



087423



REPORT OF THE  
COMPTROLLER GENERAL  
OF THE UNITED STATES

The Use Of  
And Need For  
Fort Story, Virginia B-168700

Department of Defense

In this report GAO evaluates the use of and need for Fort Story, Virginia, raising questions about the Army's use of the fort, its current and future need for the fort for amphibious training, and the Navy's requirement for housing in the Norfolk-Virginia Beach area.

LCD-75-346

AUG. 26, 1975

770.410/087423



COMPTROLLER GENERAL OF THE UNITED STATES  
WASHINGTON, D.C. 20348

R-168700

The Honorable G. William Whitehurst  
House of Representatives

Dear Mr. Whitehurst:

As you asked on July 29, 1974, we are reporting on the use of and need for Fort Story, Virginia. We evaluated the Army's use of the fort, its current and future need for the fort for amphibious training, and the Navy's requirement for additional military family housing in the Norfolk-Virginia Beach area.

As you requested, we have not presented this report to the Department of Defense for official comment; however, we have obtained their oral comments on its contents.

We invite your attention to the fact that this report contains recommendations to the Secretary of Defense which are set forth on pages 13 and 21. As you know, section 236 of the Legislative Reorganization Act of 1970 requires the head of a Federal agency to submit a written statement on actions he has taken on our recommendations to the House and Senate Committees on Government Operations not later than 60 days after the date of the report and to the House and Senate Committees on Appropriations with the agency's first request for appropriations made more than 60 days after the date of the report. We will contact your office in the near future to secure release of the report to the Secretary and to the four Committees, setting in motion the requirements of section 236.

We are providing a copy of this report to Senators William L. Scott and Karry F. Byrd.

Sincerely yours,

A handwritten signature in cursive script, appearing to read "R. F. Kellum".

Acting Comptroller General  
of the United States

C o n t e n t s

|   | <u>Page</u> |
|---|-------------|
| DIGEST  | i           |
| CHAPTER   |             |
| 1 INTRODUCTION  | 1           |
| Fort Story's history  | 1           |
| Activities  | 2           |
| Con: ingency plans  | 4           |
| Scope of review   | 4           |
| 2 USE AND CONDITION OF FORT STORY                                       | 5           |
| Declining use of Fort Story   | 5           |
| GSA and DOD land surveys  | 5           |
| Substandard facilities and services                                     | 6           |
| 3 NEED FOR FORT STORY   | 8           |
| Training requirements   | 8           |
| Alternate locations   | 9           |
| Conclusions and recommendation  | 12          |
| 4 NEED FOR FAMILY HOUSING   | 14          |
| Navy's justification for the housing                                    | 14          |
| GAO's evaluation  | 15          |
| Conclusions and recommendation  | 20          |
| APPENDIX  |             |
| I Letter dated July 29, 1974, from Congressman<br>G. William Whitehurst | 22          |

ABBREVIATIONS

|      |                                      |
|------|--------------------------------------|
| ACV  | air cushion vehicle                  |
| DOD  | Department of Defense                |
| GAO  | General Accounting Office            |
| GSA  | General Services Administration      |
| LARC | lighter, amphibious, resupply, cargo |
| LOTS | logistics-over-the-shore             |
| OSD  | Office of the Secretary of Defense   |

D I G E S T

Fort Story is situated in Virginia Beach at the entrance to Chesapeake Bay. The Army's use of the fort has declined in recent years.

Many of the facilities and conveniences normally found on military installations either are inadequate or nonexistent at this fort. Surveys by the General Services Administration and the Department of Defense have cast doubt on the Army's need for all of the installation. (See pp. 5 to 7.)

The Army's need for the fort is related to the types of amphibious vehicles it uses. However, the vehicles currently used are being replaced by air cushion vehicles. The suitability of the fort's terrain for the replacement vehicles will not be determined until the completion of tests to begin in 1976. (See pp. 8 and 9.)

The Department of Defense agrees with GAO's recommendation that the Army should reevaluate its need for Fort Story once the air cushion vehicles become operational. (See pp. 12 and 5.3.)

The Navy used questionable methods in justifying the need for constructing 600 family housing units. (See pp. 14 to 20.) Defense officials said the methods used by the Navy were warranted because of the conditions in the Norfolk-Virginia Beach area. (See p. 21.)

GAO believes that there is enough private housing available to meet the Navy's needs and recommends that the Secretary of Defense reassess the need for the additional housing. (See p. 21.)

As requested by Congressman Whitehurst, GAO did not obtain formal comments from the Department of Defense.

LCD-75-346

## CHAPTER 1

### INTRODUCTION

Fort Story is in Virginia Beach, Virginia, at the entrance to the Chesapeake Bay. As a subinstallation of the Army Transportation Center at Fort Eustis, Virginia, it is used for (1) training operators of amphibian vehicles, 1/ (2) conducting logistics-over-the-shore (LOTS) operations, and (3) developing, testing, and evaluating amphibious equipment and doctrine. The fort houses the Army's only active amphibian units, and the Army contends that it is the only military installation on the east and west coasts suitable for amphibious and LOTS training.

The Army defines an amphibious operation as an attack from the sea on a hostile shore. By contrast, a LOTS operation is the resupplying of forces already ashore and is conducted in areas where there is no enemy opposition. LOTS operations involve the transshipment of cargo from ships anchored offshore, across beaches, to inland modes of transportation. During an amphibious operation, Army amphibian units may provide support for the landing forces; but Army officials say their primary mission is to support LOTS operations. Although LOTS cargo can be variously transported, the Army uses primarily amphibians to travel directly from the ships to inland areas.

The Army's current amphibian vehicle is the LARC (lighter, amphibious, resupply, cargo). However, the LARCs are considered to be **obsolete** and will probably be replaced by air cushion vehicles 2/ if they prove to be operationally effective.

### FORT STORY'S HISTORY

Fort Story dates back to 1914 when the Virginia General Assembly ceded 343 acres to the Federal Government for military purposes. Construction of powder magazines and projectile rooms began in 1916, and in 1917 Fort Story was established as a coast artillery garrison.

---

1/Vehicles that operate both in water and on land.

2/Vehicles that ride on a cushion of air over both water and land.

During the early 1940s, the fort's size was increased to 1,439 acres, major fortifications and armaments were installed, and many of the fort's present buildings were constructed. The headquarters of the Harbor Defense Command was transferred to Fort Story during this period.

In 1944 the fort became a convalescent hospital. When the hospital was closed in 1946, the fort assumed its present role of training units and individuals for amphibious and LOTS operations. In 1961 the fort was designated as a permanent Army installation. The acquisition of an additional 12 acres in 1963 increased the fort to its present size of 1,451 acres.

### ACTIVITIES

As of September 1974, the fort had the following permanent military and civilian employees.

#### Personnel at Fort Story as of September 1974

| <u>Activity</u>  | <u>Personnel</u> |                 | <u>Total</u> |
|--|------------------|-----------------|--------------|
|  | <u>Military</u>  | <u>civilian</u> |              |
| 79th Transportation Battalion<br>(Strategic Army Forces) | 633              | -               | 633          |
| Support units  | 21               | 267             | 288          |
| Tenants  | <u>242</u>       | <u>5</u>        | <u>247</u>   |
| Total  | <u>896</u>       | <u>272</u>      | <u>1,168</u> |

The above figures do not include groups using the fort for only temporary periods, such as

- active duty units stationed at Fort Eustis (including three transportation battalions),
- an Army Reserve unit that uses the fort at least 16 hours a month for training,
- an average of four reserve units that train there 2 weeks each year,
- employees of tenants who are assigned on an as-needed basis, and
- units of the Navy, Coast Guard, Marine Corps, National Guard, and Reserve Officer Training Corps that use the fort periodically.

### Host activity

As the host activity, the 79th Transportation Battalion operates Fort Story. In addition to providing space, facilities, and services for assigned units and tenants, the battalion also

- - trains and maintains in the required state of readiness all Strategic Army Forces assigned to the fort and
- - commands, administers, and supervises assigned or attached units engaged in water terminal or LOPS operations.

The battalion comprises a headquarters company, three amphibian units, and a maintenance detachment. Resulting from recent transfers and deactivations, these five units are the only Transportation **Corps** or Strategic Army Forces stationed at Fort Story. The battalion also operates the Army Amphibian School at the fort.

### Supporting and tenant activities

Activities which serve or support the installation include a military police detachment, a health services unit, a Navy-operated public **works** group, and several contracted or nonappropriated fund activities, such as clubs and a post exchange.

Tenant activities include three Army, one Coast Guard, and seven Navy units. The **Army** tenants have only three permanently assigned employees; and the Coast Guard, which operates a lighthouse, has only five.

The **two** major tenants are Navy units engaged in ordnance disposal and navigational aids. These two units employ 229 of the 247 persons assigned to tenants at the fort. Neither of these units requires the use of the fort to accomplish its mission.

### Navy housing

In 1973 the Army agreed to the construction of 600 Navy enlisted family housing units at the fort. The Navy now plans, however, to construct the 600 units elsewhere in the Norfolk-Virginia Beach area. The Navy's justification for the construction was based on 5-year projections of the number of housing units needed versus the number expected to be available. The Navy's need for the housing is discussed in chapter 4.

#### CONTINGENCY PLANS

In the event of a national emergency, Fort Story is designated as a training site for mobilized Army amphibian and water terminal service units. The Navy also has classified contingency plans for occupying the fort in the event of mobilization or national emergency.

#### SCOPE OF REVIEW

We performed our review primarily at Fort Story and Fort Eustis, Virginia; the Fifth Naval District, Norfolk, Virginia; and the Department of the Army, Washington, D.C. We interviewed military officials and reviewed documents regarding the use and need for Fort Story, the Army's requirements for amphibious and LOTS operations, and the Navy's requirements for housing in the Norfolk-Virginia Beach area.

We also contacted the Virginia Beach City Council regarding alternate sites for the proposed Navy housing, and we interviewed private realtors regarding vacancy rates.



## CHAPTER 2

### USE AND CONDITION OF FORT STORY

The number of Army personnel and activities assigned to Fort Story has greatly declined in recent years, and many of the facilities and conveniences normally found on military installations are either inadequate or nonexistent. Although the Army continues to use Fort Story for LOTS training, surveys by the General Services Administration (GSA) and the Department of Defense (DOD) have cast doubt on the Army's need for all of the installation.

### DECLINING USE OF FORT STORY

In late 1972, the Army began reducing its activities at Fort Story. As part of this effort, the Transportation Center developed a realignment plan in May 1973 to (1) transfer or deactivate many of the units stationed at the fort, (2) reduce the fort's personnel by about one-third, and (3) lower its annual operating costs by more than one-half.

In 1973 the Army and the Navy executed an agreement under which the Navy would construct family housing at Fort Story and assume part of the fort's operational and maintenance costs. The Army's 1973 realignment plan noted that the installation could be transferred to the Navy with the Army retaining only its amphibious units and certain training areas. Army officials told us there are no present plans to transfer Fort Story to the Navy.

The average number of Army personnel at the fort has decreased during each of the past 7 years--from 2,014 in 1968 to 638 in 1975. During 1973 and 1974, 8 units with a total operating strength of 517 personnel were either transferred or deactivated. The fort's commissary, dispensary, and dental clinic were also closed during these 2 years. In March 1974 nearly one-fourth of the buildings at Fort Story were unoccupied.

### GSA AND DOD LAND SURVEYS

Federal property management regulations require that annual surveys be made to determine the need for all Federal real property. In recent years both GSA and DOD survey teams have independently concluded that the Army does not need all of Fort Story.

In 1970 GSA surveyed the fort, concluded it was underused and recommended that 330 acres on the western end be

declared excess immediately, with the remainder of the installation to be progressively phased out. In 1971 DOD surveyed the fort and recommended that 200 acres on the western end be declared excess.

The Army objected to both GSA's and DOD's recommendations, and the matter was eventually submitted to the Presidents' Property Review Board for adjudication. The Board agreed with GSA that the 300 acres should be declared excess but did not address the question of whether the remainder of the fort should be phased out.

In September 1972 the President directed the Secretary of Defense to report the 300 acres as excess. The Army determined that this parcel of land included only 270 acres and in June 1973 submitted to the House Armed Services Committee a request to report the 270 acres to GSA for disposal.

In April and May of 1973 a DOD team surveyed Fort Story and again concluded that the Army did not need all of the beach area. The survey report stated that disposal of the 270 acres appeared to be the correct action but that, if the 270-acre tract were not released, the Army should consider releasing about 378 acres in three other areas of the fort.

On December 5, 1973, the Committee disapproved the request to dispose of the 270 acres. In March 1974 DOD informed the Federal Property Council (successor to the Property Review Board) that it needed all the land at Fort Story. At the time of our review, the Army still retained ownership of the property.

#### SUBSTANDARD FACILITIES AND SERVICES

Most of the buildings at the fort are temporary structures built before 1951 and are expected to have a life of no more than 5 years. Also, many of the services at the fort have been discontinued. As a result

- most buildings at the fort are in poor condition;
- all bachelor housing is substandard (the Army has decided it cannot be made adequate);
- the fort does not have a commissary, dispensary, or dental clinic; and
- nearly 24 percent of the buildings are unoccupied.

While the Army has not estimated what it would cost to make the fort's facilities adequate and to provide the normal range of services, it has estimated that over \$7 million would be needed to build adequate barracks for 1,000 men. The fort's backlog of maintenance and repair for fiscal year 1976 is about \$3 million.

## CHAPTER 3

### NEED FOR FORT STORY

The Army's principal use of Fort Story is to conduct LOTS unit-level training and to hold periodic full-scale LOTS exercises; however, the LARCs are considered obsolete and will be phased out as replacement vehicles are adopted. The Army plans to test air cushion vehicles (ACVs) as possible replacements for the LARCs.

### TRAINING REQUIREMENTS

The Army's need for Fort Story is based largely on the operating characteristics of its present amphibians. The 64 LARCs stationed at Fort Story are the only active amphibians available to the Army for moving cargo over beaches during resupply operations. In December 1973 the Army's Training and Doctrine Command completed an extensive study which concluded that the LARCs were technologically obsolete. The study recommended that over one-half of the LARC fleet be disposed of in 1975 and that only the four largest LARCs be retained beyond 1980. In February, 1975, however, the Army's Chief of Staff instructed that the existing LARCs be retained until they could be replaced with ACVs.

The Army has contracted for two ACVs, which it expects to receive and test at Fort Story in 1976. Present plans are to obtain five more of these craft by 1978. Plans beyond that date are not firm, but the Army anticipates acquiring a fleet of 30 ACVs.

Firm data on the capabilities of the ACVs for performing the Army's LOTS mission will not be available until after the tests scheduled to begin in 1976; however, performance characteristics obtained from the manufacturer and reported results of tests done by the Navy and the Canadian Government closely conform to the performance requirements specified in the Army's contract for the first two ACVs. Although firm conclusions cannot be developed at this time, the data permits some assessments regarding these craft, including the Army's future LOTS training needs at Fort Story.

A comparison of the ACVs to the LARCs indicates important differences in their characteristics, including:

- The ACVs--with an expected speed of about 50 miles per hour when fully loaded--are much faster than the LARCs.

--They can operate effectively in rougher water than the LARCs.

--They can travel over surfaces that would incapacitate the the LARCs.

--The ACV's ability to traverse irregular terrain is restricted compared to the LARC's. Specifically, the prototype ACV's operating characteristics require only that it be Capable of rising vertically over obstacles 3 to 4 feet high, move up a slope of about 20 percent, and move laterally along a slope of 4 to 6 percent.

The superior speed of the ACVs and their ability to operate over rougher water offer opportunities not available with the LARCs. Army officials said that the slow speed of the LARCs restricted their mobility, necessitating stationing them and their operating personnel at the training beach site. With the ACV's superior speed, it might be feasible to station these craft some distance from the beach training areas.

Most of the beach frontage usable for LOTS purposes at Fort Story--that fronting on the Chesapeake Bay--is bounded by natural sand dunes. Although the dunes are constantly changing in size and shape, most of them exceed the vertical rise and slope-climbing capabilities required of the ACVs. Because the terrain needed for training with the ACVs differs considerably from that needed for the LARCs, the ACVs may not be designed to traverse most of the terrain predominant at Fort Story. Army officials said that, if it should become necessary to perform a LOTS mission over beaches similar to the prevalent terrain at Fort Story, the Army would probably require a bulldozer to carve a path for the ACVs.

Army officials said that the ACV's can be operated at Fort Story by using trails made for the LARC's although it may be necessary to widen the trails. The practicality of this will not be known until operational tests are done.

#### ALTERNATE LOCATIONS

Among the conditions that the Army requires for amphibian and LOTS training are

--variable surf conditions that allow trainees to progress from relatively simple through more complex operating environments,

- a sandy, moderately sloped beach and soil of sufficient strength to support the largest amphibian (currently the 197,000-pound LARC 60),
- natural terrain features and enough inland area to allow full-scale operations, and
- proximity to cargo ships and a deepwater anchorage site.

These conditions are predicated on the capabilities and limitations of the LARCs, and some of them might not be required for ACVs; for example, soil strength might not be a factor with ACV's. The natural terrain features at Fort Story—principally sand dunes--considered necessary for LARC training may cause problems for the ACVs because of their apparently limited vertical rise capability and restrictions on slopes over which they can operate. Accordingly, if and when ACVs replace the LARCs, Fort Story may not be an ideal location for the Army's purposes.

As stated previously, the superior speed of the ACVs may make it feasible to station them some distance from the beach training areas. For example, it might be possible to station them at Fort Eustis and move them to beach training areas under their own power. Because of the possibility that Fort Story may not serve the Army's needs for ACVs, we examined alternative military locations in the Norfolk area. Although none of the alternative locations appears to have all of the necessary characteristics needed for LOTS training, some of them do offer certain advantages.

#### Camp Pendleton

Camp Pendleton, a Navy amphibious training site, includes 460 acres on the Atlantic Ocean, about 9 miles south of Fort Story. The site has about 1,300 yards of beach frontage, including natural terrain, with an average depth of 20 to 30 yards. The Navy and Marine Corps use the site to integrate all components of their amphibious warfare. During a recent survey, DOD reported that "the depth of the site permits full development of the amphibious evolution once it has swept ashore." In justifying retention of Camp Pendleton, the Navy recently stated that the "site is unique in the Norfolk area in that it is the only one which offers the condition of surf, sufficient depth of property, and remoteness which are necessary to conduct realistic amphibious training and demonstrations."

The Army believes that Camp Pendleton is not an acceptable training site because a LOTS operation requires an extensive inland working area and the depth available at Camp Pendleton does not provide a realistic environment. This explanation applies principally to full-scale LOTS exercises conducted several times each year. For the continuing LOIS unit training, the Camp Pendleton beaches offer a wide expanse of ocean beach. Therefore, regarding the principal training use made of Fort Story, the Camp Pendleton beach front would appear to offer an adequate training site. Given the superior speed of the ACVs, these craft and their operators could be stationed at Fort Eustis for unit level training in calmer waters and travel to Camp Pendleton in about 2 hours for ocean-surf training.

For full-scale exercises Camp Pendleton may not be ideal. But, with 1,300 yards of beach frontage, it would appear that the inland resupply unloading and reloading portions of a LOTS exercise could be conducted along the length of the beach rather than penetrate an extensive distance inland. Since it is the movement of cargo across a beach to a stockage-transfer point that is involved, the depth of penetration would appear to have a minimal impact on the training value of unloading the LOTS amphibians at the transfer point.

The Army believes that the rougher water off Camp Pendleton would be hazardous to inexperienced amphibian operators. However, inexperienced operators can be trained in very calm waters at Fort Eustis; they could be dispatched to the Navy's beaches at Little Creek, Virginia, for slightly **less** calm waters or even to the bay front beaches presently used for this purpose at Fort Story. More importantly, the **ACVs** can apparently operate over rougher waters than the existing LARCs. For example, the Army's specifications for the first two ACVs require a capability to operate in plunging surf as high as 8 feet--beyond the normal operating range of the LARCs.

#### Little Creek Amphibious Base

Little Creek Amphibious Base is located in Norfolk, Virginia, on the Chesapeake Bay. It has about 3,900 yards of beach frontage and an average depth of 2,300 yards, including 200 to 300 yards of natural terrain behind the beach. It is used principally by the Navy and the Marine Corps for amphibious training, but it is also used by the Army for some of its LARC operator training.

Little Creek Amphibious Base is closer to Fort Eustis than Fort Story. ACVs stationed at Fort Eustis could reach Little Creek in about an hour. While use of this beach front

would require coordination with the Navy, this facility could provide ACV unit level training needs for bay frontage surf.

### Fort Eustis

The majority of the Army's LOTS units and personnel are stationed at Fort Eustis. There would appear to be certain advantages if all LOTS units--including the amphibians--could be stationed at one location, including facilitating integrates LOTS training.

Fort Eustis has a sandy beach on the James River and an undeveloped area behind the beach. The Army believes that the James River is too calm and its 'cotton too muddy to provide a realistic training site for amphibian operators. However, the muddy bottom would not appear to be a factor for the ACVs, and the calmness of the water seems to be the type of condition the Army requires for the initial training of operators. The speed of the ACVs might make it feasible to dispatch ACVs based at Fort Eustis to Little Creek and Camp Pendleton for advanced training in progressively rougher waters.

The Army also believes that the inland area at Fort Eustis has too much swamp land and lacks the trails necessary for LARC operator training. However, this might not pose a problem for the ACVs, which are supposedly capable of operating over swamp land.

### CONCLUSIONS AND RECOMMENDATION

#### Conclusions

Based on the training requirements for its LARCs, it appears that the Army has a justifiable need for Fort Story, even though the fort is being underused and its facilities are inadequately maintained. However, the Army is apparently in the process of replacing the LARCs with ACVs.

The suitability of Fort Story to the needs of the ACVs cannot at this time be fully determined. Accordingly, we believe that, if and when the ACVs become operational, the Army should reevaluate the need for and suitability of Fort Story for LOTS training. This evaluation should also consider the feasibility of alternative locations in the Norfolk area.



Recommendation

we recommend that the Secretary of Defense direct the Army to reevaluate its need for Fort Story when the replacement amphibian vehicles become operational, including the feasibility of alternative locations.

Agency comments

In commenting on the material contained in our report, representatives from the Office of the Secretary of Defense and Army headquarters concurred with our recommendation.

## CHAPTER 4

### NEED FOR FAMILY HOUSING

In 1971 the Navy requested approval to build 630 housing units for enlisted personnel in the Norfolk area. The Congress authorized the construction at an estimated \$14,800,000, including site acquisition.

The Navy's 1974 study to revalidate the need for the 600 housing units--576 4-bedroom and 24 5-bedroom units--showed an overall deficit in housing but a surplus of 323 4-bedroom units. Because of this surplus, we questioned the Navy's need to construct additional four-bedroom units. Navy officials said their 1974 study was invalid. The Navy then made two additional studies using different criteria and methods. Both showed an overall deficit as well as a deficit of four- or more bedroom units; however, had the Navy not changed from its normal criteria for computing housing requirements, its latest study would have shown a surplus in all housing categories.

We believe the Navy's planned construction of these 600 units is highly questionable because our analysis indicates there is enough private housing in the surrounding communities to meet its needs.

We also discussed available housing in the Norfolk area with officials of the Tidewater Builders Association and other firms representing area builders and realtors. These officials said there was enough housing in the Norfolk area to meet the Navy's need and no requirement existed to construct the 600 units.

### NAVY'S JUSTIFICATION FOR THE HOUSING

DOD policy requires that the private sector be the primary source for housing military personnel. Except when necessary for military reasons, the policy prohibits DOD construction of housing when nearby communities can provide satisfactory housing at no serious financial sacrifice to military families. Accordingly, DOD requires the services to conduct annual studies of family housing needs where projects are being proposed or revalidated.

DOD's need for military housing is based on the number of personnel expected to be in an area, their grades, the number married, the family size, and the housing available in the area to meet these needs. The Navy's 1971 study found a need for 2,309 housing units for enlisted personnel in the Norfolk area as shown in the following table.

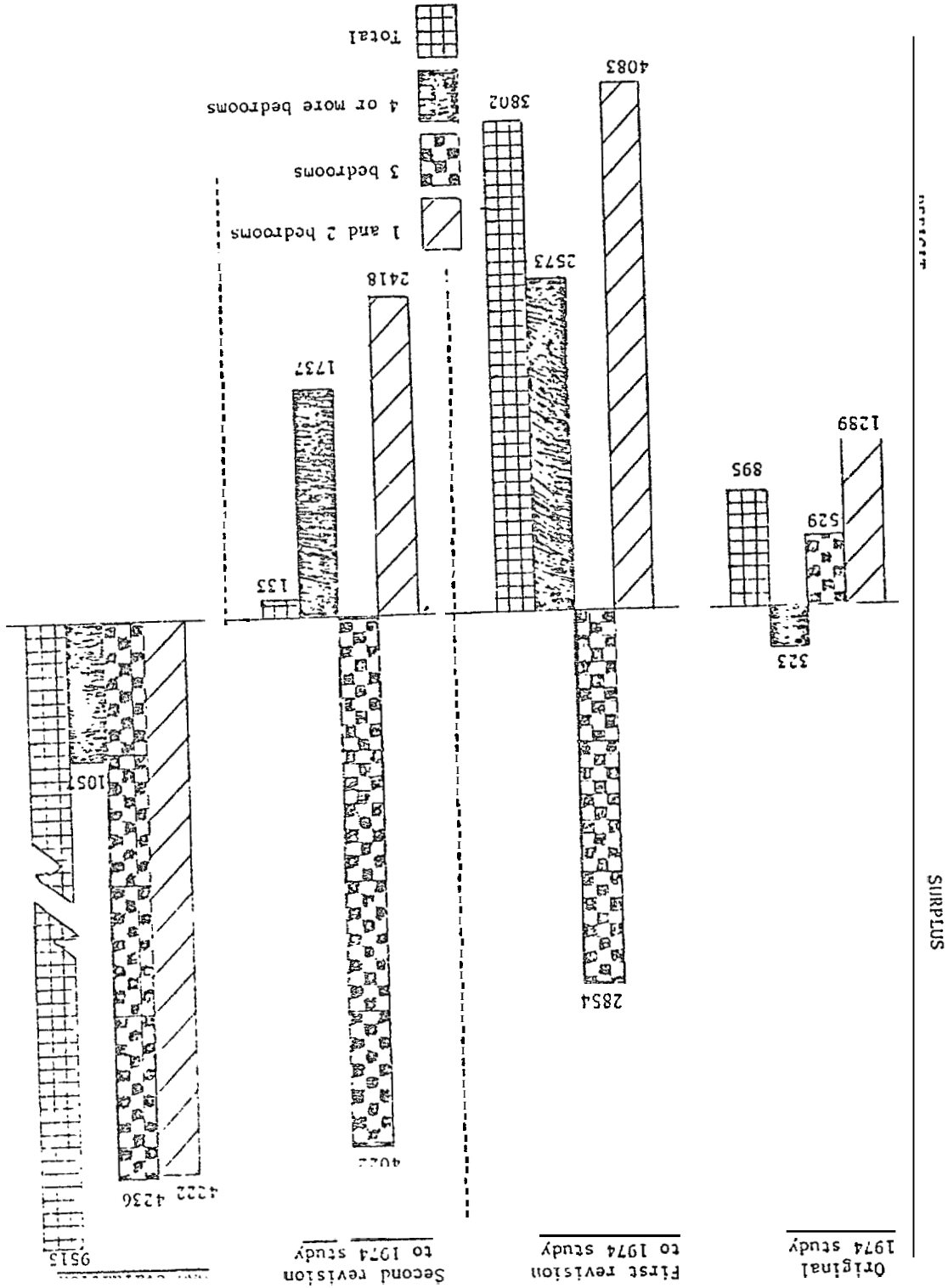
|  | <u>Number of bedrooms</u> |              |                  | <u>Total.</u> |
|--|---------------------------|--------------|------------------|---------------|
|  | <u>1 and 2</u>            | <u>3</u>     | <u>4 or more</u> |               |
| Available units for<br>enlisted personnel: |                           |              |                  |               |
| Navy-owned                                 | <u>1,080</u>              | 2,355        | 922              | 4,357         |
| Off post                                   | <u>7,816</u>              | <u>2,504</u> | <u>1,433</u>     | <u>11,753</u> |
| Total avail-<br>able                       | <u>8,896</u>              | <u>4,859</u> | <u>2,355</u>     | <u>16,110</u> |
| Navy requirements                          | <u>10,996</u>             | <u>4,198</u> | <u>3,725</u>     | <u>18,919</u> |
| Surplus or def-<br>icit(-)                 | <u>-2,100</u>             | <u>661</u>   | <u>-1,370</u>    | <u>-2,809</u> |

The Navy's 1974 study showed a total deficit of 1,495 units but a surplus of 323 units in the 4- or more bedroom category. In revising this study, the Navy deviated from its normal methods for computing housing needs. The revised study showed an increase in the housing deficit to 3,802 and reversed the surplus of 323 4-bedroom units to a deficit of 2,573.

The Office of the Secretary of Defense (OSD) did not agree entirely with the Navy's new methods. When the Navy prepared another study to incorporate OSD's comments, it showed the total deficit to be 133 units and the deficit for the 4-bedroom units to be 1,737. The results of the Navy's 1974 study, the two revisions, and GAO's evaluation of the latest revision are shown in the graph on the next page.

### GAO'S EVALUATION

In the revised 1974 studies, the Navy counted (1) housing in the North Hampton Roads area (Newport News/Hampton) that was not included in their previous studies and (2) a larger percentage of vacant houses and houses under construction. The Navy also increased its estimate of the number of personnel to be stationed in the Norfolk area. We did not evaluate this expected increase in personnel but accepted it in our computations.



As discussed below, we believe the procedures followed by the Navy in its latest justification are questionable. Specifically, the Navy appears to have

- overstated the need for 4- or more bedroom units by reclassifying 1,335 owner-occupied units as not meeting 4-bedroom needs,
- overstated the number of families expected to need housing by using an inappropriate marital factor,
- underestimated the number of potential Navy owner-occupied units,
- excluded many suitable houses already occupied by Navy families, and
- not considered all vacant and planned rental housing.

Our computation of available housing in the Norfolk area showed a surplus of housing in all categories.

Regarding four-bedroom units, the Navy told us its greatest need was to provide housing for the lower eligible grade levels (E-4 through E-6). But after our adjustments to the Navy's study, there was a surplus of 742 units for these grade levels and 315 units for higher graded enlisted personnel (E-7 to E-9).

The basis for the Navy's and GAO's computations of housing needs is discussed below.

Owner-occupied units reclassified  
as not meeting a four-bedroom needs

The Navy originally did not establish a need for persons who considered themselves suitably housed--even though they might be eligible for a unit with more bedrooms. This method was consistent with governing DOD instructions which state, in part:

"\* \* \* Houses and mobile homes owned and occupied by military personnel will be considered adequate community support, and therefore charged as assets against gross requirements; provided: they are classified as satisfactory by the owner-occupants  
\* \* \*"

For the Norfolk metropolitan area and elsewhere, the Navy has normally computed its requirements in accordance with the above DOD instruction. But, for the final revision of its 1974 study, the Navy deviated from this criterion by reclassifying 1,395 units considered suitable by the military occupants from the 4-bedroom category to other categories.

In a reply dated April 11, 1973, to a previous GAO report on the same issue, the Acting Assistant Secretary of Defense, Installations and Logistics, stated that artificially increasing the magnitude of a deficit by reclassifying housing considered suitable by the occupant is contrary to stated DOD policy. He said this aspect of study procedures would be stressed at housing study workshops conducted by all services.

Number of married Navy personnel overestimated

DOD criteria state that, to eliminate temporary changes but recognize trends, marital factors will be based on experience for at least 3 years. The Navy, in its original 1974 study, used the most recent 3-year average; however, in its revised 1974 study, the Navy used the 1974 factor of 70.3, which was much higher than the most recent 3-year average. These factors were 60.9, 63.7, and 70.3 in 1972, 1973, and 1974, respectively. Consequently, the revised study overstated the need for housing by 1,998 units, including 428 4-bedroom units.

OSD approved using the 1-year marital factor on the basis of data submitted by the Navy, which included an erroneous 1373 factor of 68.8 instead of 63.7

We believe using the 1974 marital factor results in responding to an unrepresentative temporary change—the very condition the DOD criteria were established to avoid. Furthermore, even if use of the factor for the current year would be appropriate, we believe its principal effect would be to increase requirements for one- and two-bedroom units.

Number of potential owner-occupied units underestimated

The Navy's justification for constructing military housing was based on the number of enlisted personnel eligible for family housing units compared to the number of housing units available. In making its comparison, the Navy used a 5-year projection to determine eligible personnel but used current homeownership to determine available units.

The method used by the Navy does not appear to compute homeownership in accordance with the intent of an OSD memorandum dated June 29, 1973, which states:

"Analyses of world-wide survey data, and a review of partial data available from the CY 1373 surveys indicate that in addition to sizable gains in community rental housing, a greater number of military families, by choice, are becoming homeowners. Increased pay and allowances have undoubtedly affected the growth of this category. Although current policy does not project future gains in the for-sale housing category, experience has shown that an installation's deficit can become marginal over the period of one year due to the continuing trend toward homeownership. Programming new housing construction, a long-lived asset, in the face of such growth is counterproductive to our basic policy which is to rely on communities near military installations as our primary source for family housing. Prudent management therefore, dictates that consideration should be given to the sizable growth in the 'owned' category." (Underscoring supplied.)

We believe that a moving average similar to the 3-year average used in other factors for determining requirements (see page 18) should have been used by the Navy to project the number of people expected to own homes. For example, the number of Navy enlisted personnel in Norfolk who owned their homes ranged from about 38 percent in 1972 to about 51 percent in 1974, or a 3-year average of about 45.9 percent. By applying this average to the expected number of enlisted personnel eligible for housing, we estimated there would be 2,469 more homeowners than the Navy counted in its study, of which 632 would be owners of 4-bedroom units.

Suitable units occupied by Navy families  
excluded from community assets

In its annual studies, the Navy identifies housing in the civilian community occupied by Navy families and determines whether it is suitable. Among other reasons, housing is unsuitable if it (1) is more than an hour from the occupant's place of work, (2) has too few bedrooms for the size of the occupying family, or (3) is too expensive for the occupant.

The initial 1974 survey identified 4,196 Navy families who were living in unsuitable private homes. None of these homes were counted as assets available to Navy families even though, based on the Navy's criteria, 2,315 would have been suitable for other Navy families--that is, families with higher incomes, fewer children, or different work locations.

In its revised 1974 study, the Navy included in community assets those houses previously considered unsuitable because of insufficient bedrooms. This change added 73 housing units that were not included in the original 1974 study. None were four or more bedroom units. The Navy continued to exclude several houses that were within an hour's drive to the area's major naval installations and those that were too expensive for the current occupant but were within the Navy's cost criteria for higher grade individuals. For example, an E-4 occupying a house which costs him more than his maximum allowance is not counted even if the house is within the cost limit for a higher grade.

Had the Navy included housing suitable for another occupant, its study would have added 1,942 units to those available, including 155 units with 4 or more bedrooms.

#### Vacant and planned rental housing underestimated

In its latest revision to the 1974 study, the Navy appears to have underestimated vacant and planned rental units in the locality. The Navy estimated the number of planned and vacant units based on a survey by OSD. OSD obtained its information on vacancies from several real estate officials who estimated the vacancy rate to be 6 percent. OSD used this rate with other information to estimate that there were 6,814 vacant and planned rental units in the locality available to enlisted personnel.

We expanded on the OSD survey to include (1) officials representing owners of about 17,600 rental units and (2) officials of the Tidewater Builders Association on planned construction of rental units. We computed a vacancy rate of 8 percent and 10,053 vacant and planned rental units available to enlisted personnel, or 3,239 additional units.

#### CONCLUSIONS AND RECOMMENDATION

##### Conclusions

The Navy's latest revised 1974 study appears to overstate the requirements for housing. Our analysis indicates