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BY THE COMPTROLLER GENERAL

Report To The Honorable G. William Whitehurst U. S. House Of Representatives

OF THE UNITED STATES

Navy Has Housing Problems At Virginia Beach And Scrap Metal Disposal Problems At Sewells Point

The Carper housing project, less than 2 years old, has experienced maintenance problems arising from inadequate

--construction quality standards,

--inspection by the construction contractor, and

--use of warranties.

It has also experienced unmet standards.

In disposing of its scrap metal at Sewells Point, the Navy is violating the Department of Defense's regulations by allowing the scrap contractor to keep valuable metal. Also, the Navy has no monitoring system at Sewells Point to make sure it receives fair value for the scrap metal removed from the base.

GAO is recommending that the Navy take specific steps to correct these situations.

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COMPTROLLER GENERAL OF THE UNITED STATES
WASHINGTON, D.C. 20548

B-199875

The Honorable G. William Whitehurst
House of Representatives

Dear Mr. Whitehurst:

This report is in response to your July 17, 1979, request for our investigation of matters related to the Navy's Carper housing project at Virginia Beach, Virginia, and the scrap collection and disposal at Sewells Point, Virginia.

As arranged with your office, we are sending copies of this report to the Director, Office of Management and Budget; the Secretary of Defense; the Secretary of the Navy; and the Commander, Atlantic Division, Naval Facilities Engineering Command. Copies will also be available to other interested parties who request them.

Sincerely yours,

Milton J. Socolar

Acting Comptroller General
of the United States

BY THE COMPTROLLER GENERAL
OF THE UNITED STATES
REPORT TO THE HONORABLE
G. WILLIAM WHITEHURST
HOUSE OF REPRESENTATIVES

NAVY HAS HOUSING PROBLEMS AT VIRGINIA BEACH AND SCRAP METAL DISPOSAL PROBLEMS AT SEWELLS POINT

D I G E S T

Representative G. William Whitehurst asked GAO to answer two major questions:

--What has caused the large volume of complaints about the Carper housing complex at Virginia Beach?

--Is the Navy's disposal system at Sewells Point adequate to retrieve valuable scrap metal or receive fair value? (See app. I.)

CAUSES FOR MAINTENANCE PROBLEMS AT CARPER HOUSING COMPLEX

Although less than 2 years old, Carper has had numerous maintenance problems. GAO could not validate the total amount spent for this maintenance because of errors in the Navy's cost accounting systems. However, the Navy reported spending about $238,000 as of February 1980. To answer the primary question of what caused the maintenance problems, GAO needed to obtain answers to the following secondary questions:

--Were construction requirements adequate to ensure quality housing?

--Were inspection procedures adequate to ensure that contract requirements were met?

--Were Navy systems adequate to ensure that warranties were used?

Although construction standards exist for many of the major problem areas at Carper, they are not always adequate to ensure quality housing. Specific standards existed

for some problem areas, whereas none existed for others.

Even when standards were specific, they were not always sufficient or enforced. Also, the Department of Defense's (DOD's) scoring system for evaluating proposals encourages contractors to include amenities rather than raise construction quality above the minimum standards. (See p. 10.)

If the inspection system had been carried out as described in the contract, it would have disclosed construction deficiencies; however, at Carper, the actual inspection was inadequate. (See p. 17.)

GAO reviewed maintenance costs only at Carper and read files on "lessons learned" from other Navy housing projects. Inspectors from other projects had noted inadequacies with the construction standards and with the contractors' inspection program. For example, standards for subfloors, roof sheathing, doors, and hardware were cited as marginal. (See p. 15.) Problems encountered with other contractor quality control programs included inadequate numbers and qualifications of contractor personnel, a preoccupation with production rather than quality, and lack of any inspection plan keyed to the construction schedule. Consequently, GAO concluded the Navy's experience at Carper is not unique. (See p. 20.)

Although the contractor has repaired many items under warranty, the Navy has paid for numerous other repairs which also should have been covered. Some Navy personnel were not even aware that warranties existed and assumed that corrective work would not be covered. They disagreed on the extent of warranty and--in the case of Government-furnished equipment--ordered the equipment so early that the warranty ran out before most equipment was installed. (See p. 22.)

Navy officials agreed with most of these points, but did not agree that Navy personnel should contact manufacturers before paying for repairs which should be covered by warranty, saying such a procedure might cause inconvenience for tenants and delays in correcting problems. While GAO shares this concern, it believes that the Navy should contact manufacturers to repair the products under warranty or insist that the construction contractor do so, especially in instances of repeated occurrences.

PROPRIETY OF THE NAVY'S DISPOSAL OF SCRAP METAL AT SEWELLS POINT

At Sewells Point, the Navy is violating DOD regulations by letting a contractor keep valuable scrap metal. According to those regulations, excess personal property, including scrap metal, should be turned into a Defense Property Disposal Office of the Defense Logistics Agency (DLA). The Navy is not turning the scrap metal in because it believes it is more cost effective to contract for disposal. However, it does not know how much scrap metal the contractor is keeping nor its value. Consequently, the Navy cannot do a valid cost study, and the lack of management controls and monitoring makes misappropriation of Federal property easier. (See p. 33.)

Lack of information on the amount and value of scrap metal makes it impossible for the Navy to ensure that the Government is getting fair value. Although DLA is aware of the impropriety in the Navy's practices, it has no authority to direct the Navy's Public Works Center to change. (See p. 33.)

Navy officials told GAO that the trash and hazardous material which sometimes is deposited in the "metal only" dumpsters makes it unnecessary for them to turn the scrap metal into DLA. However, the regulations clearly state, and DLA officials agree, that it is the generating activity's responsibility to segregate scrap and waste to the maximum extent feasible. Therefore, the Navy should segregate the

trash and hazardous substance and turn the scrap metal into DLA. Further, Navy officials stated they are now requiring the scrap contractor to keep a log and will use that data to make another economic study of the costs. The scrap contractor told GAO that it will be impossible for the Navy to assess the value of the scrap metal from the data being collected.

RECOMMENDATIONS

Based on its onsite review of maintenance problems at the Carper housing project and review of Navy files on other such projects, GAO recommends that the Secretary of the Navy:

--Identify when planning new housing projects, based on past experience and expected use, those items likely to require considerable maintenance if only the minimum standards are met. Within funding constraints, specify higher requirements in requesting contract proposals for those items whose expected maintenance costs over the life of the project exceed the additional cost of the more durable items. (See p. 16.)

--Summarize for DOD the problems experienced with marginal construction standards, the bid evaluation system, and the contractor quality control programs, including Carper, and suggest to DOD that it determine whether these problems are widespread and need correction. (See pp. 16 and 21.)

--Require that inspectors and maintenance personnel contact manufacturers before paying for problems which should be covered by warranty but which the contractor refuses to do. (See p. 28.)

--Require construction personnel to provide maintenance personnel with a complete list of applicable warranties at the time of occupancy to reduce the likelihood of paying for work which should be covered by warranty. (See p. 28.)

--Require maintenance personnel to keep records of all work paid for which should have been covered by warranty so that claims or counterclaims can be instituted by the Government. (See p. 28.)

GAO also recommends that the Secretary of the Navy direct the Commander, Atlantic Division, Naval Facilities Engineering Command, in Norfolk to

--use either Navy personnel or pay a contractor to collect, sort, and deliver the scrap metal from Sewells Point to the Defense Property Disposal Office (see p. 33) or

--request an exemption to the DOD regulations for a contractor to keep the scrap metal only if the Public Works Center (1) collects adequate data to show the cost effectiveness of doing so and (2) establishes an adequate system to monitor the contract and assess the value of scrap metal being collected. (See p. 33.)

AGENCY COMMENTS

Neither DOD nor the contractors provided written comments within the 30 days allowed under Public Law 96-226. This report is therefore being issued without such comments.

Contents

ABBREVIATIONS

CQC	Contractor Quality Control
DLA	Defense Logistics Agency
DOD	Department of Defense
DPDO	Defense Property Disposal Office
GAO	General Accounting Office
HUD	Department of Housing and Urban Development
LANTDIV	Atlantic Division, Naval Facilities Engineering Command
MPS	Minimum Property Standards
NAVFEC	Naval Facilities Engineering Command
PWC	Public Works Center
RFP	Request for Proposal

CHAPTER 1

INTRODUCTION

As requested by Representative G. William Whitehurst (see app. I), this report seeks to answer two major questions:

--What has caused the large volume of complaints about the Navy's Carper housing project at Virginia Beach?

--Is the Navy's disposal system at Sewells Point, Norfolk, adequate to retrieve valuable scrap metal or receive fair value?

The primary question of maintenance problems related to the Carper housing complex comprises three secondary questions:

--Were construction requirements adequate to ensure quality housing?

--Were inspection procedures adequate to ensure that contract requirements were met?

--Were Navy systems adequate to ensure that warranties were used?

Information concerning the Carper housing project--background, a discussion of the three questions, and our conclusions and recommendations--are contained in chapters 2 through 5. All of the information concerning scrap metal disposal at Sewells Point, including our conclusions and recommendations, is presented in chapter 6.

OBJECTIVES, SCOPE, AND METHODOLOGY

To identify and analyze housing construction standards, inspection procedures, and warranty provisions, we interviewed Navy officials at the Naval Facilities Engineering Command (NAVFEC), Alexandria, Virginia; the Atlantic Division of NAVFEC (LANTDIV), Norfolk, Virginia; the Public Works Center (PWC) at Norfolk, Virginia; and the Carper housing project. We also met with the Director of Construction Standards and Design, Office of the Secretary of Defense, Installation and Housing. We analyzed contracts, maintenance records, construction specifications, warranties, warranty claims, and inspection records and toured several housing units at Carper. We also contacted officials at the American National Standards Institute, the Virginia Housing and

Development Authority, manufacturers of products used at Carper, the Constructions Standards Division of the Richmond area office of the Department of Housing and Urban Development (HUD), and private companies managing apartment complexes. We also discussed the problems at Carper with a representative of construction contractor, Ecoscience/Virginia Beach Associates.

Our approach to identifying problems with construction standards, inspection procedures, and warranty provisions was to determine how each system was supposed to work and then document what actually took place at Carper. Because maintenance problems were too numerous to analyze detailed construction standards, inspection procedures, and warranties for all of them, we selected a limited number of specific problems so we could investigate the specific requirements for each item and then determine how each system actually operated with respect to the specific items. Our work, therefore, was aimed at identifying system weaknesses without developing complete data on results of the weaknesses. To select the specific items, we grouped maintenance problems and analyzed records to determine the frequency of occurrence and the amount of money charged by the commercial contractor for maintenance for each type of problem and the amount of warranty work done. Also, we evaluated items from the standpoint of reasonableness of occurrence. We identified 19 problem areas by that analysis. For some problem areas, such as warped doors and faulty door locks, there were too many different problems to investigate them all, so we narrowed the research to one or two types of items. Thus, for doors we researched interior room doors and storm doors, and for door locks we researched the garage door locks and patio sliding glass door locks. The problems we selected are listed on the following table.

Problems Researched

Item	Description of problem	Contractor maintenance fees as of August 30, 1979 (note a)	
		Cost	Occurrences
Stove clock/timers	Defective oven control or clock	$5,117	99
Water heaters	Defective liners; contractor burned out elements by turning on heaters with no water in them; complaints of inadequate hot water supply	1,802	88
Garbage disposals	Poor drain connections allowing leaks	830	67
Plumbing leaks	Bad joint connections; nails through plastic pipe; inadequate caulking, allowing water where it should not be	3,063	103
Burst pipes in garage	Insulated pipe for exterior faucets bursting	1,350	27
Fiberglass tubs	Cracks and holes occurring from what seems to be normal use	3,400	b/68
Interior and storm doors	Interior doors warping because not sealed properly; storm doors not hung properly	2,860	174
Storm door closers	Not operating properly	825	55
Patio and garage door locks	Poor quality material and improper door installation causing locks not to work	1,059	82
Exterior stain	Chipping off siding	-	-
Flooring underlayment	Buckling up, causing tiles to come up; staples pushing through tiles	1,242	-

Item	Description of problem	Contractor maintenance fees as of August 30, 1979 (note a) Cost	Occurrences
Floor tile	Thin, coming up, or breaking easily; black adhesive coming up between cracks	$2,004	-
Caulking	Extensive recaulking done plus caulking put where none before, such as upstairs between wall and 1/4 round molding	2,780	-
Sinks and commodes	Cracked or broken	700	14
Cabinets and countertops	Separating from walls or falling off entirely	500	50
Smoke alarms	Sounding without cause and not sounding when tested with smoke	911	43
Exhaust fans	Not installed securely so vibration caused damage	388	35
Door stops	Sprung, allowing damage to walls	919	114
Exterior faucets	Frozen (although frost proof); would not turn on or off	1,080	68

a/Excludes the cost and occurrences of work performed by the Navy's PWC.

b/Includes 1st quarter of fiscal year 1980.

To determine whether the Navy at Sewells Point is disposing of scrap metal properly, we reviewed regulations, past studies, and interviewed personnel from the

--Defense Logistics Agency (DLA), 1/ Alexandria, Virginia; Battle Creek, Michigan; and Columbus, Ohio;

--DLA Inspector General's Office, Washington, D.C., and Philadelphia, Pennsylvania;

--PWC, Norfolk, Virginia; and

--Defense Property Disposal Office (DPDO), Norfolk, Virginia.

To determine whether the Government is receiving fair value for its scrap metal, we reviewed the Norfolk PWC's decisions and systems to estimate costs and monitor contracts related to collecting and disposing scrap metal in the Sewells Point area. We also discussed the contract with the current contractor, Southeast Salvage Company, Inc. We inspected and took photographs on 17 days between November 26, 1979, and February 14, 1980, of scrap metal being collected. (See exhibit II, pp. 38 and 39.)

Our work in the Norfolk area began in October 1979 and ended in March 1980.

We provided draft copies of this report to the Department of Defense (DOD), Navy, the construction contractor, and scrap contractor for their comments. None of these organizations provided official comments within the 30-day period stipulated in Public Law 96-226. The Navy and DLA officials gave us their individual views on the draft report; we discussed these views in each chapter.

1/Formerly the Defense Supply Agency.

CHAPTER 2

BACKGROUND CONCERNING MAINTENANCE AT CARPER HOUSING COMPLEX

In 1970 the Navy requested approval from the Congress to build 600 family housing units in the Norfolk area. The units were built for enlisted personnel. There are 576, 4-bedroom units and 24, 5-bedroom units. Land was acquired in the Green Run area of Virginia Beach--72 acres were acquired initially for the housing complex and another adjoining 8.76 acres were later purchased for recreational purposes.

Statutory limits apply to the size and cost of military family construction. The size limits which applied to units at Carper were:

Number of bedrooms	Maximum net square footage
4	1,418
5	1,626

Construction costs at Carper could not exceed $46,250 for any one unit. Moreover, the average cost of the housing built by the Navy over a specified time could not exceed $35,000 per unit.

Bids with those limitations were solicited, and a contract was awarded in 1976 to Ecoscience/Virginia Beach Associates. The project was constructed under the turnkey concept, which means the contractor furnishes all labor, materials, and services necessary to design, construct, and inspect the housing, utilities, roads, and walks. The contractor also landscapes and provides all other required site improvements. Total construction costs to date for the housing project (called Carper) are shown below.

Construction contract and 29 change orders minus change No. 23 of $2,460 to repair 56 stoves	$18,046,521
Land	737,996
Utilities	160,239
Government-furnished equipment	468,832
Navy design, planning, and overhead	792,770
Charges to maintenance which were construction	8,313
Contract for closing kitchen overhang	9,793
Total	$20,224,464

Of the amount spent so far, $12,555,966 has been estimated to be for the dwelling units.

The cost of Carper may increase because of claims the contractor has made and is planning to make against the Government. One claim, originally submitted for $4.8 million, is for losses the contractor says he experienced primarily because the Navy failed to provide electricity according to schedule. The amount of the claim is being revised by the contractor, who is also planning to submit another claim for extra work required of him because of the Navy's alleged mismanagement of warranty work and for warranty work he has done under protest.

MAINTENANCE PROBLEMS EXPERIENCED AT CARPER HOUSING PROJECT

Even though it is less than 2 years old, Carper has had numerous problems, including warped floors, leaky plumbing, damaged fiberglass tubs, warped doors, broken door locks, loose floor tiles, and malfunctioning appliances. These problems led to numerous tenant complaints which were reported several times in local newspapers. Exhibit I illustrates some of the problems. (See pp. 34 to 37.)

Cost of maintenance

According to cost accounting reports at the Norfolk PWC, the activity responsible for maintaining Navy housing, about $238,000 had been spent as of February 1980 on maintaining the units at Carper. The maintenance was done by both PWC employees and commercial contractors. Because of numerous errors found in the cost accounting system, we were unable to verify the total maintenance cost or use that system to analyze costs. Using actual work orders, we were

able to establish that $124,493 had been paid to the commercial contractor for home maintenance as of February 1980.

Reasonableness of maintenance required

To give some perspective to the maintenance required at Carper, we did several comparisons using the total maintenance costs reported by the Navy. First, we compared Carper to other, older Navy housing; then to another civilian local housing project; and then to average cost data for other local housing developments. Even if the Navy's accounting system provided a reliable figure for the maintenance costs at Carper, differences in other housing complexes and items reported in maintenance and construction costs make our comparisons inconclusive. Our comparisons are presented only for information purposes. (See app. II.)

Conclusive comparative data would have been desirable to add perspective to the issues. Nevertheless, the inadequate construction standards, poor inspection, and failure to use warranties at Carper have caused numerous maintenance problems and increased the expenditures required. Information in the next three chapters describes the causes for many of the maintenance problems at Carper.

Navy officials told us that, because of statutory funding constraints, its housing is not necessarily comparable to private housing. Nevertheless, the Navy believes Carper is a good overall project providing satisfactory accommodations. They do not think $238,000 in maintenance costs for the first 2 years is exorbitant, noting that its maintenance costs fall within the midrange of costs for private apartments shown in appendix II.

As stated on page 7, we could not rely on the total maintenance cost figure shown in the Navy's cost accounting reports because of the numerous errors we found when we attempted to verify those costs. Even if the maintenance cost data were reliable, differences in housing complexes and the items reported make comparisons inconclusive. We believe that if variables like unit age and size were taken into consideration, Carper's 2 years of maintenance might cost considerably less than indicated in appendix II. For example, Carper was less than 2 years old and still under warranty, which should reduce maintenance costs as compared to older units. Furthermore, we would expect larger units, like Carper's, to cost less per square foot to maintain because, generally, a smaller proportion of the total square footage is taken up on

bathrooms and kitchens, typically more expensive to maintain than bedrooms, dining rooms, or living rooms.

CHAPTER 3

WERE CONSTURCTION REQUIREMENTS ADEQUATE TO ENSURE QUALITY HOUSING?

Although construction standards exist for many of the major problem areas at Carper, the standards did not always ensure quality housing. Specific standards exist for some problem areas we researched, whereas none exist for others. Even when standards were specific, they were not always met or were insufficient to ensure quality construction. Also, DOD's scoring system for evaluating proposals encourages contractors to provide amenities rather than quality above the minimum standards.

BACKGROUND

LANTDIV is responsible for constructing Navy family housing in the Norfolk area, including the Carper housing project. As stated earlier, Carper was constructed under the turnkey concept, whereby LANTDIV officials prepare and distribute a Request for Proposal (RFP) providing general information (such as acreage, number of units, number of bedrooms per unit, and standards) with which contractors must comply. Contractors submit proposals which a technical group evaluates by a point system; the proposal with the least cost per point is selected for contract award. Following the award, the winning contractor prepares a detailed design for approval by LANTDIV officials, and then the construction can begin.

Under the turnkey concept, the contractor designs, constructs, and inspects the total housing complex using HUD's Minimum Property Standards (MPS) as a base unless the RFP specifies different standards. The RFP may include provisions of the DOD Guide Specifications which require higher quality than HUD. After approval, the proposal and design specifications become contract requirements also. Navy officials could not identify any differences in standards used at Carper under the turnkey concept and standards they would have written if the Navy had developed detailed specifications.

STANDARDS APPLICABLE TO SPECIFIC PROBLEMS

The specificity of standards varies greatly from item to item. Many of the specifications refer to industry

standards or to manufacturers' instructions, which are very specific. Other standards are vague or incomplete, and, for some problems, no standards are available. In cases where standards are very specific, materials were sometimes used which did not meet standards or the standards were not stringent enough to ensure quality.

Of the 19 specific problems we analyzed, 4 seem to be caused by poor materials: smoke alarms, stove clock/timers, fiberglass tubs, and water heater liners. Of these problems, there were specific standards to cover the smoke alarms, water heater liners, and fiberglass tubs. There were no standards for the materials of the stove clock/timers. Three additional problems could be caused by poor materials: storm door closers, patio and garage door locks, and ceramic bath fixtures. No standards exist for the quality of storm door closers or the door locks we researched, but there are standards for the ceramic bathroom fixtures.

A detailed standard does not necessarily guarantee quality; it may not be adequate or the material used might not meet the standard. For example:

--The fiberglass tubs and shower enclosures were certified by the manufacturer to meet performance tests required by the American National Standards Institute (124.2) which include load tests whereby (1) a 10-pound, 5-inch diameter sandbag suspended 8 feet above the inside bottom of the unit from a suspension arm is swung to hit the wall of the unit, (2) 300 pounds of pressure are applied to the center of the bottom of the unit on a weight distribution disc, and (3) a 1/2-pound steel ball, 1-1/2 inches in diameter is dropped from a height of 3 feet to strike three places on the base and threshold and from a height of 2 feet on three places on convex radii on the base or threshold of the unit. Yet, the Navy has thus far paid $3,400 for the repair of 68 tubs because cracks or holes resulted allegedly from normal use, such as dropping a plastic shampoo bottle or a child grabbing the side of the tub to keep from falling. If holes can occur so frequently and with so little cause, either the standard is inadequate or the tubs do not meet the standard.

--The standards covering the floor system are very specific as to design and material, yet there have been significant problems with the floors warping, tiles popping, and staples coming through the tiles. The contractor maintains that lack of bridging is the

cause of the problem, yet, the minimum standards do not require bridging for the size joists used. Also, the individual components of the floor system--underlayment, subfloor, and tile--meet the minimum standards for the specific component. However, HUD's MPS requires the floor system to meet the recommendations of the tile manufacturer, which Carper does not.

Many of the problems experienced were caused by poor workmanship. Workmanship is covered in the general provisions to the contract in the statement that all work shall be completed in a skilled and workmanlike manner. Fortunately, the specifications sometimes refer to the manufacturer's recommendation for installation. These instructions are usually specific guides for workmanship.

Some of the problems caused by poor workmanship were described by Navy officials as follows.

--Doors warped because they were not sealed on the top and the bottom edges. HUD's Manual of Acceptable Practices requires sealing all four edges.

--Cabinets came away from the wall, and 10 actually fell from the wall because workmen failed to attach the cabinets to studs in the wall, which is required by the national standard covering the installation. (See p. 37.)

--Heating elements burned out in the water heaters because workmen tried to perform tests of the heaters with no water in the tanks. The manufacturer's instructions require water to be in the tank when tests are done.

--Exhaust fans made loud, rattling noises, and fans and blades were bent because they were installed improperly.

--Garbage disposals leaked because the pipe between the disposal and drain was not long enough. During the operation of the disposal, vibration broke the seal causing leaks.

We had difficulty determining the cause for some problems either because of conflicting information, inadequate information, or the complexity of the problem. Consequently, we could not determine the applicable standard. The most complex problem we analyzed was described to us as follows.

--Floors were buckling in many apartments, causing the tiles to pop and staples to push through the tile. After experiencing problems in numerous units, the Navy paid the contractor $35,600 to change the floor construction for the first floor of the last 224 units constructed. The floor construction was changed from 1/4-inch hardboard underlayment over 5/8-inch plywood subflooring to 1/4-inch plywood over the same subflooring. The logic for the change was that the hardboard was not appropriate over the crawl space because it absorbed too much moisture. However, the flooring is buckling on the second floor of units and in units with the plywood underlayment. Apparently, the remedy paid for does not correct the problem.

--In his proposal, the contractor specified the flooring construction to be used at Carper without identifying the specific tile he planned to use. HUD's MPS requires tile application over suitable underlayment and installation per the tile manufacturer's recommendations. The contractor selected 12-inch square tiles, 1/16-inch thick, made by GAF. The manufacturer says the tile should not be used on floors less than 1-inch thick; Carper's floor construction is 7/8-inch thick. Whether this situation contributes to the buckling problem is not known.

--Other possible causes of the buckling are the lack of bridging between the floor joists, spaced 16 inches apart, and the stapling pattern used to attach the underlayment to the subfloor. HUD's MPS does not require bridging. We attempted to compare stapling requirements with what was done, but the Navy inspectors were unable to remember or to produce documentation as to what was required or what was done, and we were able to see only one floor with a small portion of the tiles removed--an area too small to identify the pattern. We were told by construction industry personnel that the stapling is critical to prevent buckling. The contractor said that in his opinion the lack of bridging is the problem.

Other problems for which it is unclear whether the cause is poor material or workmanship are door locks, caulking, storm door closers, and exterior faucets.

MPS are not necessarily as stringent as local building codes. The contractor's representative said that there were some aspects of construction at Carper which would not meet

the Virginia Beach City Code, some of which increase maintenance costs--such as no access to plumbing for tubs, which requires cutting and repairing a 4- to 5-inch diameter hole in the fiberglass tub.

LIKELIHOOD OF SCORING SYSTEM ENCOURAGING QUALITY ABOVE MINIMUM STANDARDS

All proposals must meet the minimum requirements established in the RFP or MPS to be considered. The Navy scores all acceptable proposals according to the DOD system described in the RFP. The total number of points for each contractor is divided into the contractor's proposed cost to determine each contractor's cost per point. Unfortunately, the scoring system as designed emphasizes amenities, not quality construction.

The maximum points a proposal could receive is 1,000, of which 500 apply to dwelling unit design and 100 to dwelling unit engineering and specifications. The remaining 400 points is applied to site design and engineering. The system weights the design of the dwelling unit (500 points for overall aesthetics and amenities) much more heavily than it does the durability of materials and engineering considerations (100 points). The logic for the emphasis is that the RFP sets strict standards of minimum acceptability on engineering and specifications, whereas more flexibility is allowed on unit designs.

In our opinion, the wisdom of emphasizing amenities rather than durability is questionable in the case of Carper because of the high density of housing units and people. A minimum of five people per unit is required to qualify for Carper quarters.

Our analysis of the scoring system showed that proposers would have had little incentive for providing higher quality materials for the problem areas we researched because the range of points was so small. For example, proposers could receive 1 to 3 points for bath fixtures. If standards were met, the proposer received 1 point; if the proposal was better than minimum, more points were given. Bath fixtures include sinks, tubs, commodes, showers, medicine cabinets, fans, heat lamps, vanities, and accessories. The winning contractor was awarded the maximum number of points for his bath fixtures, which included fiberglass tubs. A proposer with cast-iron tubs and ceramic tile could not have received more points in this category. Doors provide another example of the small range of points to cover a lot of items, resulting in little room for differentiating

in quality. A proposer could receive from 0 to 2 points for exterior doors, including various wood doors, metal doors, storm doors, sliding aluminum doors with screens, garage doors, and other special doors.

In contrast, a range of many points is provided to differentiate the designs presented. For example, 1 to 40 points were allowed for the design quality of the kitchen, considering such characteristics as efficiency, relationship of counterspace to major appliances, layout, size of storage, and privacy. Some proposers received as little as 4 points, whereas the winning proposer received 30 points. Interestingly, the kitchen layout in over half the units does not meet the MPS, requiring stoves to be 9 inches from the adjoining corner cabinet. In 344 units at Carper there is no space between the stove and the adjoining corner cabinet.

Navy officials said that most of the maintenance defects we noted were related to workmanship and that this situation could not be corrected by changing the scoring system. For defects related to material and equipment, they stated that standard specifications rather than the scoring system should be changed; we agree. They generally concurred in our findings and stated that they constantly review specifications and procedures to correct deficiencies learned from experience.

CONCLUSIONS AND RECOMMENDATIONS

Construction standards exist for many of the major problem areas at Carper; however, the standards are not always adequate to ensure quality housing. For some of the problems we researched, the standards are not specific enough to assure quality construction. Even when standards are specific, they were not always sufficient or enforced. Also, DOD's scoring system for evaluating proposals encourages contractors to provide amenities rather than quality above the minimum standards.

Although we reviewed maintenance costs at only Carper, we did read files on "lessons learned" from other Navy housing projects. Inspectors from other projects noted inadequacies with the construction standards. For example, standards for subfloors, roof sheathing, doors, and hardware have been cited as marginal.

Recognizing that the Navy is using DOD systems, we recommend that the Secretary of the Navy:

--Identify when planning new housing projects, based on past experiences and expected use of the housing project, those items likely to require considerable maintenance if only the minimum standards are met. Where possible, within funding constraints, specify higher requirements in the RFP for those items where the expected maintenance costs over the life of the project exceed the additional cost of the more durable item. Identifying high maintenance cost items is particularly important in housing complexes which are expected to withstand the harder use from large families.

--Summarize problems experienced by the Navy concerning marginal construction standards and the DOD scoring system and suggest that DOD ascertain whether these problems are widespread and need correction.

CHAPTER 4

WERE INSPECTION PROCEDURES ADEQUATE TO ENSURE THAT CONTRACT REQUIREMENTS WERE MET?

If the inspection system had been carried out as described in the contract, it would have ensured approved construction standards were being met; however, at Carper the actual inspection did not meet the contract requirements.

DESCRIPTION OF REQUIRED INSPECTION

Navy regulations require builders contracting for over $1 million in construction to have a quality assurance program to assure that the project is built according to the applicable standards and approved design. When the contractor's quality assurance program--called Contractor Quality Control (CQC)--is accepted, it becomes part of the contract. In addition to the contractor's CQC program, the Navy assigns an engineer and inspectors to monitor the contractor's program and perform their own spot check inspections. The contractor, however, has the responsibility for ensuring the quality of the construction.

The contract for Carper called for the contractor to submit numerous reports dealing with construction quality and inspection. Reports required are described below:

--CQC Report; a daily report which describes the construction done, deficiencies found by the CQC inspectors, tests done, and deficiencies corrected.

--CQC Deficiency Report; a report which notifies the construction superintendent that a deficiency has been noted on workmanship or materials.

--Rough and Finish Structures Check Lists; records which were to be placed at each dwelling unit listing major signoffs required by the CQC inspector prior to a subsequent operation. The intent was to ensure no work was "covered" prior to acceptance.

--CQC log of the status of all drawings, certifications, and other submissions required by the contract. The log was supposed to show the specifications paragraph requiring each submittal, a description of each submittal, who is supposed to approve it, and anticipated and actual submission dates.

Also, the contractor was supposed to provide an inspection schedule keyed to the construction schedule. We were told such a schedule would enable the Navy to evaluate the contractor's plan and better monitor the inspections. The contractor's approved quality assurance program was supposed to consist of a director, supplemented as necessary by additional personnel, and supported by testing laboratories and special consultants as required to ensure qualified inspection work.

To monitor construction, the Navy engineer and his inspectors were required to review the contractor's reports and make their own spot check inspections. The Navy's inspection is supposed to be independent of the contractor's CQC effort and is the means by which the Navy assures itself that the contractor is following his CQC program and that work is in compliance with the plans and specifications. The Navy inspectors were required to ensure that contractor reports were complete and accurate. They also completed their own reports, including:

--Construction Representative's Report; a daily report describing inspection and tests observed by the Navy, review of CQC reports, deficiencies noted, and instructions given to the CQC representative.

--Contract Construction Compliance Notice; a report prepared when the contractor did not respond to Navy notifications that his work did not comply with design and other construction specifications.

Navy regulations also say that the Navy engineers and inspectors should prepare an inspection plan.

As the contractor declared each building complete, a Navy inspector and the contractor's representative were to make a final inspection, noting problems in a "punch list." When the contractor had corrected the items on this list, they were to make another inspection and the Government would then accept the building for occupancy.

DESCRIPTION OF ACTUAL INSPECTION

Although the approved CQC program called for numerous reports and sufficient inspectors to check construction as it progressed, in actuality this was not carried out.

Many of the required reports showing what inspections were performed and what problems needed correcting were never prepared. Navy officials said this makes it

difficult for them to monitor the contractor's program. The contractor did submit the CQC Daily Reports, but those reports usually showed construction progress, not the results of inspection or testing. Our review of the files showed the contractor prepared only three CQC Deficiency Reports during the 3 years of construction. Contractor and Navy officials said that while constructing the first few dwelling units, the contractor used the Rough and Finish Structures Check Lists. Navy officials said that system was discontinued because of difficulties in keeping documents at the work site. They then had the contractor paint numbers on the units to show which ones had been inspected. They said this was also discontinued and nothing replaced it. The contractor did not submit any of the other required reports or the required inspection schedule keyed to the construction schedule. This lack of documentation of the CQC inspectors' activities made it impossible for us to trace recognition or correction of problems.

During construction, the Navy had an engineer and two inspectors at the site. Their daily reports repeatedly referred to poor workmanship, inadequate inspection, and construction defects. The Navy inspectors found many deficiencies in the work which apparently went unnoticed by the contractor's inspectors. The contractor did not respond to some of the noted problems, so the Navy issued 45 noncompliance letters covering the following items:

Site development	2
Foundation and framing	15
Flooring	2
Walls and roofs	9
Doors	5
Other	12
Total	45

The contractor's representative said that he believed the low number of noncompliance notices, considering the size of the project, illustrates the small amount of problems. The Navy inspectors said they intentionally kept the number of notices down--issuing a notice only after repeated discussions and meetings with contractor personnel--so that notices would have greater impact. In another nearby Navy housing project (Little Creek), only 15 notices were issued, suggesting the number at Carper is high.

In addition to the noncompliance notices, the Navy sent many letters to the contractor pointing out problems due to inadequate inspection and reminding him of his contractual obligation to provide adequate inspection. Between

April 1977 and June 1978, the Navy sent the contractor nine letters. These letters repeatedly noted the CQC inspectors' preoccupation with production goals rather than quality. The letters attributed part of the construction problems to the inadequate number of inspectors. The Navy mentioned on several occasions that improper work was covered up before inspections were made. According to the Navy, this occurred at least partially because there were too few inspectors for the volume of construction taking place.

Initially Navy personnel said that they performed spot check inspections of construction. However, when we held our exit conference with them, they changed their story and said that they had inspected each phase of construction for each of the 600 dwelling units, starting with framing, because defects in one stage were not visible in a later stage. However, Navy records do not substantiate these contentions. Mostly, they reflect the status of the project and contain no statements showing Navy personnel inspected a particular phase of a specific unit and what they found. Indeed, Navy regulations prohibit its personnel from performing the extensive inspections which they claim they made.

Navy officials told us that efficient CQC implementation depends on the knowledge and dedication of the construction contractor's representatives, who in the case of Carper, were changed twice during the performance of the contract. They also said that assuring that contractors perform work that fully satisfies plans and specifications is a continuing problem and that requiring standards and inspections higher than contract or industry practice can be the basis of a contractor claim against the Government. The contractor here threatens such a claim.

CONCLUSIONS AND RECOMMENDATIONS

If the inspection system had been carried out as set forth in the contract, it would have disclosed construction deficiencies; however, at Carper the actual inspection system was inadequate.

Although we reviewed only the inspection system used for Carper's construction, we did read files on lessons learned from other Navy housing projects. Problems encountered with other CQC programs included inadequate numbers and qualifications of contractor personnel, a preoccupation among CQC people with production rather than quality, and a lack of an inspection plan keyed to the construction schedule. Therefore, we believe the Navy's experience at Carper is not unique.

We recommend the Secretary of Navy summarize for DOD the problems experienced with CQC programs, including Carper, and suggest that DOD evaluate the extent to which it is paying for CQC programs in contracts and not receiving them from the contractor.

CHAPTER 5

WERE NAVY SYSTEMS ADEQUATE TO ENSURE THAT WARRANTIES WERE USED?

Although the contractor has repaired numerous items under warranty, the Navy has paid for many other repairs which should have been covered by warranty. Warranties were not used for several reasons, including ignorance of available warranties; assumptions by the Navy personnel that work would not be covered by warranty; misunderstandings between construction and maintenance personnel regarding warranty coverage; disagreements between the contractor and the Navy as to the meaning of the contractor's 1-year warranty; and, in the case of Government-furnished equipment, ordering the equipment so early that the warranty ran out before most of it was installed.

DESCRIPTION OF WARRANTY SYSTEM

In the general provisions of the contract, the contractor warrants all materials and workmanship for 1 year after acceptance. This means that, unless the tenants have abused the property, repairs required during the first year of occupancy should be covered by warranty. In addition, some items are warranted by the manufacturer for more than 1 year. Also, the contractor warrants his design and accepts responsibility for correcting its errors even if it was approved by the Navy.

Navy personnel responsible for construction and maintenance and the contractor collectively were aware of only three warranties other than the general 1-year warranty--compressors for the heat pump and refrigerator and the water heater liners. Our review of records and discussions with manufacturers and subcontractors provided the following additional information about warranties available at Carper.

--Fiberglass tubs are warranted for 3 years by the manufacturer for imperfections in the finish which cause cracks.

--Roofing material is warranted for 15 years.

--Water heater liners are warranted for 10 years. (Navy personnel thought it was 5 years.)

--Heat pump compressor warranty includes labor as well as material.

Processing work orders and deciding whether the work should be covered by warranty are maintenance personnel responsibilities. Whenever there is a question about who should pay for the work, the maintenance personnel call construction personnel to resolve the question.

The following chart describes the work done under the contractor's 1-year warranty on the problems we researched.

Problems	Number of units	Number of work authorizations
Stove clock/timers	-	-
Water heaters	-	-
Garbage disposals	1	1
Plumbing leaks	54	71
Burst pipes	5	5
Fiberglass tubs	5	5
Doors:		
Interior	79	96
Storm	8	9
Storm door closers	-	-
Door locks:		
Garage	10	10
Patio	16	18
Exterior stain	6	7
Flooring underlayment (note a)	234	567
Floor tile (note a)	282	601
Caulking	42	46
Sinks and commodes replaced	-	-
Cabinets and countertops	94	118
Smoke alarms	55	58
Exhaust fans	4	4
Door stops	3	3
Exterior faucets	44	47
Total	942	1,666

a/Although this work has been done under warranty, the contractor said he is doing the work under protest and is including most of the cost of this work in a claim against the Navy.

WORK PAID FOR BY THE NAVY WHICH SHOULD HAVE BEEN COVERED BY WARRANTY

In analyzing problems at Carper, we found that the Navy paid for numerous repairs which should have been corrected under warranty. The following chart shows the amount of work

the Navy paid the maintenance contractor for the problems we researched. Although much of the work should have been done under warranty, it is impossible to quantify the amount because of a lack of records.

	As of August 1979	
	Amount	Units
Stove clock/timers	$5,117	99
Water heaters	1,802	88
Garbage disposal	803	67
Plumbing leaks	3,063	103
Burst pipes in garage	1,350	27
Fiberglass tub enclosures	3,400	a/68
Interior and storm doors	2,860	174
Storm door closers	825	55
Patio and garage door locks	1,059	82
Exterior stain	-	-
Flooring underlayment	1,242	-
Floor tile	2,004	-
Caulking	2,780	-
Sinks and commodes	700	14
Cabinets and countertops	500	50
Smoke alarms	911	43
Exhaust fans	388	35
Door stops	919	114
Exterior faucets	1,080	68

a/Includes 1st quarter of fiscal year 1980.

The Navy paid for many items because maintenance people understood construction personnel to say that they were not covered by warranty. The Navy personnel who are responsible for construction (contracting and inspection) are most familiar with the contract requirements for warranty and the manufacturers of products used. Yet, until the construction contract is completed, these people are not required to provide specific warranty information to the personnel responsible for deciding whether the work should be done under warranty. In the case of Carper, the contract is still not complete. Consequently, discussions are held and misunderstandings sometimes occur resulting in the Navy paying for work which should have been covered by warranty. For example, maintenance people understood construction personnel to say that leaks from the tub through the ceiling, exterior faucet repairs, and circuit breaker repairs were not covered under warranty. Yet, construction personnel have stated these repairs should be covered by warranty. Because the misunderstanding occurred, the Navy has paid for work which should have been covered by warranty.

Other work that maintenance people did not process for warranty because of similar misunderstandings were plumbing leaks where pipes are susceptible to tenant abuse, fiberglass tub repairs, and floor tile repairs. In accordance with that misunderstanding, the Navy has paid $3,400 to repair cracks and holes in about 68 fiberglass tubs. These cracks and holes were allegedly caused by normal use, such as dropping a shampoo bottle or grabbing the side of the tub. Navy personnel said that they assumed the warranty would not cover the needed repairs because they could not prove it was not tenant abuse. However, according to the manufacturer's representative, the cracks and holes would have been repaired free of charge if he had seen the damage and determined that the cause was a manufacturing defect. The Navy, however, did not contact the manufacturer nor insist that the contractor do so even though problems were occurring repeatedly.

Although damage to floor tiles from glue is obviously caused by poor material or workmanship, the Navy is paying for replacing those floor tiles. Normal wear and tear (such as setting a heavy piece of furniture on the floor) causes black glue to ooze up all around the square tiles. The contractor's representative said that what is happening is common for the cheap type of glue used.

Other problems are not being submitted for warranty because previous personnel in maintenance did not submit these problems. Current personnel do not know if the contractor ever refused the work. Examples of the problems historically not submitted are damaged exhaust fans, burst pipes, defective caulking, and (until July 1979) defective smoke alarms. The Navy paid about $900 to replace or repair smoke alarms before July 1979. At that time, someone questioned the expenditures and discovered the alarms were covered by warranty. Now they are being replaced by the contractor.

Navy personnel responsible for maintenance also assume that some work is not covered by warranty and consequently, do not submit it to the construction contractor for warranty. These maintenance personnel have no recollection of the contractor ever refusing to do the work. Some items are assumed not to be under warranty because they are susceptible to tenant abuse, such as doors, storm door closers, and door stops. Yet, the Navy paid for repairs of door problems which appear to be caused by the contractor. These included replacing screws, adjusting door hardware, and fixing warped doors.

Other Navy personnel who are responsible for contracting said the contractor refused to do some warranty work

because the problems were not noted at acceptance, so the Navy paid for the work. Maintenance personnel have no way to determine whether problems were noted at acceptance because inspection personnel do not routinely provide copies of the lists of problems. For instance, the contractor has allegedly refused to repair cracks found in toilets and sinks, stating that if the cracks had been there at acceptance, someone would have caught them. Since the cracks were identified after acceptance, it is up to the Navy to have them fixed. Other examples of work which the Navy stated the contractor has refused to do under warranty are installation of missing window shades and repairs to locks. The contractor said that he has never refused some of this work, such as repairs to locks. We were unable to document what has occurred because the Navy has only recently been documenting the work refused by the contractor.

Some warranty work has been done by the contractor under protest, and an official of the company stated a claim will be processed against the Government for this work. Such is the case with the flooring warps the contractor has fixed. The contractor contends that the Navy approved the design and it is the poor design causing the warping. Consequently, he believes the Navy should pay for the repairs.

The contractor is supposed to be liable for his design, even if it is accepted by the Navy. Yet, if there is no specification covering an item or the design is allowable under the specifications, the Navy assumes responsibility. For example, the sliding door leading from the kitchen to the patio had no threshold in the original design. After it was determined that the lip on the sliding frame was a safety hazard without a threshold, the Navy paid another contractor $6,457 to install thresholds. The Navy chose not to have the construction contractor add thresholds as a design deficiency claim because, in its view, the amount was small and it was not sure it was a design deficiency.

The Navy ordered the Government-furnished equipment (stoves, refrigerators, dishwashers, water heaters, and garbage disposals) so early that warranties were expired before most units were accepted. The contract for Carper required the Navy to provide the appliances to the contractor. The appliances were ordered about the time the contract was awarded. The appliances were delivered in early 1977, at which time the warranty period began. However, the first housing units were not completed until May 1978. Therefore, most of the warranties had expired when the equipment was installed.

From May 1978 to August 1979, the Navy incurred costs of $9,771 to have the maintenance contractor repair Carper appliances. A Navy official explained that this practice is normal because the Government must pay a large amount of money if it delays construction. He said they order ahead of time to be sure all the material is available to the contractor. The Navy is aware of this problem and has attempted to change the contracts to allow warranty to begin at occupancy, but this practice has been accepted by only one manufacturer.

Navy officials told us that the Government must prove it is not liable for repairs and that the Government has not usually been successful in past warranty appeals. They do not believe the amount of work paid for by the Navy was excessive, comparing the number of warranty orders versus maintenance orders--1,666 versus 1,087, respectively. We believe that, in the absence of any criteria on the percentage of work on new buildings usually paid for by the owner rather than done under warranty by the builder, it is impossible to evaluate the relative amounts. Furthermore, such a comparison is irrelevant to our concerns, which are related to the system weaknesses that allowed the Navy to pay for work which obviously should have been done under warranty.

Officials also pointed out that the average cost they incurred repairing the warranted items mentioned in this report was only $22.79 and that most of the cost would be incurred by the repair crew's travel to and from the unit. They implied that the repair crew would decide who should fix the unit, thereby incurring the cost anyway. We noted that, in reality, the crew does not make the trip to the unit until the decision has been made as to who should fix the problem.

Navy officials agreed that (1) records be kept of the work paid for and which should have been covered under warranty and (2) maintenance people be furnished complete warranty information at the time of occupancy. They did not agree that manufacturers should be contacted before the Navy paid for warranty work which the contractor refused to do, stating that the prime contractor is their contact for warranty work and that tenants are entitled to have repairs done immediately. We believe, however, that when problems occur repeatedly which should be covered under warranty, the Navy should contact the manufacturer or insist that the contractor do so.

CONCLUSIONS AND RECOMMENDATIONS

The Navy has paid for many repairs which should have been covered by warranty. The reasons warranties were not used included not knowing about available warranties, false assumptions about coverage, misunderstandings between Navy personnel, disagreements between the construction contractor and the Navy, and mistiming of appliance deliveries. We recommend the Secretary of Navy

--require that inspectors and maintenance personnel contact manufacturers before paying for problems which should be covered by warranty but which the contractor refuses to do,

--require construction personnel to provide maintenance personnel with a complete list of applicable warranties at the time of occupancy to reduce the likelihood of paying for works which should be covered by warranty, and

--require maintenance personnel to keep records of all maintenance work paid for which should have been covered by warranty so that claims or counterclaims can be instituted by the Government when necessary.

CHAPTER 6

DISPOSAL OF SCRAP METAL AT SEWELLS POINT

In disposing of its scrap metal at Sewells Point, the Navy is violating DOD's regulations by allowing a contractor to keep valuable scrap metal. Also, the Navy has no monitoring system at Sewells Point to ensure that it receives fair value for the scrap metal.

BACKGROUND

The Norfolk PWC is providing resources for collecting and disposing scrap metal to the tenant activities at Sewells Point, which includes about 50 ships in port at any given time, and numerous shore activities. PWC began contracting this service after the Naval Supply Center requested a Naval Area Audit Service analysis in 1968, which showed that contracting would be cost effective. At that time, the Naval Area Audit Service estimated it would cost the Navy about $76,109 to dispose of the scrap metal and wood ($127,496 to collect and process it for sale minus about $51,387 from sales). In comparison, the first contractor charged the Navy only $17,940 to collect and dispose of the scrap metal and lumber, resulting in an estimated savings of $58,169 that year for the Navy.

The cost of the contract each year is shown in the following table. The earlier contracts were for collection and disposal of scrap metal, waste wood, scrap tires, cross ties, wood piles, pier timbers, and orderly maintenance of the disposal area. The current contract is for collection and disposal of scrap metal, waste wood, and ashes.

Contracts For Scrap Metal

Period (note a)	Bid amount	Number of bidders
July 1971 - June 1972	$42,483.00	1
July 1972 - June 1973	(b)	-
July 1973 - June 1974	70,000.00	1
June 1974 - June 1975	(b)	-
July 1975	(b)	-
August 1975	(b)	-
September - December 1975	(b)	-
January - December 1976	49,740.00	2
January - December 1977	(b)	-
January - December 1978	.99	5
January 1979	(b)	-
February 1979	(b)	-
March 1979	(b)	-
April 1-15, 1979	(b)	-
April 16, 1979 - April 15, 1980	c/20,465.00	3

a/Contracts before July 1971 were not available.

b/No bid; contract extended by amendment.

c/The contractor is paying the Government.

Collection of scrap metal involves picking up the dumpsters marked "metal only" located around the base, taking them to the staging area off base, and returning the empty dumpsters to the base. The contract lists 78 dumpsters, PWC officials said there were about 90, and the contractor said there were 45. Dumpsters are picked up by the contractor at different frequencies, depending on how quickly they fill up. Activities put a wide variety of metals in the dumpsters, such as aluminum, light and heavy steel, copper, brass, cast iron, and stainless steel. Some dumpsters contained items which looked usable, such as wall lockers, metal safes, tanks for compressed gas, and chairs, but many had trash or garbage mixed with the metal. DPDO in Norfolk estimated the value of the material in the dumpsters we had inspected to range from $0.25 to over $200. Collection also involves answering calls to pick up unwanted materials which do not fit in the dumpsters. The contractor said that he has picked up many 55 gallon barrels and several pallets of batteries. Some of the pictures taken at the dumpsters are shown in exhibit II. (See pp. 38 and 39.)

IMPROPER DISPOSAL OF SCRAP METAL AT SEWELLS POINT

DOD regulations in existence since 1972 require that excess personal property, including scrap metal, be turned over to DLA for disposal. According to the Defense Disposal Manual (DOD 4160.21-M), the scrap metal should be turned in to DPDO. The nearest DPDO to Sewells Point is approximately 4 miles from the naval base.

PWC officials said they believed they could dispose of the scrap metal in accordance with DOD's Directive for Solid Waste Management (4165.60). Yet, that directive specifically states that scrap metal is excluded from its provisions. Further, the Special Assistant for the Solid Waste Program for DOD said that scrap metal named in the PWC contract was not solid waste.

DLA is aware that PWC is letting a contractor keep the scrap metal in violation of regulations. The head of Norfolk's DPDO has written letters to DLA and the Commander, Norfolk Naval Station, about the situation, and DLA's Inspector General's office has issued two reports--one in July 1978 and one in October 1979--citing PWC's lack of compliance. However, DLA has no authority to direct PWC to cease contracting. The Director of Facilities Service Contracts at PWC said that a representative of DLA's Inspector General told him that PWC was violating regulations. PWC responded that it would make no changes until directed to do so.

The Acting Chief of DLA's Property Disposal Division said that he was preparing a letter to the Commander of NAVFEC stating that NAVFEC has not adequately responded to DLA's inquiries about scrap metal disposal at PWC in Norfolk. He said he will refer the matter to DOD Headquarters if NAVFEC does not adequately justify PWC contracting its disposal of scrap metal.

LACK OF A SYSTEM TO ASSURE THE GOVERNMENT IS GETTING FAIR VALUE

PWC has no system to determine the value of the scrap metal being collected by the contractor. Although the contract requires that the contractor keep a log of what is collected, until we requested the information, the Navy had no record of requesting these records. PWC personnel said they could not estimate the value or amount of scrap metal being collected by the contractor. Even if the Navy's estimate of the number and size of dumpsters available is correct (see p. 30), it does not know how often the contractor

picks the dumpsters up or what is in them. Also, the Navy does not know the value or amount of scrap metal being picked up by the contractor from activities' requests.

While the contract price has gone down, the Navy's estimate of what the contract should cost has gone up from $50,000 to about $70,000. When PWC estimates what the contract should cost the Government, it makes no allowance for the value of the metal. The only estimate of its value we could find was in the 1968 Naval Area Audit Service study. Their estimate was based on the scrap disposed of by the Navy the previous year. PWC has not estimated the value of the metal since then and, according to them, cannot. PWC continues to justify the contract by pointing to their estimate of what it would cost Navy personnel to collect, sort, and deliver the scrap to DPDO versus what the contractor is willing to charge or pay to pick up the scrap metal. However, since PWC does not know the amount of metal being removed or the rate it accumulates, it is unlikely it can estimate accurately the resources needed. Also, such a comparison ignores the value of the scrap metal.

Navy and DLA officials apparently disagree as to whether the Navy is violating DOD regulations. Navy officials said that because dumpsters sometimes contain trash and hazardous material, they are not violating regulations by allowing the contractor to keep the scrap metal. However, regulations clearly state that it is the generating activity's responsibility to segregate scrap and waste to the maximum extent feasible. Therefore, the Navy should segregate the trash and hazardous substance and turn the scrap metal into DLA.

Navy officals also said they will require the contractor to keep a log and will use the data to make another economic study of the costs of segregation and recovery as compared with a simple dumpster trash disposer contract. The scrap metal contractor, however, agreed with us that it will be impossible for the Navy to assess the value of the scrap metal from the data being collected because the data shows only the predominant type scrap in the load; the amount is measured in cubic yards, not pounds or tons; and the Navy has no assurance all loads are recorded or are accurate.

CONCLUSIONS AND RECOMMENDATIONS

At Sewells Point the Navy is violating DOD regulations by letting a contractor keep valuable scrap metal. According to DOD regulations, excess personal property, including scrap metal, should be turned in to DPDO. The Navy is not

turning the scrap metal in because it believes it is more cost effective to contract for scrap disposal; however, the Navy does not know how much scrap metal the contractor is keeping or its value. Consequently, it is impossible for the Navy to do a valid cost study. Further, the lack of management controls and monitoring makes misappropriation of Federal property easier. The lack of information on the amount and value of scrap metal makes it impossible for the Navy to ensure that the Government is getting fair value. Although DLA is aware of the impropriety in what PWC is doing and has brought the matter to PWC's attention, it has no authority to direct PWC to change.

We recommend that the Secretary of the Navy direct the Commander of LANTDIV in Norfolk to

--use either Navy personnel or pay a contractor to collect, sort, and deliver the scrap metal from Sewells Point to DPDO or

--request an exemption to the DOD regulations for a contractor to keep the scrap metal only if PWC (1) collects adequate data to show the cost effectiveness of doing so and (2) establishes an adequate system in place to monitor the contract and assess the value of scrap metal being collected.

EXHIBIT I

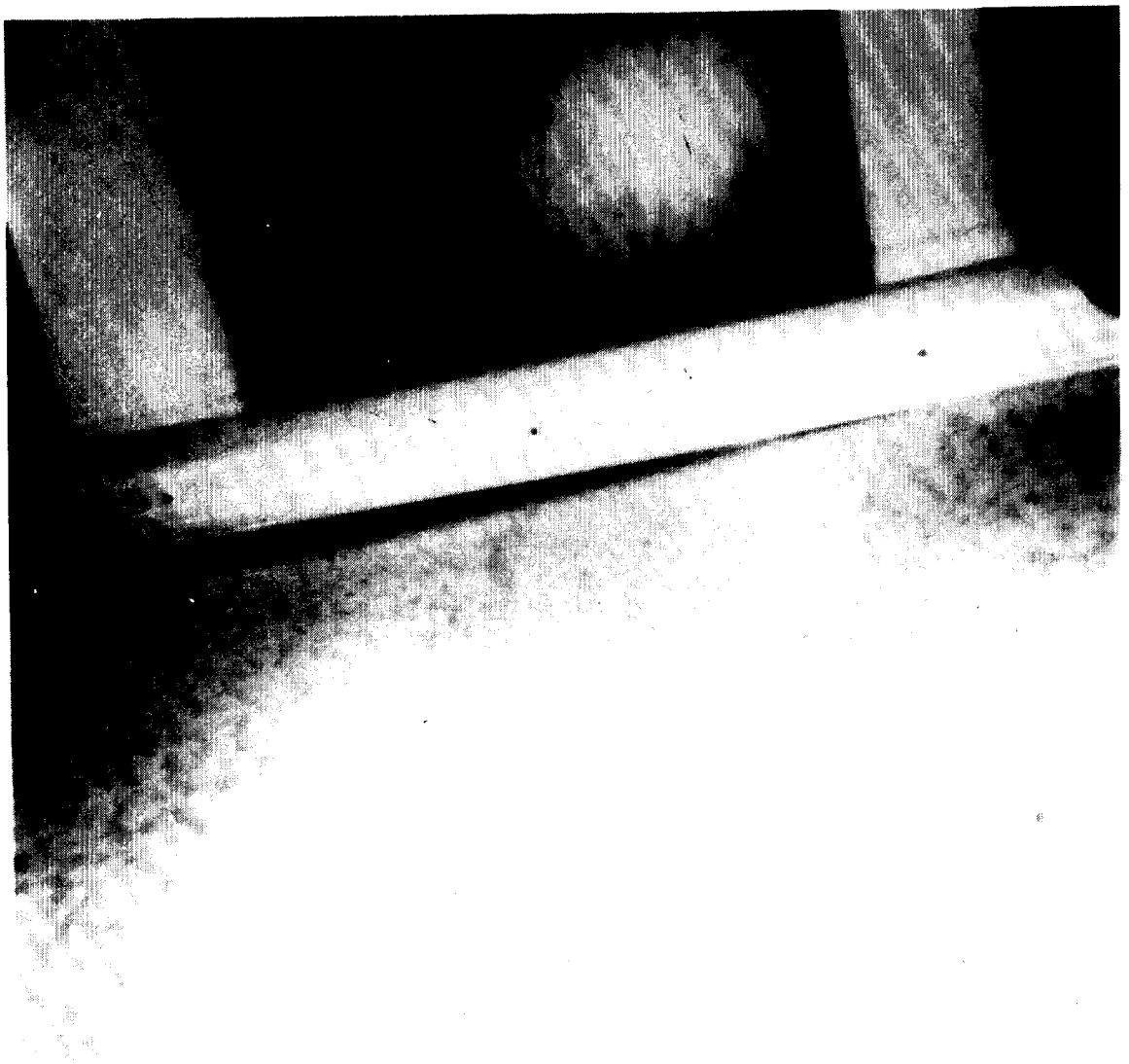
PHOTOGRAPHS OF SELECTED MAINTENANCE

PROBLEMS AT CARPER

4307 VERMONT COURT

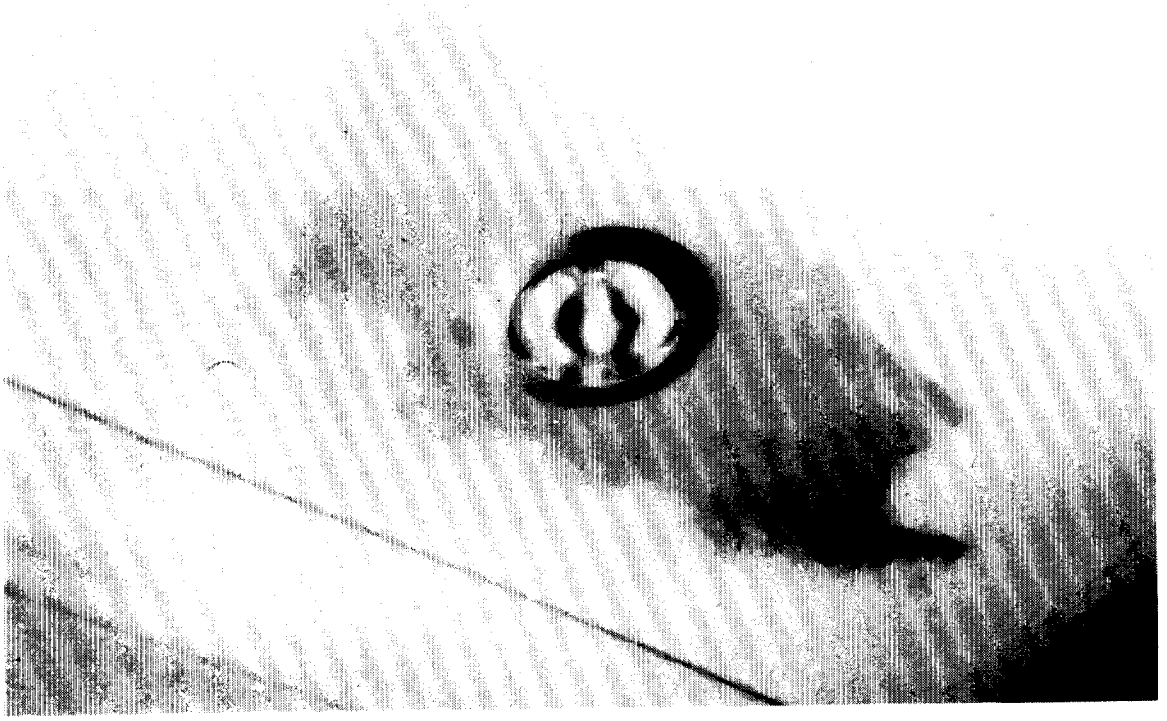
HOLE IN RIGHT SIDE OF BATHTUB CAUSED WHEN A BOY FELL DOWN AND STRUCK HIS LEFT KNEE AGAINST THE SIDE OF THE BATHTUB.

EXHIBIT I



1120 FLORIDA
A 1-1/4-INCH HUMP IN THE KITCHEN FLOOR.

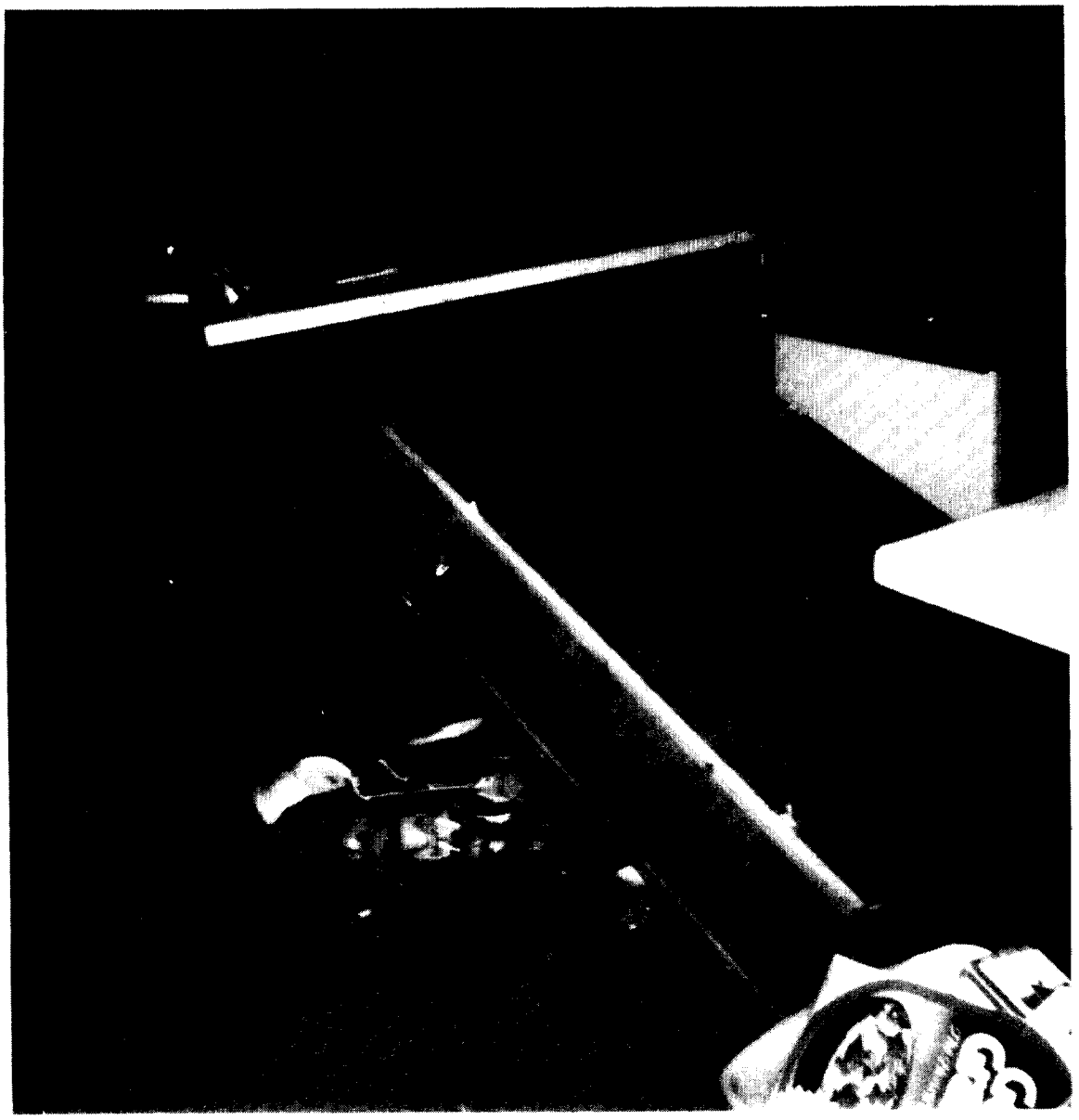
EXHIBIT I



1135 GEORGIA

CEILING DAMAGE AROUND LIGHT OVER KITCHEN SINK CAUSED BY WATER LEAKING FROM LOOSE ESCUTCHEONS IN THE UPSTAIRS BATHROOM.

EXHIBIT I



1210 MONTANA
KITCHEN CABINET FELL OFF THE WALL.

PHOTOGRAPHS OF SCRAP MATERIAL

EXHIBIT II

FOUND IN SELECTED DUMPSTERS

PIER 25, 2/13/80

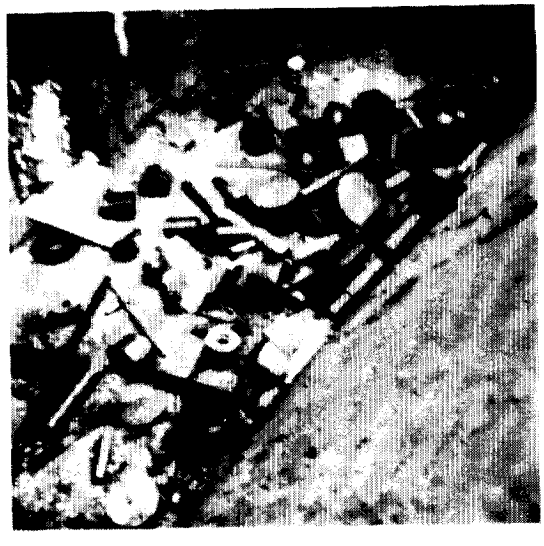
HEAVY STEEL SCRAP, ESTIMATED AT $75 A TON

PIER 25, 11/29/79

ALUMINUM SHELVING, ESTIMATED VALUE AT $.25 A POUND

V-47, 1/17/80

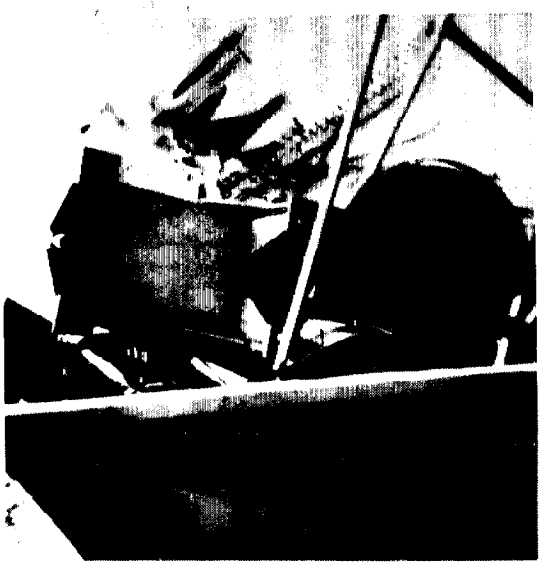
STEEL, LIGHT AND HEAVY, ESTIMATED VALUE AT $40 A TON



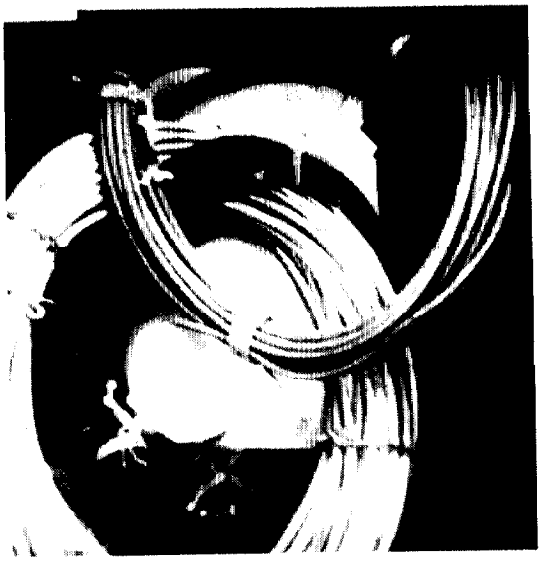
PIER 24, 12/13/79

HEAVY STEEL, HEAVY GEARS/SOCKETS OF VARIOUS SIZES, ESTIMATED VALUE $75 A TON

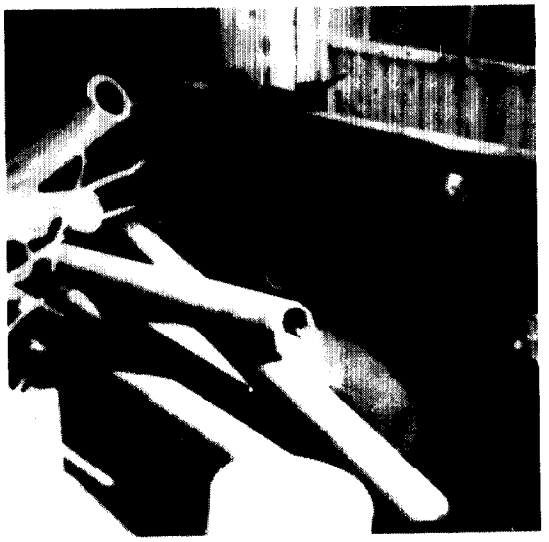
EXHIBIT II



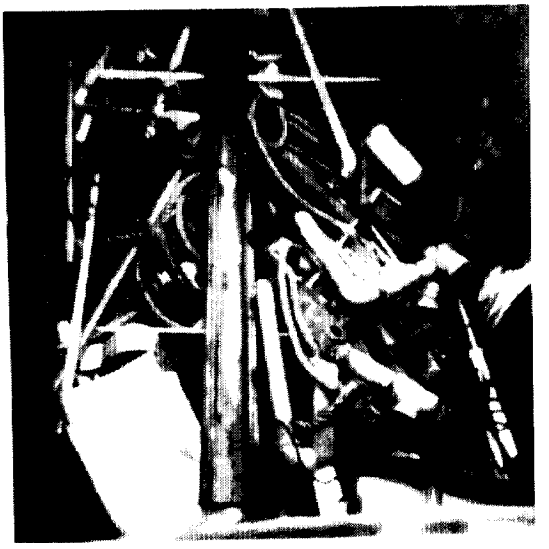
PIER 12, 1/16/80
STEEL, LIGHT AND HEAVY, ESTIMATED SCRAP VALUE AT $40 A TON



PIER 24, 12/12/79
INSULATED CABLE, ESTIMATED VALUE AT $.26 A POUND



Z-93,12/5/79
STEEL PIPE, LIGHT AND HEAVY, ESTIMATED AT $40 A TON



V-47, 1/16/80
STEEL, LIGHT AND HEAVY, ESTIMATED SCRAP VALUE $40 A TON

APPENDIX I

G. WILLIAM WHITEHURST
2ND DISTRICT, VIRGINIA

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OVERSIGHT
U.S. DELEGATE TO NORTH ATLANTIC ASSEMBLY

Congress of the United States
House of Representatives
Washington, D.C. 20515

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OFFICE MANAGER

July 17, 1979

The Honorable Elmer B. Staats
Comptroller General of the United States
General Accounting Office
441 G Street
Washington, D. C. 20548

Dear Mr. Staats:

Several serious complaints concerning the construction and maintenance of Navy real property in the Norfolk area have come to my attention in recent months. These complaints are quite disturbing and I would appreciate a GAO investigation of these matters.

Of particular concern to me is the large volume of complaints regarding the Carper housing complex, a new 600-unit Navy facility. Occupancy of the Carper Apartments began in June 1978, and all 600 units should be occupied in the very near future. Unfortunately, this new housing complex has already required major maintenance due to poor construction. The most common defects have been loose ceiling beams, peeling floor tiles, water leaking into light fixtures, buckled floors, inadequate heat, poorly sealed windows and doors, inferior paint, warped doors, and kitchen cabinets that fall from the walls.

I would appreciate having the GAO estimate of the total cost of the maintenance which has been required to date. I would also appreciate having a GAO review of the Navy inspection procedures of this construction project with a view toward determining whether these procedures are adequate. In addition, I would request your review of the Navy construction requirements. Perhaps the minimum standards now in effect for Navy housing projects

APPENDIX I

should be tightened. The enormous maintenance costs for this project might well outstrip any savings realized by imposing only minimum standards for the initial construction of the housing project.

Another disturbing matter which has come to my attention is the failure of the Navy to obtain adequate value for the disposal of scrap metal at the Sewells Point Naval complex. Since 1969, the Navy has contracted for scrap collection and disposal at Sewells Point. All metals collected, such as copper, brass, aluminum, and stainless steel, have become the property of the contractor. I have received information indicating that the annual value of the metal received by the private contractor is about $229,000. Despite this substantial benefit to the contractor, the Navy continues to estimate that the contract should actually cost the government $70,000. Apparently, the Navy is not taking cognizance of the value of the scrap metal to the contractor and is making no effort to recover the metal for the federal government.

One final matter which I believe is sufficiently serious for a GAO review is a report which I have received that the federal government has lost the benefit of a one-year manufacturer's warranty on GSA-purchased stoves because the stoves sat in a warehouse for two years. A significant number of stoves purchased for the new Navy family housing project have been found defective when installed. However, because the responsible officials allowed the stoves to remain in a warehouse for two years, the warranty has lapsed and the Navy has been saddled with an additional cost.

Once again, I would appreciate your review of these serious matters. I look forward to hearing from you at your earliest convenience.

Sincerely,

G. WILLIAM WHITEHURST

GWW:Frl

APPENDIX II

COMPARISONS OF CARPER'S COST TO ANOTHER HOUSING COMPLEX AND TO AVERAGES IN THE NORFOLK AREA

	Maintenance costs		Construction cost per sq. ft.	
	Per unit	Per sq. ft.	Building only	Land & building
Carper	$253	$ 0.18	$14.77	a/$23.79
Twin Canal Village (note b)	118	0.12	c/19.63	-
Local averages	-	d/0.13 to 0.25	-	e/23.00 to 27.56

a/If the contractor is awarded from $3 million to $5 million for his claims, the cost will increase to between $27.32 and $29.67 per square foot.

b/Twin Canal Village was selected because it was the closest comparison we could find in terms of age and location.

c/Includes cost of community center and recreation areas.

d/Reported by the National Association of Realtors' Institute of Real Estate Management based on data from reporting companies.

e/Reported by Tidewater Builder's Association based on selling prices of three complexes with four-bedroom units built in Tidewater between 1976 and 1978. This includes selling costs (model homes and real estate commissions).

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