Building 193B in an attempt to show how the small space could be used as efficiently as possible. According to an article in the *Washington Post* describing the house, the main living/bedroom was painted a pale green and given matching upholstery, floors, and curtains to make the room "look bigger, restful, more spacious." It was furnished with two "bed-lounges" that had headboard cupboards with storage areas for pillows and blankets. Other noted features of the interior design were a built-in window bench and matching tables. In other rooms notable features included the use of trellises to mark the dining area, and the use of a pass-through cupboard between the kitchen area and the dining room. A dish cupboard above the pass-through could be reached from either side.

The first major professional publications about the houses date to 1961. One related to their "livability," and for the article, the occupants were interviewed about such issues as the temperature, lighting, and sound conditions in the houses; the size and location of various rooms; the adequacy of

[12] Apparently either the Alcoa or Reynolds companies supplied the exterior materials for the building. It is not known if they also provided technical assistance.

[13]According to the ARS-31 Cards for the buildings, the actual costs of these houses was some $3,000 more than this figure.

[14]One of the houses was apparently temporarily occupied by two USDA home economists. The home economists were either Clare Shubert and Mary Wickard (according to an article in the Washington Post) or Mary Wickard and Avis Woolrich (according to an oral interview with Genevieve Steele).

[15] The article mentions the fact that the grade beam foundations used on Building 193B were adopted widely and their use was incorporated in the Minimum Property Standards of the Federal Housing Administration.

storage space; and the desirability of various materials used in the interiors.[16] Minimum space standards, which had been determined since the buildings were constructed, were compared to those used in the houses.[17]

The article concluded that although from a technical viewpoint, the varied materials, construction methods, and design features were viable alternatives, from the "livability" standpoint, the traditional methods and materials were preferred. Conservative Building 193A proved the most satisfactory for a number of reasons. Frameless windows were found to admit more dust than conventional sash. Concrete floors, even if covered with tile, gave a feeling of tiredness after short periods of standing. Large window areas reduced the space available for furniture (a significant problem in a small house), and often admitted excessive light and sun that faded upholstery and rugs, and was hot in the summer. In terms of the buildings' interior plan the occupants were generally contented with their kitchens (although they felt that cabinets without doors resulted in dirtier dishes) and (predictably) all of the occupants would have preferred larger rooms and more storage.

The other 1961 publication described the effect of the experimental features of the expansible farmhouses on heating efficiency given different weather conditions.[18] The article compared the heat loss for the various exterior materials under different conditions and compared the effectiveness of their heating systems.

A third article, published in 1962 examined the temperature and moisture conditions under the slab floor of Building 193D.[19]

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[16]Archie A.Biggs and Joan C. Courtless, *Evaluation of Construction, Materials, and Livability of Five Expansible Farmhouses.* Agricultural Research Service. [ARS 42-45] April 1961.

[17]It is not clear what role the houses may have played in arriving at these minimum standards. The minimum standards work was being done around the same time that the plans for the houses were being produced. A number of sources have indicated that the work done by the home economists in the houses was aimed in part in arriving at these standards. The Biggs and Courtless article states that the space standards were "a result of a coordinated program of housing research conducted cooperatively by the U.S. Department of Agriculture and Agricultural Experiment Stations in the our regions." (p. 5).

[18]Harold J. Thompson, Archie A. Biggs, and Joseph W. Simons, *Some Effects of Construction and Climatic Factors on Heating Five Expansible Farmhouses.* Agricultural Research Service. [ARS 42-46]. 1961.

[19] Harold J. Thompson, Archie A. Biggs, and Joseph W. Simons, *Changes of Moisture and Temperature Under a Concrete Slab Floor.* Agricultural Research Service. [ARS 42-64] 1962.

Other findings/influences of the expansible farmhouses were more general and were not published. On the basic issue of expansibility, it was concluded that although expansible designs were certainly possible and practical, they were not ideal because they had to be designed with the potentially expanded space in mind. Therefore, certain features such as the kitchens and dining room had to be out of scale for the "basic unit." In addition, utilities had to be reconsidered for the buildings in their expanded state. It was concluded that the idea of building a larger shell and just finishing a portion of the building was a more cost-effective approach.

Conclusion

It seems likely that the information gained from the expansible farmhouses had significant influence on later USDA designs in terms of materials, methods of construction and minimum standards. In term of their use by the public, however, their influence is more difficult to judge. The plans for all five of the expansible farmhouses were eventually published in USDA pamphlets which were distributed through state extension services. Building 193B was published as Plan 7061, Building 193A was published as Plan 7079, and Building 193D was published as Plan 7130. (See attached example.) However, because no records were kept concerning what plans were sent out, there is no way to determine how often, or whether, the plans for the expansible farmhouses were used.

9. Major Bibliographical References

See continuation sheet.

10. Geographical Data

Verbal Boundary Description and Justification

The boundaries of the Expansible Farmhouses are defined by North Dairy Road to the south and east and by an unnamed dirt road to the north of the buildings and by a fence located approximately sixty feet to the west of Building 193D.(See site plan)

11. Form Prepared by

Name/Title Carol Hooper, Heather Ewing, Architectural Historians

Organization Robinson & Associates, Inc. Date January, 1997

Street & Number 1909 Q Street, N.W. Telephone 202-234-2333

City or Town Washington State and Zip Code D.C. 20009

Approved by the Federal Preservation Officer

Concurrence of State Preservation Officer

The Maryland Historic Sites Inventory was officially created by an Act of the Maryland Legislature to be found in the Annotated Code of Maryland, Article 41, Section 181 KA, 1974 supplement.

The survey and inventory are being prepared for information and record purposes only and do not constitute any infringement of individual property rights.

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National Archives Records Administration, Record Groups 16 and 54.

"Two Rooms Stretch With Right Decor." *The Washington Post.* November 20, 1952.

Thompson, Harold J., Archie A. Biggs, and Joseph W. Simons. *Some Effects of Construction and Climatic Factors on Heating Five Expansible Farmhouses.* Agricultural Research Service. [ARS 42-46]. 1961.

Thompson, Harold J., Archie A. Biggs, and Joseph W. Simons. *Changes of Moisture and Temperature Under a Concrete Slab Floor.* Agricultural Research Service. [ARS 42-64] 1962.

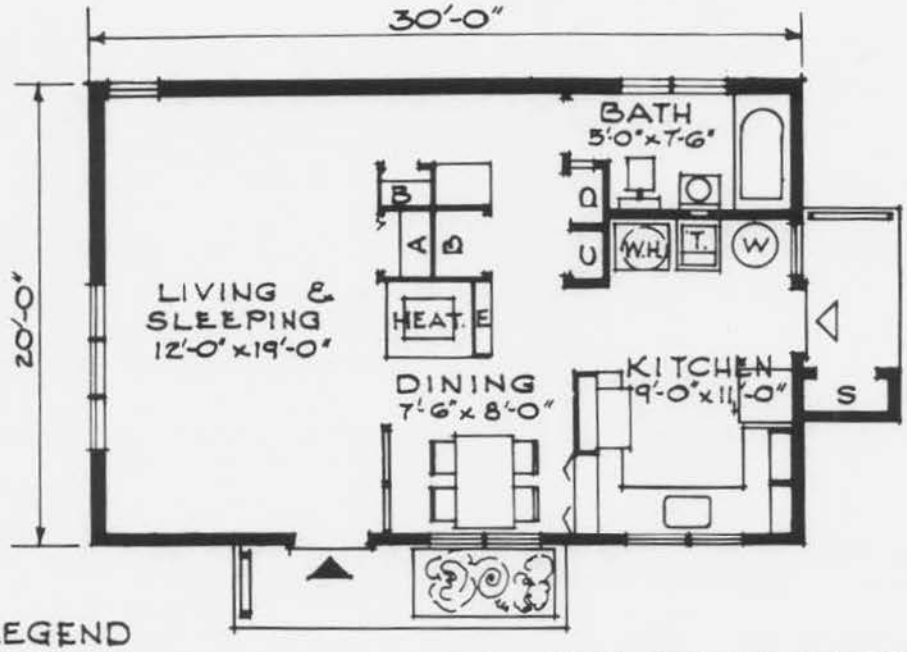
Woolrich, Avis, and Jack D. Herrington. *Storage Units for Household Linens: Design Data for Farmhouse Planning For Use by Architects and Other Designing Storage Spaces.* USDA, 1956.

Oral Interviews

Telephone and/or in-person interviews conducted by Carol Hooper, Robinson & Associates, Inc., with the following former ARS/Beltsville employees:

Genevieve [Tayloe] Steele 12/30/96, 1/6/96
Ruth Vettle 12/16/96
William Bailey 12/30/96
Robert Yeck 12/03/97
Joan Courtless 1/13/97

From *Some Effects of Construction...*, USDA (1961)
[Plan and Photo ca. 1961, Building 193A] 62
Expansible Farmhouses (Buildings 193A,B&D) P.G. #61-25
Beltsville Agricultural Research Center
Prince George's County, MD



LEGEND

A-COATS
B-OTHER CLOTHES
C-WORK CLOTHES & CLEAN. EQUIP.
D-LINEN
E-BOOKS

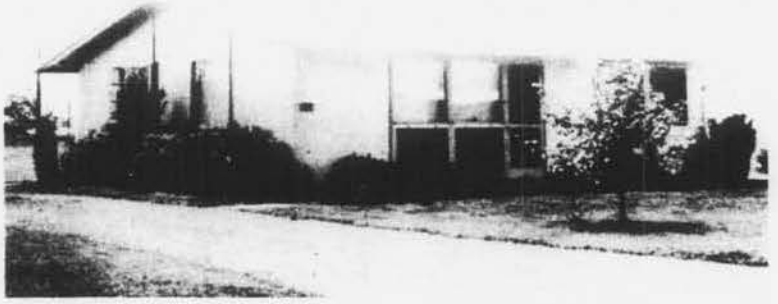
COUNTER TOP-LAMINATED PLASTIC
FLOOR COVERING ON CONC. SLAB
BATH-VINYL TILE
ALL OTHER-ASPHALT

From *Some Effects of Construction...*, USDA (1961)
[Plan and Photo ca. 1961, Building 193B] 62
Expansible Farmhouses (Buildings 193A,B&D) P.G. #61-25
Beltsville Agricultural Research Center
Prince George's County, MD

LEGEND

A - COATS
B - CLOTHES
C - CLEAN. EQUIP. & SUPPLIES
D - FOOD STORAGE
E - MISC. STORAGE
F - LINEN
G - WORK CLOTHES

COUNTER TOP - LAM. PLASTIC
VINYL TILE ON CONC. FL. SLAB



From *Some Effects of Construction...*, USDA (1961)
[Plan and Photo ca. 1961, Building 193D]
Expansible Farmhouses (Buildings 193A,B&D) P.G. #61-25
Beltsville Agricultural Research Center
Prince George's County, MD

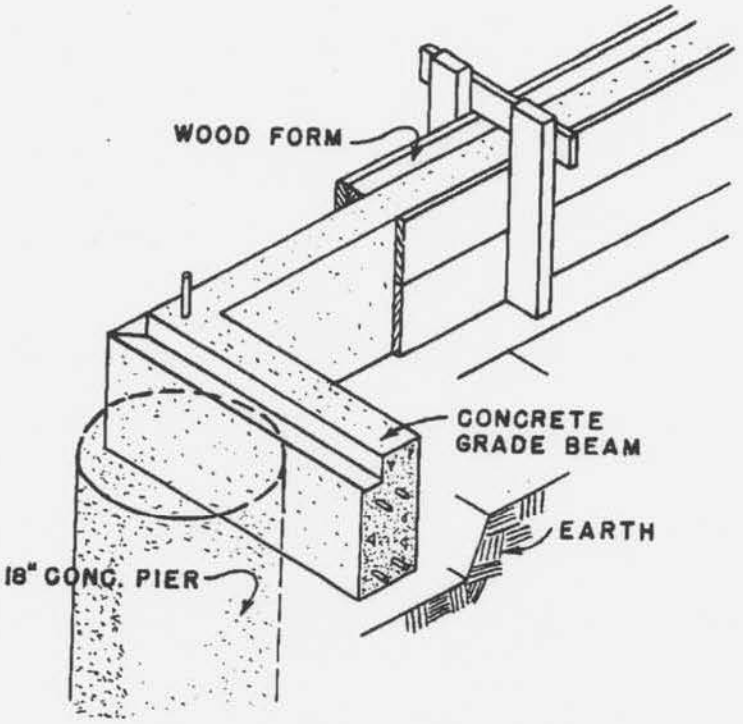


FIGURE 3.--Concrete grade beam, House A.

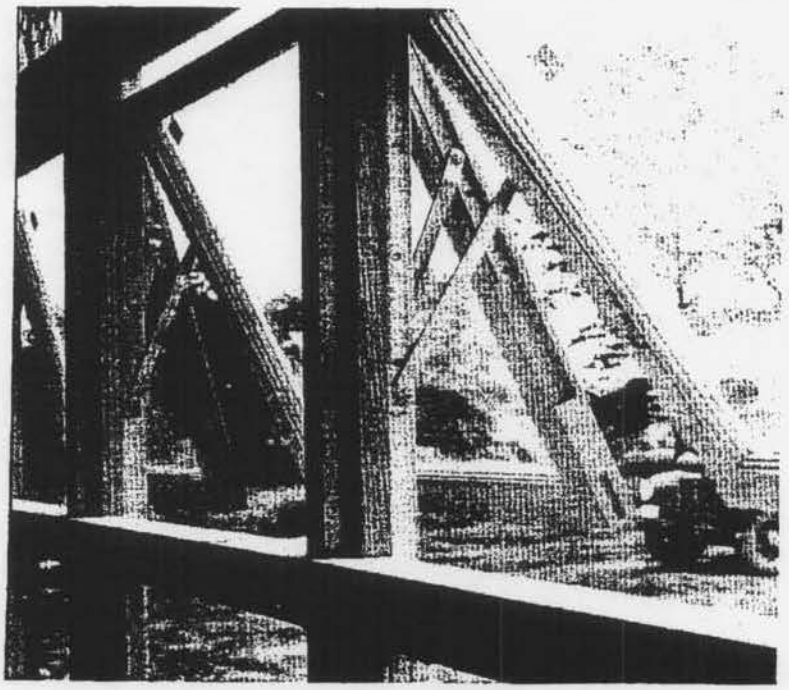


FIGURE 4.--Frameless window jambs, House A.

From *Evaluation of Construction...*, USDA (1961)
[Concrete Grade Beam and Frameless Window Jambs Building 193B]
Expansible Farmhouses (Buildings 193A,B&D) P.G. #~~61~~-25
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Prince George's County, MD

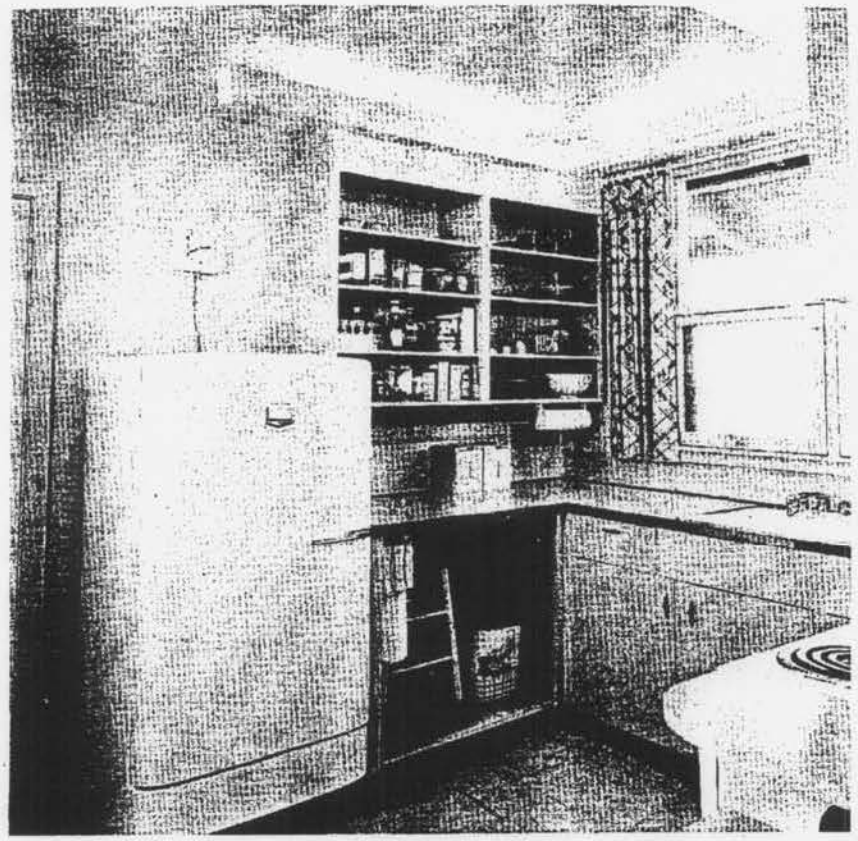


FIGURE 5.--Doorless wall cabinets, Houses A, B, and C.

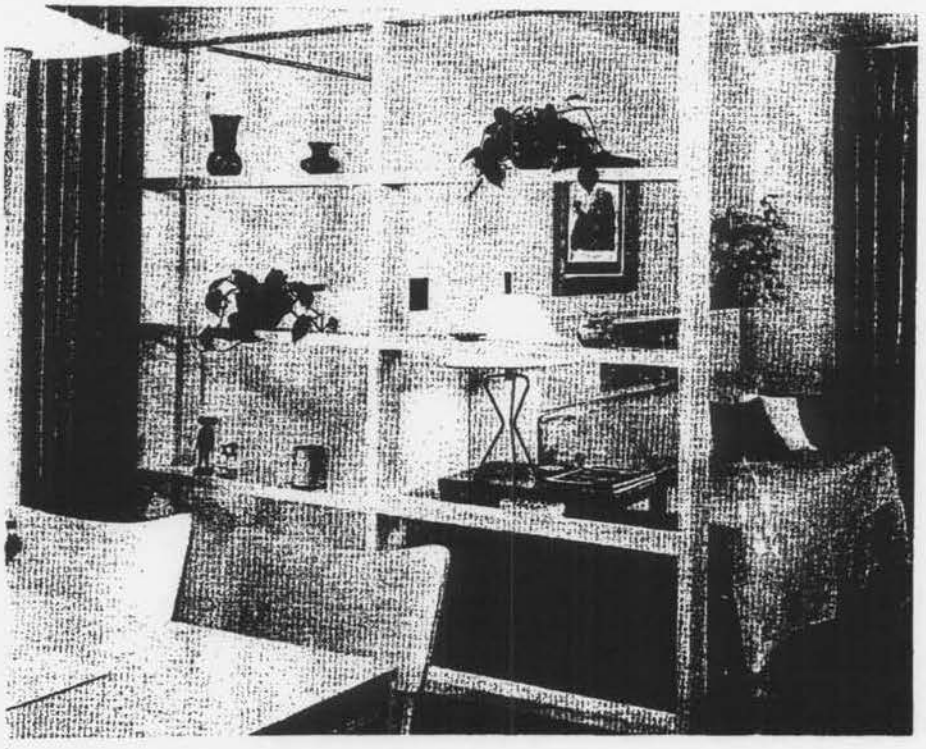
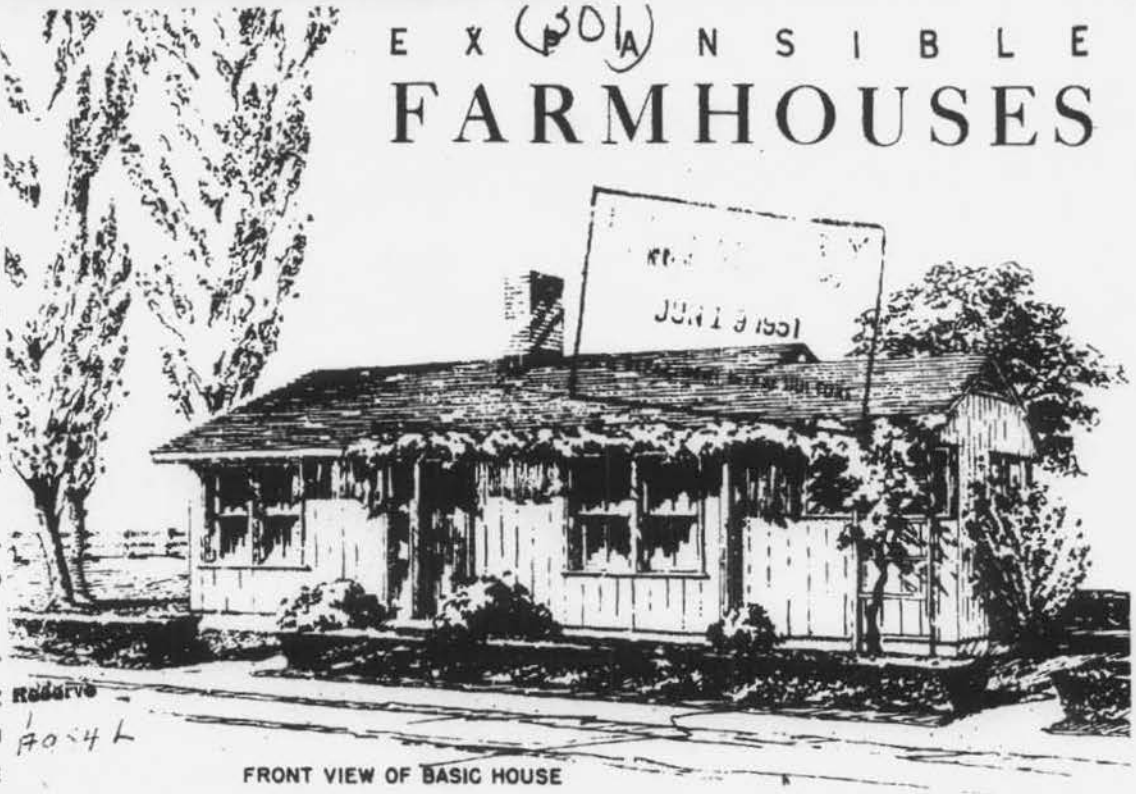


FIGURE 6.--Wood grille, Houses A and B.

From *Evaluation of Construction...*, USDA (1961)
[Interior of Kitchen and Living Room Building 193B, circa 1961]
Expansible Farmhouses (Buildings 193A,B&D) P.G. #61-25
Beltsville Agricultural Research Center 62
Prince George's County, MD

UNITED STATES DEPARTMENT OF AGRICULTURE

EXPANSIBLE FARMHOUSES



FRONT VIEW OF BASIC HOUSE

You may build this house in stages. The basic plan provides sleeping and clothes storage space in the living room. Later you may add one, two, or three bedrooms. The basic plan is well adapted for use as a farm labor house.

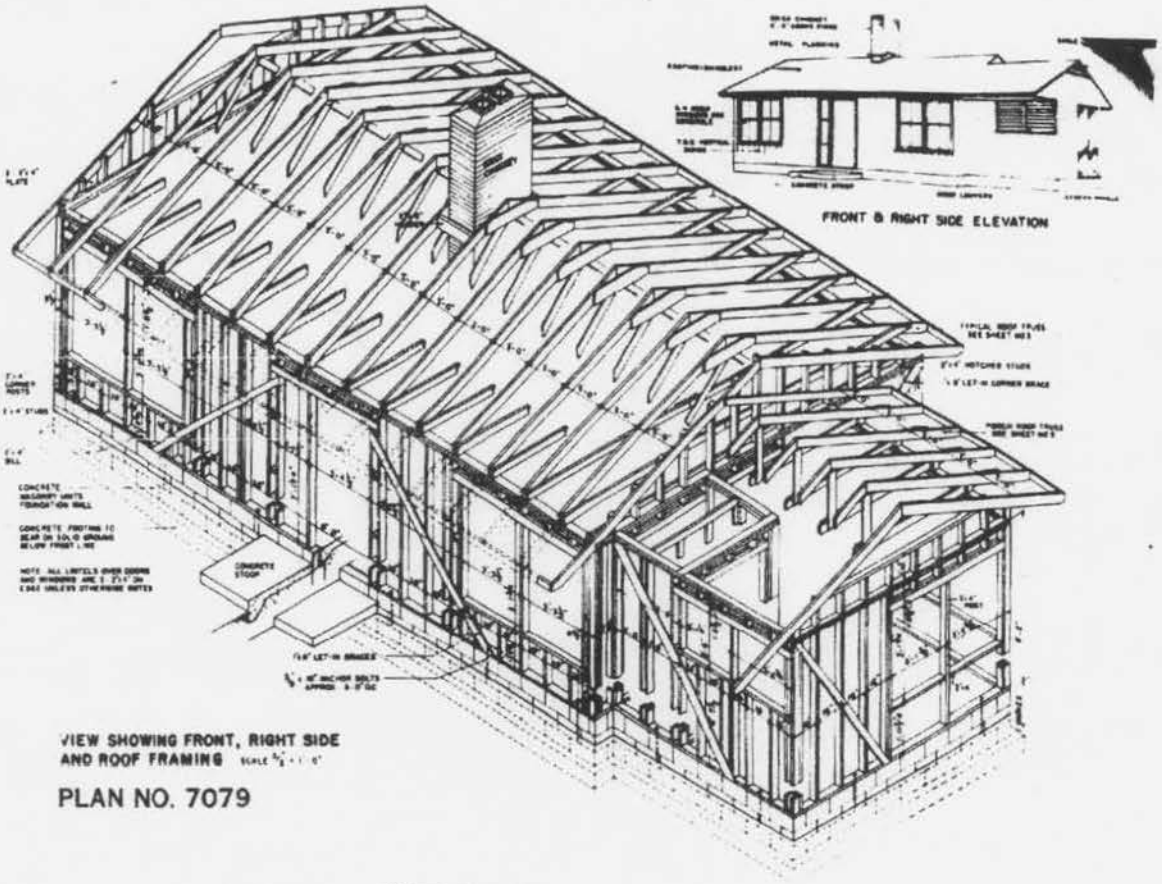
PLAN NO. 7079
HOUSE AS SHOWN . . . . . 7 SHEETS

PLAN NO. 7079R
HOUSE REVERSED . . . . . 7 SHEETS

SQUARE FOOT AREA:
BASIC HOUSE 660
COMPLETED HOUSE 1230

GPO—O—BPI 432

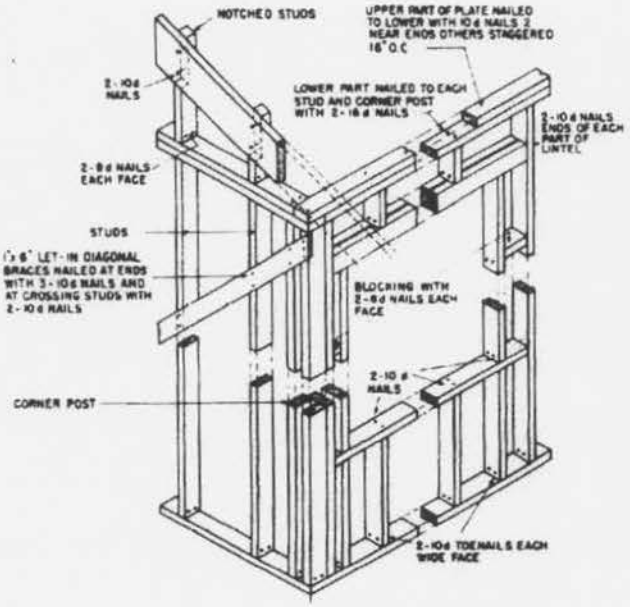
LEAFLET NO. 301 APRIL 1951



FRONT & RIGHT SIDE ELEVATION

VIEW SHOWING FRONT, RIGHT SIDE AND ROOF FRAMING

PLAN NO. 7079



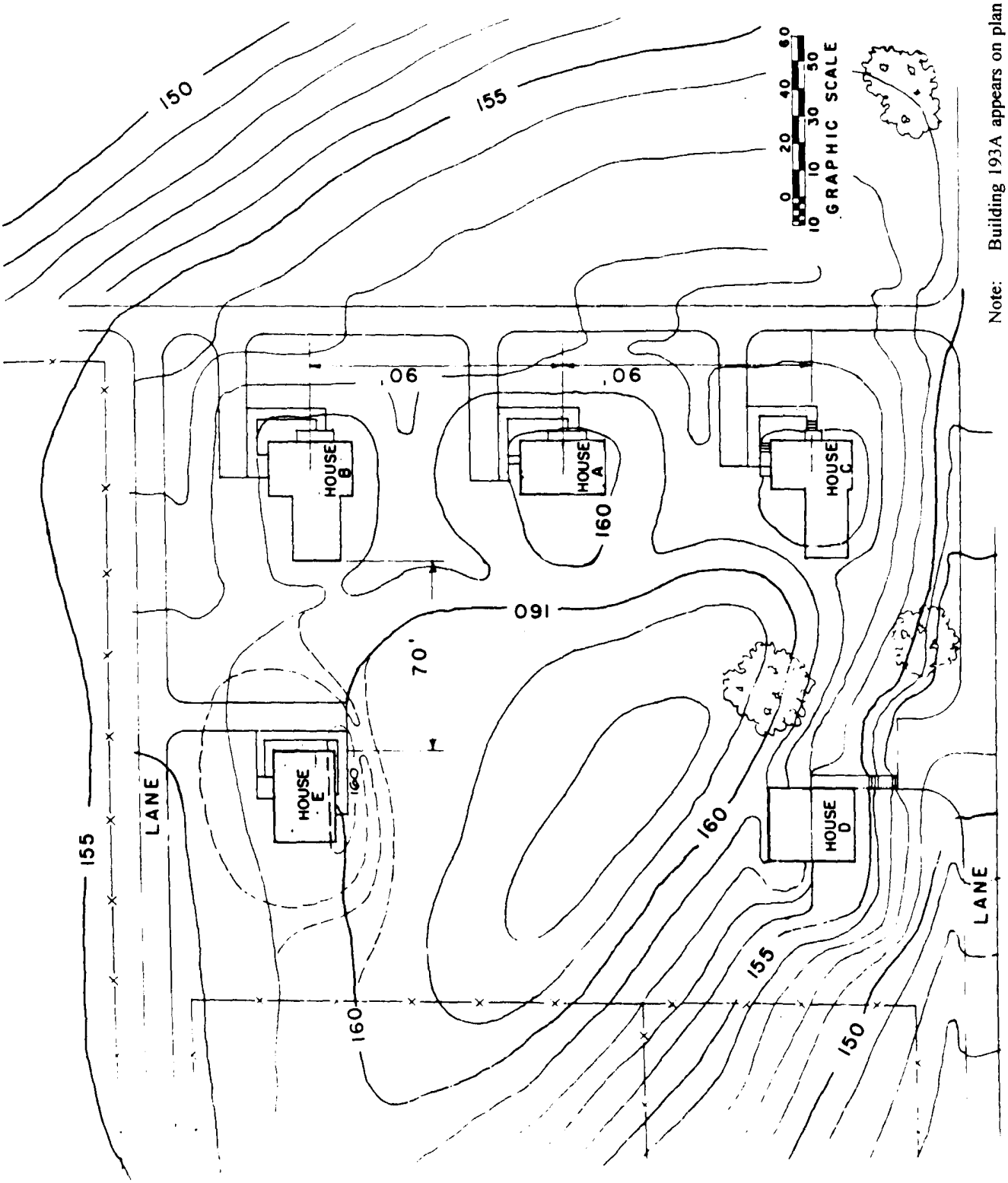
TYPICAL NAILING DIAGRAM

WORKING DRAWINGS IN PERSPECTIVE:

The working drawings for these two houses are in three dimensions and show more clearly than usual the details and methods of construction. They are easy to understand and will be helpful to you whether you do your own building or have it done by others.

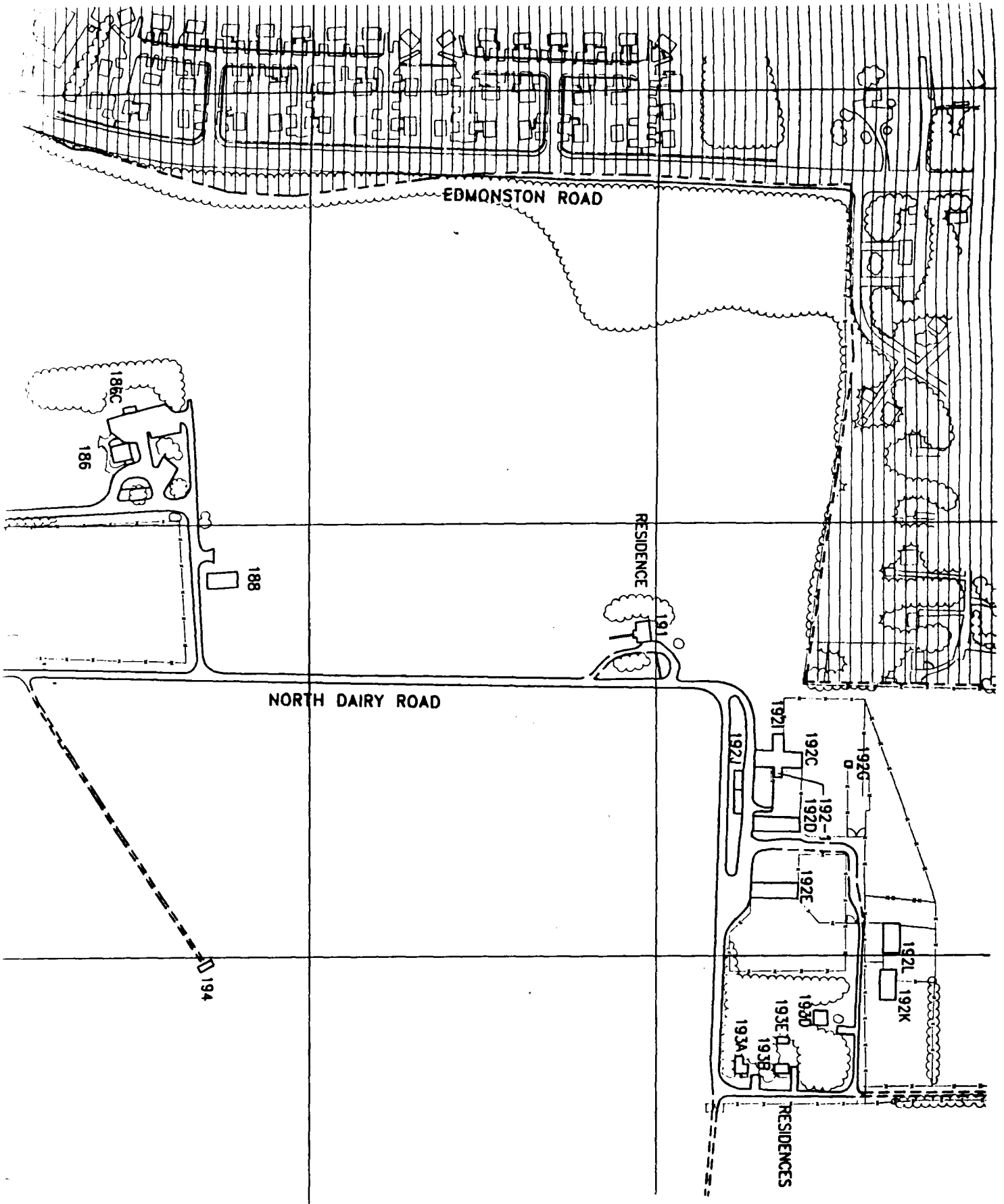
On this page are shown two examples of these drawings reduced in size, and on the back page, two more examples of the larger details of construction.

From *Expansible Farmhouses*, USDA (1951)
[Working Drawings Based on Building 193A]
Expansible Farmhouses (Buildings 193A,B&D) P.G. #61-25
Beltsville Agricultural Research Center 62
Prince George's County, MD



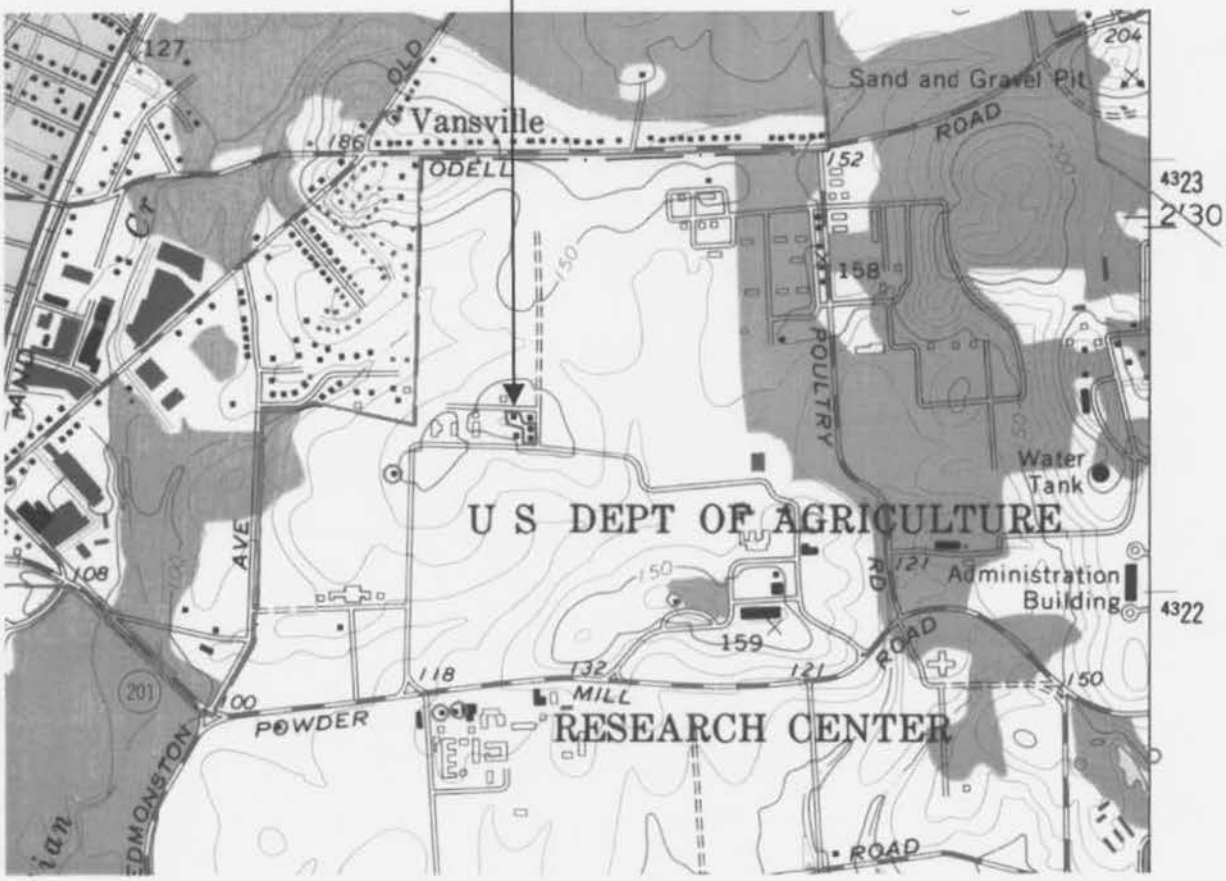
From *Some Effects of Construction...*, USDA (1961)
[Site Plan]
Expansible Farmhouses (Buildings 193A,B&D) P.G. #61-25
Beltsville Agricultural Research Center
Prince George's County, MD

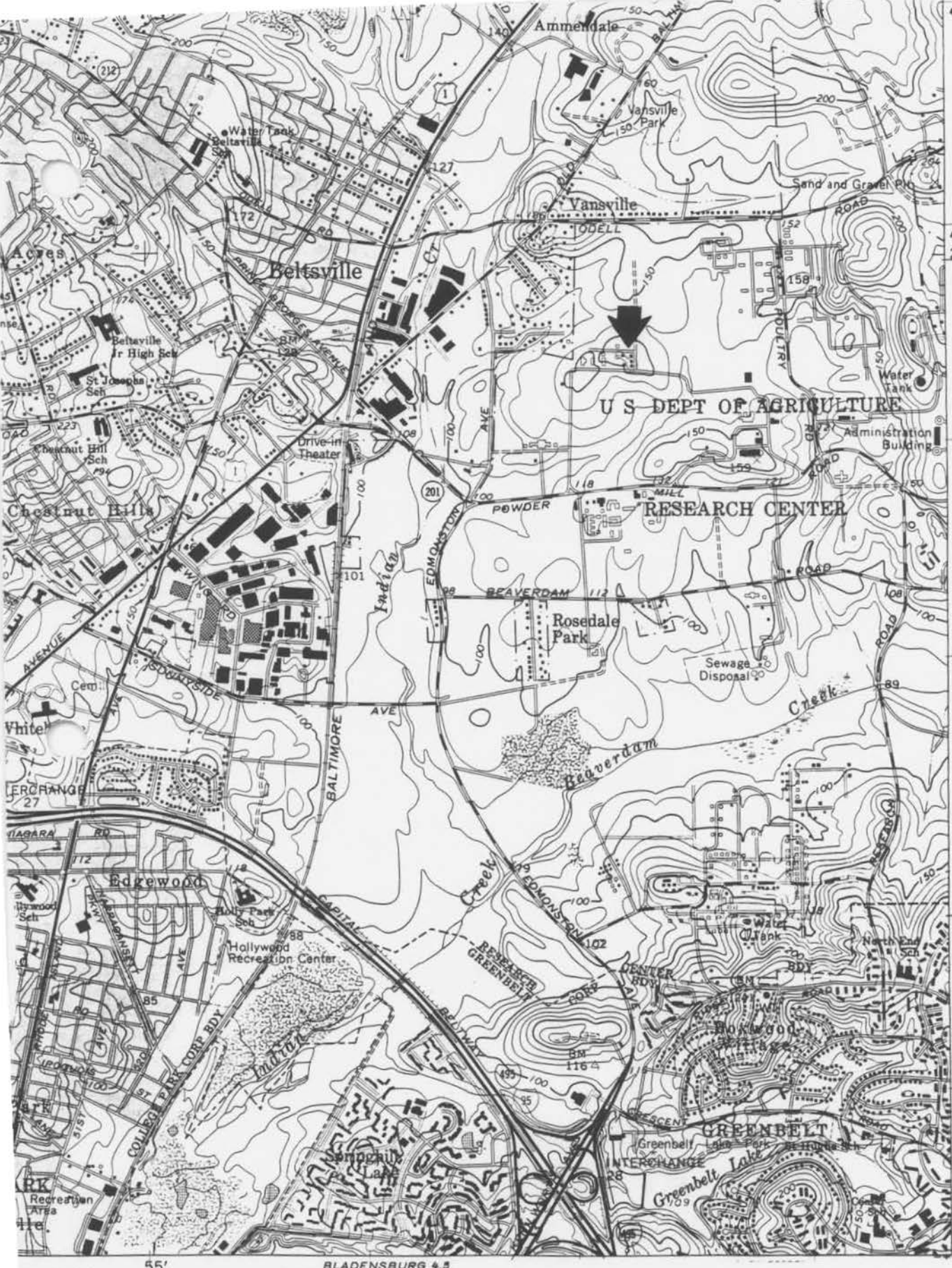
62



BARC Master Plan, 1996
Expansible Farmhouses (Buildings 193A,B&D
P.G. #~~61-25~~ 62-25
Beltsville Agricultural Research Center
Prince George's County, MD

PG:62-25
Buildings 193A, B and D
Beltsville Agricultural Research Center
Beltsville Quadrangle
Prince Georges County





U.S. Geological Survey Map [Beltsville, Quad], 1964 rev. 1979
Expansible Farmhouses (Buildings 193A,B&D)
P.G. #62-25
Beltsville Agricultural Research Center
Prince George's County, MD

Expansible Farmhouse (Building 193A)
P.G. #62-25
Beltsville Agricultural Research Center
Beltsville, MD
Photo by Heather Ewing, September 1996
Negatives at MHT
East Facade, looking west

#1 OF 19

Expansible Farmhouse (Building 193A)
P.G. #62-25
Beltsville Agricultural Research Center
Beltsville, MD
Photo by Heather Ewing, September 1996
Negs at MHT
West and North Facades, looking southeast

#2 OF 19

Expansible Farmhouse (Building 193A)
P.G. #62-25
Beltsville Agricultural Research Center
Beltsville, MD
Photo by Carol Hooper, December 1996
Negs. at MHT
South and West Facades, looking northeast

#3 OF 19

Expansible Farmhouse (Building 193A)
P.G. #62-25
Beltsville Agricultural Research Center
Beltsville, MD
Photo by Heather Ewing, Sept. 1996
Negs at M#T
Interior, view of living room, looking west towards addition

4 OF 19

EXPANSIBLE FARMHOUSE (BUILDING 193 B)
P.G. # 62-25
BELTSVILLE AGRICULTURAL RESEARCH CENTER
BELTSVILLE, MD.
PHOTO BY CAROL HOOPER
SOUTH AND EAST FACADES, LOOKING NORTHWEST
#7 OF 19
NEGS AT MHT

Expansible Farmhouse (Building 193B)
P.G. #62-25
Beltsville Agricultural Research Center
Beltsville, MD
Photo by Heather Ewing, September 1996
Negs. at MHT
North and East Facade, looking south

#8 of 19

Expansible Farmhouse (Building 193A)
P.G. # 62-25
Beltsville Agricultural Research Center
Beltsville, MD
Photo by Heather Ewing, September 1996
Negs at MAT
Interior, looking north from living room towards kitchen

#5 OF 19

Expansible Farmhouse (Building 193A)
P.G. # 62-25
Beltsville Agricultural Research Center
Beltsville, MD
Photo by Heather Ewing, September 1996
Negs at MHT
Interior, looking north from living room towards kitchen

#5 OF 19

Expansible Farmhouse (Building 193A)
P.G. #62-25
Beltsville Agricultural Research Center
Beltsville, MD
Photo by Heather Ewing, Sept. 1996
Negs. at MHT
Interior, view of kitchen, looking
northwest

#6 of 19

Expansible Farmhouse (Building 193B)
P.G. #62-25
Beltsville Agricultural Research Center
Beltsville, MD
Photo by Heather Ewing, September 1996
Negs. at MHT
West and North Facades, looking southeast
#9 OF 19

Expansible Farmhouse (Building 193B)
P.G. #62-25
Beltsville Agricultural Research Center
Beltsville, MD
Photo by Heather Ewing, Sept. 1996
Negs. at MHT
Interior, view of original dining area,
now used as a study, looking east

#10 of 19

Expansible Farmhouse (Building 193B)
P.G. #62-25
Beltsville Agricultural Research Center
Beltsville, MD
Photo by Heather Ewing, Sept. 1996
Negs. at MHT
Interior, looking south from kitchen towards living room/bedroom

#11 OF 19

Expansible Farmhouse (Building 193B)
P.G. # 62-25
Beltsville Agricultural Research Ctr.
Beltsville, MD
Photo by Heather Ewing, Sept. 1996
Negs. at MHT
Interior, view of living room/bedroom
looking southeast

#12 of 19

Expansible Farmhouse (Building 1930)
P.G. #GR-25
Beltsville Agricultural Research Center
Beltsville, MD
Photo by Heather Ewing, September 1996
Negs. at MHT
North and East Facades, looking south

#13 of 19

DC-0111-NNN-22-1830

Expansible Farmhouse (Building #30)
P.G. #62-25
Beltsville Agricultural Research Center
Beltsville, MD
Photo by Heather Ewing, September 1996
Negs at MHT
East and South Facades, looking northwest

#14 of 19

Expansible Farmhouse (Building 193D)
P.G. #62-25
Beltsville Agricultural Research Center
Beltsville, MD
Photo by Heather Ewing, September 1996
Ness - at MHT
West and South Facades, looking North

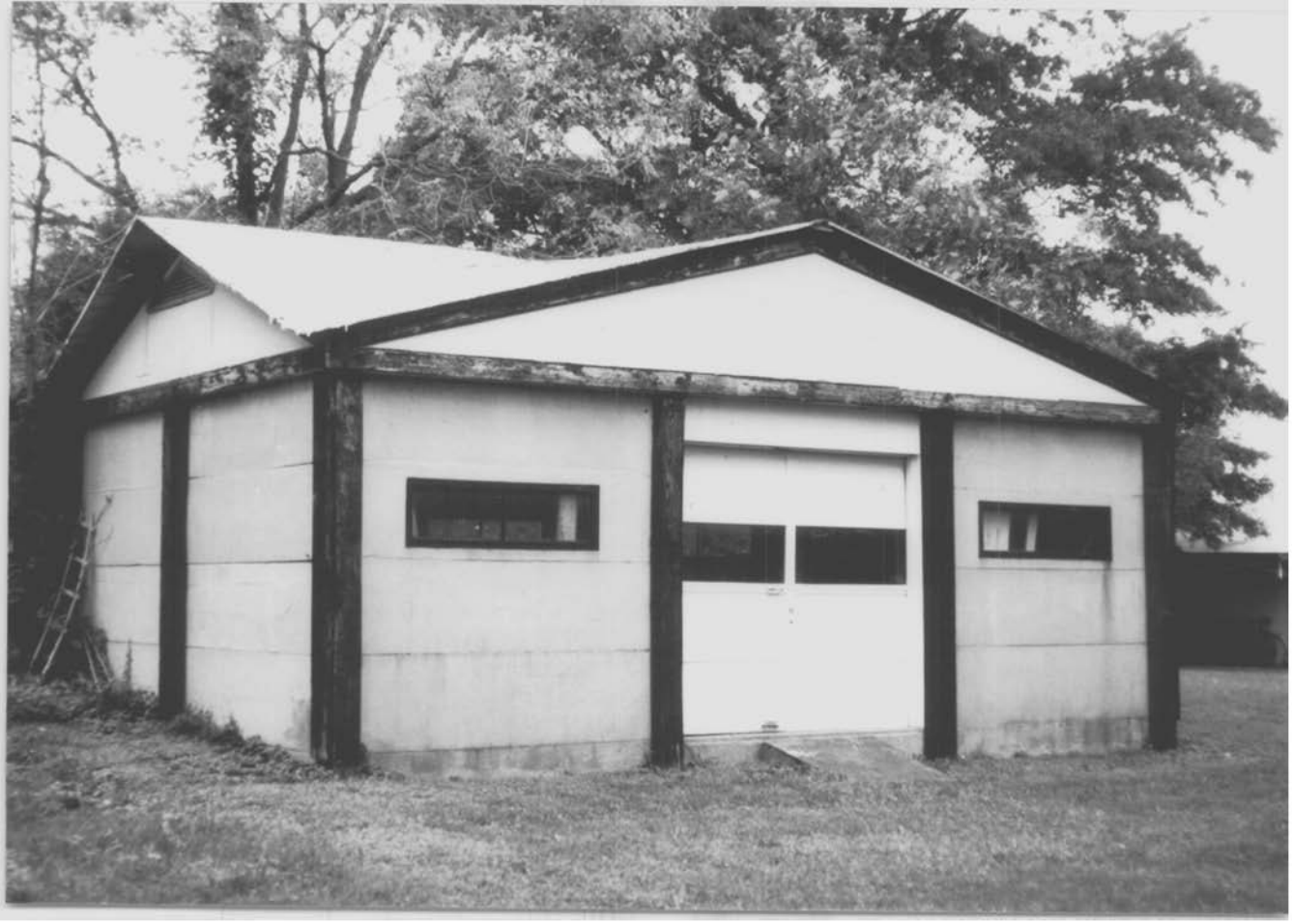
15 of 19

Expansible Farmhouse (Building 193D)
P.G. # 62-25
Beltsville Agricultural Research Center
Beltsville, MD
Photo by Heather Ewing, Sept. 1996
Negs. at MHT
Interior, view of hallway, looking west

#16 of 19

Expansible Farmhouse (Building 193D)
P.G. # 62-25
Beltsville Agricultural Research Ctr.
Beltsville, MD
Photo by Heather Ewing, Sept 1996
Negs. at MHT
Interior, view of living room,
looking east

#17 of 19



Expansible Farmhouse (Building 193E)
P.G. # 62-25
Beltsville Agricultural Research Center
Beltsville, MD
Photo by Heather Ewing, September 1996
Negs. at MHT
East Facade, looking northwest

18 of 19

Expansible Farmhouse (Building 193E)
P.G. #62-25
Beltsville Agricultural Research Center
Beltsville, MD
Photo by Heather Ewing, September 1996
Negs. at MHT
North Facade, looking south

#19 of 19