AC/S, Fac

PUBLIC WORKS DEPARTMENT
MARINE CORPS BASE
CAMP LEJEUNE, NORTH CAROLINA 28542

43-200:CJP:dh
6 June 1973

MEMORANDUM FOR FILES

Subj: Conference on Feasibility Study for Updating Family Housing

Encl: (1) List of Attendees

1. The conference was convened in the Public Works conference room at 1300 on 4 June 1973. The list of attendees appears in enclosure (1).

2. Mr. L. F. Butts, who attended vice Mr. Allen Bryant, explained the purpose of the meeting and recapped the instructions given to the A-E by LANTNAVFACENGCOM. He pointed out that this meeting was to discuss the 60% submission by the A-E but that he hoped the 60% report could be used as the basis for review and comments by his office and by the Base. He further stated that this conference should be concerned primarily with whether or not the A-E had understood the scope of his assignment correctly and was making satisfactory progress in the proper direction. It was agreed that, in a study of this type where the A-E was given very broad latitude in his instructions, it would be inappropriate to consider such subjects as the aesthetics of his architectural treatments, specific materials of construction, etc., since these things could be modified at the inception of specific projects. For instance, the current vinyl-clad siding project would produce a different exterior appearance than proposed in the feasibility study but would be immaterial from a functional standpoint.

3. Mr. Wakeham distributed bound copies of his 60% report for ready reference during the conference. He then presented an oral summary of his design philosophy for the study and explained the system he had used in organizing and presenting his material. He also stated that he would rearrange the final report so that all material relating to a given type of quarters would appear in a separate section devoted to that type. Most of his discussion was devoted to the Tarawa Terrace units since these constituted the largest number of quarters in the study and since they posed some of the most difficult problems.

4. A number of specific subjects were considered of great enough importance to warrant discussion during the meeting. Some of these are enumerated:

a. It was pointed out that renovation of the Tarawa Terrace units would cost about $18 per square foot and that new, more modern quarters,

could probably be built for very little additional money. It was pointed out that the A-E study was not intended to make any such comparison, but that the estimated costs appearing in the study could be used by the Marine Corps in evaluating the relative merits of new construction versus renovation of old. At the request of the conferees, Mr. Wakeham agreed to make a statement of opinion on the subject in his final report.

b. Objections were voiced to the sizes of the proposed kitchens in all of the plans. It was generally felt that they provided too little space for more than one person to work.

c. In Tarawa Terrace, the garbage can location is a long way from the street, thus complicating garbage pickup. Also, garbage must be carried from the kitchens through the living rooms to the outdoors.

d. Only certain types of units in Tarawa Terrace have been treated in the 60% report. It was pointed out that the combinations of units in certain buildings will pose different remodelling problems. Mr. Wakeham stated that his final report would include enough types of units to cover all situations.

e. There was general feeling that the proposed conversion of the side porch on the 2-story quarters w/o garages to a fourth bedroom would be unacceptable unless a bath could be provided adjacent to it. Even then, it would be undesirable.

f. It was agreed that this study should include consideration of electrical capacity only from the service drop to, and including, the interior of the house. Overall electrical distribution will warrant consideration in connection with any actual updating of housing, however, since air-conditioning and electric heating are proposed. (This will be true of other utilities as well.)

g. The inherent fire hazard in the layout of the Tarawa Terrace units was discussed. This has been reduced, at least, by provision of new and larger sliding windows.

5. Mr. Butts requested that the Base use the 60% report as a basis for review and that comments be submitted to him, by telephone, by 14 June. The meeting was then adjourned about 1630.

Conway J. Powell

CONWAY J. POWELL
Director, Design Division

ATTENDEES AT CONFERENCE ON
FEASIBILITY STUDY FOR UPDATING FAMILY HOUSING
4 JUNE 1973

Name	
Mr. Lloyd F. BUTTS	LANTNAVFACENGCOM (Code 09A21A)
Mr. Wm. R. WAKEHAM	Bartholomew & Wakeham, Architects
Mr. Larry NIXON	Bass, Nixon & Kennedy, Inc.
Maj. F. H. MOUNT	MCB, Office of AC/S, Facilities
1stLt. R. D. BOURQUE	MCB, Office of AC/S, Facilities
Mr. L. DOOLEY	MCB, Office of AC/S, Facilities
Mrs. Nancy CLAUS	MCB, Quarters and Housing
Mr. H. A. PLOWDEN	MCB, Base Maintenance
Capt. R. E. DAGGETT	MCB, Public Works Officer & OICC/ROICC
Mr. C. J. POWELL	MCB, Public Works Department
Mr. C. W. BARNES	MCB, Public Works Department
Mr. P. D. BILLS	MCB, Public Works Department

Enclosure (1)

FEASIBILITY STUDY
TO IMPROVE FAMILY HOUSING

MARINE CORPS BASE
CAMP LEJEUNE, NORTH CAROLINA

DEPARTMENT OF THE NAVY
ATLANTIC DIVISION
NAVAL FACILITIES ENGINEERING COMMAND
NORFOLK, VIRGINIA

BARTHOLOMEW & WAKEHAM, ARCHITECTS

FEASIBILITY STUDY
TO IMPROVE FAMILY HOUSING
PARADISE POINT AND TARAWA TERRACE, SECTION I
MARINE CORPS BASE
CAMP LEJEUNE, NORTH CAROLINA

PREPARED BY
BARTHOLOMEW AND WAKEHAM, ARCHITECTS
3700 COMPUTER DRIVE
RALEIGH, NORTH CAROLINA 27609

FEASIBILITY STUDY
TO IMPROVE FAMILY HOUSING
MARINE COPRS BASE
CAMP LEJEUNE, NORTH CAROLINA

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FEASIBILITY STUDY TO
IMPROVE FAMILY HOUSING
MARINE CORPS BASE
CAMP LEJEUNE, NORTH CAROLINA

PART I - GENERAL

A. DESIGN CRITERIA

This feasibility study has been prepared utilizing applicable portions of the following references:

1. NAVFAC Design Manual, DM-35, Family Housing, dated August 1971.
2. Department of Defense Construction Manual, DOD 4270.1-M, dated 1 October 1972.

B. UNIT IDENTIFICATION

There are nineteen different family housing unit types, with variations totaling 1138 units, under consideration by this feasibility study. Four types are located in the PARADISE POINT AREA and fifteen in TARAWA TERRACE I. Standard identification symbols as used in DM-35, giving personnel type, bedrooms, and unit plan type (ie; EM-3BR-1) have been assigned to each unit type. Original identification nomenclature is also indicated in the following TABULATION OF EXISTING QUARTERS for ease of cross reference.

Towards clarification of the content of this study, conditions and recommendations of family housing in the PARADISE POINT AREA are considered complete and separate from those of TARAWA TERRACE, SECTION I.

C. TABULATION OF EXISTING QUARTERS
TOTAL QUARTERS: 1138 UNITS

1. PARADISE POINT AREA: 207 UNITS TOTAL

No. Units	Original Unit Type	New Identification Symbol
40	Two story W/O Garages (3BR, 2B)	FGO-4BR-1
100	Cracker Boxes (3BR, 1B)	CGO-3BR-1
43	One story Cape Cod; 1AL & 1AR (3BR, 1B; two variations)	CGO-4BR-1
24	Two story Cape Cod; 2AL & 2AR, 2BL & 2BR; (3BR, 2B; four variations)	CGO-5BR-1

2. TARAWA TERRACE I: 931 UNITS TOTAL
Staff NCO Quarters: 173 Units
EM Quarters: 758 Units

Staff NCO Quarters; detached; three variations

16	Type O-1 (3BR, 1B)	NCO-3BR-1
19	Type O-3 (3BR, 1B)	NCO-3BR-2
50	Type O-4 (2BR, 1B)	NCO-2BR-1

Staff NCO Quarters; semi-detached; four variations

13	Type OD-1A (2BR, 1B)	NCO-5BR-1
13	Type OD-1B (1BR, 1B)	NCO-5BR-1
22	Type OD-2 (1BR, 1B)	NCO-4BR-1
40	Type OD-3 (2BR, 1B)	NCO-2BR-2

Enlisted Mens Quarters; multi-family; eight variations

420	Basic 2BR (2BR, 1B)	EM-2BR-1
180	Basic 3BR (3BR, 1B)	EM-3BR-1
19	Type A (3BR, 2B)	EM-3BR-2
46	Type B(3BR, 2B)	EM-3BR-3
29	Type C-1 (3BR, 2B)	EM-3BR-4
29	Type C-2 (3Br, 1B)	EM-3BR-5
6	Type X-1 (3BR, 2B)	EM-3BR-6
6	Type X-2 (3BR, 1B)	EM-4BR-2
23	Type A (3BR, 2B)	EM-4BR-1

Types A thru X-2 are converted units.

PART II - PARADISE POINT AREA

A. EXISTING CONDITIONS

1. The four types of FGO and CGO family housing units, with variations, considered in this section of this study are located in the PARADISE POINT AREA on the base at Camp Lejeune, North Carolina. These housing units do not meet current minimum adequacy standards for military housing. The deficiencies are in bedroom count; kitchen, bath and storage facilities; other amenities such as covered off street parking, patios and air conditioning.

2. The Area Comparison Table included in Requirements for each housing type indicates the existing deficient areas. (Part II, B of this study)

3. Latest Family Housing Surveys indicate a deficit of 4BR or more units in the FGO and CGO categories. Refer to Recommended Improvements, Part II, C of this study for methods to increase bedroom count.

4. The following Field Survey Results for each housing type indicate typical existing conditions.

BARTHOLOMEW & WAKEHAM, ARCHITECTS DATE 25 April , 1973

FIELD SURVEY OF EXISTING HOUSING CONDITIONS
MARINE CORPS BASE, CAMP LEJEUNE, NORTH CAROLINA

PARADISE POINT AREA

UNIT TYPE TWO STORY W/O GARAGE; FGO-4BR-1 COMPLETED December 1947
PORCHES ADDED: 1965

EXTERIOR CONDITIONS

A. SITE	REMARKS
1. Landscaping	Mature; generally well maintained.
2. Parking	Some deterioration of off-street concrete wheel strips. No covered parking.
3. Pedestrian Circulation	Additional walks needed on site. None at street.
4. Playground & Game Facilities	Community center with good summer activity program.
5. Other	
B. SITE UTILITIES	
6. Sanitary Sewer	Adequate
7. Storm Drainage	Some evidence of standing water in rear yards.
8. Water Supply	Adequate
9. Electrical Distribution	CP&L (Public utility company)
10. Other	Slow fuel oil delivery.

C. BUILDING	REMARKS
11. Roofing	Composition shingles, replaced 1961. No current leaks. Max. remaining life 3-4 years.
12. Siding	Vert. wood (lower level); horiz. shiplap (upper level; fair condition; some rot.
13. Windows	Wood double hung and metal casements; drafty. fair condition; some rot.
14. Doors	No weatherstripping; screens in fair condition.
15. Storage	No exterior storage.
16. Trash Removal	Loose garbage cans in rear yard 75-80 ft. from house.
17. Fire Separation	Adequate
18. Other	No railing at steps (front & rear); tenant erected plywood porch enclosure at half these houses.

INTERIOR CONDITIONS

D. STRUCTURAL	
19. Floor Joists	Some sagging at upper floor joists.
20. Wall Studs	Adequate
21. Ceiling/Roof Trusses	Adequate
22. Other	
E. KITCHEN (Inefficient arrangement)	
23. Sink	Adequate size; excellent condition.

	REMARKS
24. Garbage Disposer	Recent installation; adequate.
25. Countertop	Inadequate size; good condition. poor arrangement.
26. Cabinets	Inadequate size; fair condition; poor arrangement.
27. Refrigerator	Adequate size; good condition.
28. Range	36" electric; good condition
29. Exhaust	Fan thru wall; adequate
30. Washer/Dryer	Connections in utility room; poor arrangement.
31. Other (Flooring)	Fair condition (sheet vinyl) remaining life-2 years.
F. BATHROOMS	No bath facilities on first floor
32. Toilet	Adequate
33. Tub & Shower	Adequate except wainscot.
34. Lavatory	Very small
35. Accessories	Surface mtd.
36. Wainscot	Cer. tile 4'-0 high (walls & tub); 6'-0 at shower.
37. Other (Flooring)	Cer. tile; good condition.

G. FINISHES	REMARKS
38. Floors	Hardwood floor; well maintained; repeated sanding has left very little wood.
39. Walls	Painted adequate
40. Ceilings	Painted
41. Other (Enclosed porch)	Tenant enclosed and panelled screen porch.
H. MECHANICAL EQUIPMENT	
42. Heating Unit	Oil fired boiler in pit under stair. Some deterioration-will need replacement 4-5 years.
43. Water Heater	50 gal. electric; fair condition.
44. Piping	Some deterioration
45. Other	Some wear on convectors; tenant furnished window air conditioners. Attic exhaust fan w/motorized louvers.
I. ELECTRICAL	
46. Service	2-100 amp panels.
47. Outlets	Adequate
48. Light Fixtures	Old but adequate
49. Wiring	Some exposed raceway for tenants air conditioning.
50. Other	

J. MISCELLANEOUS	REMARKS
51. Insulation (Thermal & Sound)	Adequate
52. Other	

BARTHOLOMEW & WAKEHAM, ARCHITECTS DATE 25 April 1953

FIELD SURVEY OF EXISTING HOUSING CONDITIONS
MARINE CORPS BASE, CAMP LEJEUNE, NORTH CAROLINA

PARADISE POINT AREA

UNIT TYPE CRACKER BOX; TYPE CGO-3BR-1 COMPLETED February 1950

EXTERIOR CONDITIONS

A. SITE	REMARKS
1. Landscaping	Mature; generally well maintained. Yards in poor condition.
2. Parking	Some deterioration of off-street concrete wheel strips. No covered parking.
3. Pedestrian Circulation	Additional walks needed on site. None at street. Existing walks too narrow
4. Playground & Game Facilities	Community center with good summer activity program.
5. Other	Tenant furnished yard fence, porch modifications and/or storage sheds exist in approx. 50% of cases.
B. SITE UTILITIES	
6. Sanitary Sewer	Adequate
7. Storm Drainage	Some evidence of standing water in rear yards.
8. Water Supply	Adequate
9. Electrical Distribution	CP&L (Public utility company)
10. Other	

C. BUILDING	REMARKS
11. Roofing	Composition shingles, replaced 1961. No current leaks. Max. remaining life 3-4 years. Copper gutters & generally good condition, some deterioration, 3-5 yr. life
12. Siding	Horiz. wd. shiplap; fair condition
13. Windows	Wd. dbl. hung. screens in poor condition
14. Doors	Wd. panel. Fair condition
15. Storage	No exterior storage
16. Trash Removal	Loose garbage cans in rear yard 75-80 ft. from house.
17. Fire Separation	Adequate
18. Other	No railing at rear stoop. No exterior patio. Screen porch damage; some wood rot.

INTERIOR CONDITIONS

D. STRUCTURAL	
19. Floor Joists	Adequate
20. Wall Studs	Adequate
21. Ceiling/Roof Trusses	Sagging ceiling joists.
22. Other	
E. KITCHEN	Inefficient arrangement
23. Sink	Large single bowl stainless steel; good condition.

	REMARKS
24. Garbage Disposer	Recent installation; adequate
25. Countertop	Good condition; inadequate area
26. Cabinets	Good condition; inadequate area
27. Refrigerator	15/16 CF double door; excellent condition
28. Range	36" elec.; fair condition
29. Exhaust	Thru wall fan w/switch; poor location
30. Washer/Dryer	Connections in utility room, dryer outlet inoperative.
31. Other	
F. BATHROOMS	One bathroom only
32. Toilet	Adequate
33. Tub	Adequate
34. Lavatory	Small but good condition
35. Accessories	Adequate
36. Wainscot	Ceramic tile
37. Other	

G. FINISHES	REMARKS
38. Floors	Hardwood floors in fair condition. Sheet vinyl kitchen floor in poor condition.
39. Walls	Adequate
40. Ceilings	Adequate
41. Other	Ceramic tile bath wainscot in good condition.
H. MECHANICAL EQUIPMENT	
42. Heating Unit	Oil fired boiler.
43. Water Heater	50 gal. electric; poor condition
44. Piping	Same
45. Other	
I. ELECTRICAL	
46. Service	100-A fuse panel with sep. disconnect for added capacity.
47. Outlets	Adequate
48. Light Fixtures	Old but adequate
49. Wiring	Appears adequate
50. Other	

J. MISCELLANEOUS	REMARKS
51. Insulation (Thermal & Sound)	Adequate
52. Other	

BARTHOLOMEW & WAKEHAM, ARCHITECTS DATE 25 April 1973

FIELD SURVEY OF EXISTING HOUSING CONDITIONS
MARINE CORPS BASE, CAMP LEJEUNE, NORTH CAROLINA

PARADISE POINT AREA

UNIT TYPE ONE STORY CAPE COD; TYPE CGO-4BR-1 COMPLETED December 1948

EXTERIOR CONDITIONS

A. SITE	REMARKS
1. Landscaping	Mature; generally well maintained
2. Parking	Some deterioration of off-street concrete wheel strips. No covered parking.
3. Pedestrian Circulation	Additional walks needed on site. None at street.
4. Playground & Game Facilities	Community center with good summer activity program.
5. Other	Some tenant fencing
B. SITE UTILITIES	
6. Sanitary Sewer	Adequate
7. Storm Drainage	Some evidence of standing water in rear yards.
8. Water Supply	Adequate
9. Electrical Distribution	CP&L (Public utility company)
10. Other	Slow fuel oil delivery

C. BUILDING

	REMARKS
11. Roofing	Composition shingles, replaced 1961, No current leaks, Max. remaining life 3-4 yrs. Some shingles torn loose.
12. Siding	Asbestos shingles; some broken
13. Windows	Met. casements in wd. trim
14. Doors	No weatherstripping; screens in fair condition. Plywd. over rear door w/tenant air conditioner
15. Storage	No exterior storage
16. Trash Removal	Loose garbage cans in rear yard 75-80 ft. from house.
17. Fire Separation	Adequate
18. Other	Metal chimneys badly stained

INTERIOR CONDITIONS

D. STRUCTURAL

19. Floor Joists	Slab on grade
20. Wall Studs	Adequate
21. Ceiling/Roof Trusses	Adequate
22. Other	
E. KITCHEN	Poor arrangement
23. Sink	Small single bowl porcelin enamel; fair condition

	REMARKS
24. Garbage Disposer	Recent installation; adequate
25. Countertop	Inadequate size; good condition, poor arrangement
26. Cabinets	Inadequate size; fair condition; poor arrangement
27. Refrigerator	14 CF; poor condition
28. Range	36" elec., poor condition
29. Exhaust	None
30. Washer/Dryer	in utility room, dryer connection inadequate; vent thru window
31. Other	
F. BATHROOMS	No half bath
32. Toilet	Adequate
33. Tub	Adequate
34. Lavatory	Small; good condition
35. Accessories	Surface mtd.
36. Wainscot	Cer. tile 4'-0 high(walls & tub); 6'-0 at shower
37. Other	Cer. tile; good condition

G. FINISHES	REMARKS
38. Floors	Wd. parquet; fair condition , sht. vinyl in kitchen peeling up.
39. Walls	Painted wallboard; adequate
40. Ceilings	Painted gypsum wallboard
41. Other (Enclosed Porch)	Tenant enclosed and panelled screen porch.
H. MECHANICAL EQUIPMENT	
42. Heating Unit	Oil fired boiler in pit under stair. Some deterioration-will need replacement 4-5 years.
43. Water Heater	50 gal. electric; fair condition
44. Piping	Some deterioration
45. Other	Some wear on convectors; tenant furnished window air conditioners. Attic exhaust fan w/motorized louvers.
I. ELECTRICAL	
46. Service	100A fuse panel
47. Outlets	Adequate
48. Light Fixtures	Pull chain in bath
49. Wiring	Some exposed raceway for tenants air conditioning.
50. Other	

J. MISCELLANEOUS	REMARKS
51. Insulation (Thermal & Sound)	Adequate
52. Other	

BARTHOLOMEW & WAKEHAM, ARCHITECTS DATE 25 April , 1973

FIELD SURVEY OF EXISTING HOUSING CONDITIONS
MARINE CORPS BASE, CAMP LEJEUNE, NORTH CAROLINA

PARADISE POINT AREA

UNIT TYPE TWO STORY CAPE COD; TYPE CGO-5BR-1 COMPLETED December 1948

EXTERIOR CONDITIONS

A. SITE	REMARKS
1. Landscaping	Mature; generally well maintained.
2. Parking	Some deterioration of off-street concrete wheel strips. No covered parking.
3. Pedestrian Circulation	Additional walks needed on site. None at street.
4. Playground & Game Facilities	Community center with good summer activity program.
5. Other	Tenant fencing and clotheslines. Inadequate exterior lightin lighting.
B. SITE UTILITIES	
6. Sanitary Sewer	Water backup, slow drainage of plumbing fixtures
7. Storm Drainage	Some evidence of standing water in rear yards.
8. Water Supply	Adequate
9. Electrical Distribution	CP&L (Public utility company)
10. Other	

C. BUILDING	REMARKS
11. Roofing	Composition shingles, replaced 1961. No current leaks. Max. remaining life 3-4 years.
12. Siding	Wood horiz. lap siding, some rot in wood trim
13. Windows	Metal casements in wood trim
14. Doors	No protection over front door
15. Storage	No exterior storage
16. Trash Removal	Loose garbage cans in rear yard 75-80 feet from house.
17. Fire Separation	Adequate
18. Other	Badly rusted metal louvers @ attic. Gutters & ds. have 3-5 yr. life remaining.

INTERIOR CONDITIONS

D. STRUCTURAL	
19. Floor Joists	Slab on grade
20. Wall Studs	Adequate
21. Ceiling/Roof Trusses	Adequate
22. Other	2nd floor railing around stair weak and dangerous.
E. KITCHEN	Poor arrangement
23. Sink	

	REMARKS
24. Garbage Disposer	Recent installation; adequate
25. Countertop	Inadequate size; good condition, poor arrangement.
26. Cabinets	Poor arrangement, adequate wall cabinet, inadequate base cabinet.
27. Refrigerator	New 15 CF frost free
28. Range	40" electric, good condition
29. Exhaust	None
30. Washer/Dryer	Connections in kitchen
31. Other	
F. BATHROOMS	One full bath each floor
32. Toilet	Adequate
33. Tub & Shower	Adequate except wainscot
34. Lavatory	Very small
35. Accessories	Surface mtd.
36. Wainscot	Cer. tile 4'-0 high (wall & tub); 6'0 at shower
37. Other (Flooring)	Cer. tile; good condition

G. FINISHES	REMARKS
38. Floors	Hardwood floor; well maintained; repeated sanding has left very little wood.
39. Walls	Painted wallboard; adequate
40. Ceilings	Painted gypsum wallboard
41. Other (Enclosed porch)	Tenant enclosed and panelled screen porch.
H. MECHANICAL EQUIPMENT	
42. Heating Unit	Oil fired boiler in pit under stair. Some deterioration-will need replacement 4-5 years.
43. Water Heater	50 gal. elec.; fair condition; slow recovery; located in attic.
44. Piping	Some deterioration
45. Other	No utility room
I. ELECTRICAL	
46. Service	100A
47. Outlets	No outlet in first floor hall. Several outlets inoperative
48. Light Fixtures	Old but adequate
49. Wiring	Some exposed raceway for tenants air conditioning.
50. Other	

J. MISCELLANEOUS		REMARKS
51. Insulation (Thermal & Sound)	Adequate	
52. Other		

B. REQUIREMENTS

1. Two Story W/O Garage; Type FGO-4BR-1

a. Exterior
   1. Provide covered off-street parking at end of existing driveway incorporating exterior bulk storage and screened garbage can area. Connect carport to rear utility room entrance.
   2. Provide patio and walks
   3. Contemporize exterior

b. Interior-First Floor
   1. Renovate kitchen/utility room area to provide new efficient U-shaped kitchen arrangement, washer/dryer area and separate furnace/water heater room and relocate larger coat closet.
   2. Add half bath
   3. Enclose existing screened porch to provide 4th. bedroom and closet.

c. Interior-Second Floor
   1. Enlarge bedroom closets (compatible with First Floor entrance modifications).

d. Mechanical
   1. Install new electric-fired forced air heating/air conditioning system.

e. Electrical
   1. Increase capacity to accomodate rehabilitation.

2. Cracker Boxes; Type CGO-3BR-1

a. Exterior
   1. Provide covered off-street parking at end of existing driveway incorporating exterior bulk storage and screened garbage can area. Connect carport to rear utility room entrance.
   2. Provide patio and walks
   3. Contemporize exterior

b. Interior

1. Renovate kitchen/utility room area to provide new efficient U-shaped kitchen arrangement, washer/dryer area and separate furnace/water heater room and relocated larger coat closet.
2. Add half bath between bedrooms 1 and 2. Rearrange and enlarge bedroom closets.
3. Provide alternate for glazing existing screened porch to provide increased habitable living area and eliminate high maintenance problem.

c. Mechanical

1. Install new electric-fired forced air furnace. Modify existing ductwork to accomodate other recommended improvements contained herein.

d. Electrical

1. Increase capacity to accomodate rehabilitation.

3. <u>One Story Cape Cod; Type CGO-4BR-1</u>

a. Exterior

1. Provide covered off-street parking at end of existing driveway incorporating exterior bulk storage and screened garbage can area. Connect carport to rear utility room entrance.
2. Provide patio and walks
3. Contemporize exterior

b. Interior

1. Renovate kitchen/utility room area to provide new efficient U-shaped kitchen arrangement, washer/dryer area and separate furnace/water heater room and relocate larger coat closet.
2. Provide new full bathroom
3. Rearrange and enlarge bedroom closets and linen closet.
4. Enclose existing screen porch to provide 4th. bedroom and closet.

c. Mechanical

1. Install new electric-fired forced air heating/air conditioning system.

d. Electrical

1. Increase capacity to accomodate rehabilitation.

4. Two Story Cape Cod; Type CGO-5BR-1

a. Exterior
   1. Provide covered off-street parking at end of existing driveway incorporating exterior bulk storage and screened garbage can area. Connect carport to rear utility room entrance.
   2. Provide patio and walks
   3. Contemporize exterior

b. Interior-First Floor
   1. Renovate kitchen to provide new efficient U-shaped arrangement. Provide washer/dryer space in kitchen.
   2. Rearrange and modernize bath. Provide additional linen storage and separate furnace/water heater room.
   3. Rearrange and enlarge bedroom closet
   4. Construct addition to house 4th. bedroom and closet.
   5. Provide alternate for glazing existing screened porch to provide increased habitable living area and eliminate high maintenance problem.

c. Interior-Second Floor
   1. Construct new dormer connecting existing dormers to provide 5th. bedroom and closet.

d. Mechanical
   1. Install new electric-fired forced air furnace. Modify existing ductwork to accomodate other recommended improvements contained herein.

e. Electrical
   1. Increase capacity to accomodate rehabilitation.

C. DESCRIPTION OF RECOMMENDED IMPROVEMENTS

1. General

There being a deficit of 4BR or more units in the FGO and CGO categories, it is recommended that the present 3BR Two Story W/O Garage houses be improved to include a 4th. bedroom, thereby providing 40 additional 4BR quarters in the FGO category.

It is further recommended that the One Story Cape Cod houses be improved to include a 4th bedroom and the Two Story Cape Cod houses to include a 4th. and 5th. bedroom, thereby providing 43 additional 4BR quarters and 24 additional 5BR quarters in the CGO category.

2. Two Story W/O Garage; Type FGO-4BR-1

a. Exterior

1. Off-Street Parking: Construct attached wood frame carport, 11 X 20 feet in size near end of existing driveway in side yard of units. Provide concrete floor slab, pitched for proper drainage, and concrete apron connecting new carport floor to existing concrete driveway strips. Construction of carport and attachment (covered walk) shall be wood frame with composition shingle roof to match house and one of several siding types compatible with contemporized house exterior. Provide alternate for new 10 foot concrete driveway.
2. Exterior bulk storage and garbage can enclosure: Construct enclosed covered storage area, 4 X 6 feet, with door and adjacent covered garbage can enclosure, 3 X 5 feet, as an extension to rear of new carport. Construction to match carport. Provide galvanized steel pipe can holder for two cans.
3. Patio and walks: Construct new concrete patio, 12 X 12 feet, provide new concrete walks, 3 feet wide, between carport and patio and between driveway and front entrance.
4. Contemporize exterior: Remove existing wood or asbestos shingle siding. Replace with new stucco or combinations of stucco and brick veneer; stucco and cedar shingles or stucco and wood siding. In some cases the existing siding may remain, where

in good condition. It is recommended that the exterior designs vary from house to house and yet maintain a unified neighborhood appearance through the repetitive use of one material; in this case, stucco. All recommended exterior materials have long life, low maintenance qualities.

Contemporize front entrance and cover by installing new 3 X 7 foot solid core flush wood door and glass sidelight. Install new aluminum and glass/screen doors at both exterior doors.

Replace existing wood double hung windows with new fixed and operable wood units compatible with exterior design. Repaint existing wood trim.

5. Roof replacement: Provide alternate to replace existing roof with new composition shingles to match new carport and other additions. Reflash on an "as needed" basis.

b. Interior-First Floor

1. Kitchen: Remove existing cabinets and counters. Close existing side window. Install new window facing rear yard. Install new sheet vinyl floor. Install new plastic laminate covered work counter, wood base and wall cabinets in U-shape arrangement, 10.5 X 8.5 feet. Appliances: Provide new double bowl stainless steel sink and trim; garbage disposal; refrigerator and electric range. (NOTE) In approximately 50% of these houses, existing appliances are in excellent condition and warrant reuse within the new kitchen plan.
2. Utility Room: Provide new washer/dryer connections and vent in utility room off kitchen. Provide 5 X 1.5 foot storage shelf above washer/dryer. Provide new sheet vinyl floor. Relocate furnace and water heater to separate closet off utility room. Install 5/8 in. UL rated gypsum wallboard on walls, ceiling and inside face of wood door to closet. Provide new 2'-6 X 6'-8 wood door.
3. New bath: Construct new half bath, 3.5 X 8 feet, off utility room. Provide new water closet,

lavatory and trim; new medicine cabinet and other required accessories; new sheet vinyl finish flooring; new 2'-0 X 6'-8 flush wood door with hardware. Walls shall be vinyl wall covering on gypsum wallboard, floor to ceiling. Provide new ceiling exhaust fan with duct to exterior.

4. New bedroom: Remove screen and enclose existing porch to provide a 4th bedroom, 10 X 9.83 feet with a 2 X 9.83 foot closet. Build up new floor to level of existing concrete slab. Install $\frac{1}{2}$ in. plywood subfloor and hardwood strip finish flooring to match existing. Provide 2 new windows compatible with other new windows. Provide new 2'-6 X 6'-8 flush wood door in existing opening between living room and new bedroom. Provide new pair 2'-6 X 6'-8 hinged closet doors. Provide new painted gypsum wallboard on walls and ceiling.

c. Interior-Second Floor

1. Closet: Enlarge bedroom closet to 2 X 9.67 feet compatible with entrance modifications on First Floor.

d. Mechanical

1. Heating Unit: Remove existing oil fired boiler, controls and convectors. Install new forced air heating and air conditioning system incorporating an electric furnace, condenser and sheet metal ductwork. Ductwork to be installed in crawl space for first floor and in attic for second floor. Provide controls and supply grilles.
2. Water Heater: Install new 50 gallon capacity electric water heaters on an "as needed" basis.

e. Electrical

1. Service: Some revisions to local low voltage (2400A) distribution system is required.

   Increase capacity of existing service to 200A. Install new breaker type panel.

   a. Add 3 outlets and 1 ceiling fixture in 4th bedroom.
   b. Add fixture/outlet to new bathroom
   c. Add/relocate 8 outlets and add 2 ceiling light fixtures to rehabilitated kitchen/utility area.
   d. Add new front entrance fixture.

AREA COMPARISON TABLE
PARADISE POINT AREA

UNIT TYPE: TWO STORY W/O GARAGE; TYPE FGO-4BR-1

Category		Design Criteria	Existing Area	Proposed Area
Net Area		1400 SF (Max.)	1317 SF	
Living Room		12 ft. min. dim.	13'-2 min. dim. (280 SF)	Same
Dining Room		10 ft. min. dim.	12'-6 min. dim. separate room (181 SF)	Same
Kitchen		U-shape or L-shape	Straight counter (123 SF)	U-shape (91 SF)
	Wall Cab.	24 SF	24 SF	30 SF
	Base Cab.	32 SF	42 SF	45 SF
	Counter	12 SF	24 SF	26 SF
	Drawers	14 SF	16 SF	16 SF
Utility Room			57 SF	
Bedrooms	1	155 SF area 8 LF closet	181 SF area 5 LF closet	181 SF area 8 LF closet
	2	130 SF area 6 LF closet	127 SF area 4.67 LF closet	Same
	3	105 SF area 4 LF closet	98 SF area 3 LF closet	Same
	4	90 SF area 3 LF closet	None	108 SF area 9.83 LF closet
Bath		$2\frac{1}{2}$ total $\frac{1}{2}$ @ first floor	2 baths up (none @ first floor)	$2\frac{1}{2}$ total $\frac{1}{2}$ @ first floor
Linen		3LF	4-5 LF	Same
Bulk Storage		Comb. int. & ext. 60 SF min. 120 SF max.	Interior: attic Exterior: -0-	Interior: attic Exterior: 24 SF

3. Cracker Boxes; Type CGO-3BR-1

a. Exterior

1. Off-Street Parking: Construct attached wood frame carport, 11 x 20 feet in size near end of existing driveway inside yard of units. Provide concrete floor slab, pitched for proper drainage, and concrete apron connecting new carport floor to existing concrete driveway strips. Construction of carport and attachment (covered walk) shall be wood frame with composition shingle roof to match house and one of several siding types compatible with contemporized house exterior. Provide alternate for new 10 foot concrete driveway.
2. Exterior bulk storage and garbage can enclosure: Construct enclosed covered storage area, 4 x 6 feet, with door and adjacent covered garbage can enclosure, 3 x 5 feet, as an extension to rear of new carport. Construction to match carport. Provide galvanized steel pipe can holder for two cans.
3. Patio and walks: Construct new concrete patio, 12 x 12 feet, provide new concrete walks, 3 feet wide, between carport and patio and between driveway and front entrance.
4. Contemporize exterior: Remove existing wood siding. Replace with new cedar shingles, brick veneer or stucco. Contemporize front entrance and cover by constructing wing walls, extending existing roof and installing new 3 x 7 foot solid core flush wood door with fixed glass sidelight. Install new aluminum/glass/screen doors at front and rear entrances.

   Replace existing windows with new aluminum sliding windows at bedrooms, bath, and kitchen; new fixed and operable wood sash at living room/dining room.
5. Roof replacement: Replace existing roof with new composition shingles to match new carport. Replace existing gutters and downspouts with new copper materials. Reflash on an "as needed" basis.

b. Interior

1. Kitchen: Remove existing cabinets and counters. Install new sheet vinyl floor. Install new plastic laminate covered work counter and wood cabinets in U-shape arrangement, 9 x 11.5 feet. Provide new double bowl stainless steel sink; garbage disposer; refrigerator and electric range.
2. Utility Room: Renovate to include separate furnace/water heater area off utility room. Install 5/8 inch VL rated gypsum wallboard on walls and ceiling of utility room. Install new sheet vinyl flooring. Install new 5'-0 x 6'-8 metal sliding door. Relocate coat closet and provide new 2'-6 x 6'-8 wood door; wood shelf and metal hanging rod.
3. New bath: Construct new half bath, 3.5 x 6.5 feet, between bedrooms 1 and 3. Provide new water closet, lavatory and trim; new accessories; new sheet vinyl floor and 2'-6 x 6'-8 wood door. Provide vinyl wall covering floor to ceiling on all walls and new ceiling exhaust fan with duct to exterior.
4. Closets: Rearrange BR-2 closets to provide more space. Provide new 2'-6 x 6'-8 wood door, shelf and metal rod.
5. Enclosed porch alternate: Remove existing screen and enclose porch with new fixed and operable glass sash. Provide new 3'-0 x 7'-0 solid core flush wood door to exterior.

   Build up new wood floor with sleepers of existing living room and install $\frac{1}{2}$ inch plywood subfloor and hardwood finish floor to match existing. Provide new painted typsum wallboard on one wall and ceiling.
6. Install vinyl wall covering on existing bathroom walls.

c. Mechanical

1. Install new electric fired forced warm air heating/air conditioning system with ducts in crawl space.
2. Water heater: Install new 50 gallon capacity electric water heaters on an "as needed" basis.

d. Electrical

1. Service: Some revisions to local low voltage (2400A) distribution system is required. Increase capacity of existing service to 200A.

2. Fixtures and outlets:
   a. Add 1 outlet to dining area.
   b. Add 4 outlets to renovated kitchen/utility area.
   c. Add 1 outlet/fixture to new bath.
   d. Add 2 outlets to BR-2 and 1 to BR-3.
   e. Add new exterior fixture at entrance.
   f. Add new ceiling fixture and outlet to enclosed porch.
   g. Add 2 fixtures to new carport/storage area.

AREA COMPARISON TABLE

PARADISE POINT AREA

UNIT TYPE: CRACKER BOXES; TYPE CGO-3BR-1

Category		Design Criteria	Existing Area	Proposed Area
Net Area				
Living Room			294 SF	294 SF
Dining Room			124 SF	112 SF
Kitchen			92 SF	105 SF
	Wall Cab.	24 SF		31 SF
	Base Cab.	32 SF		42 SF
	Counter	12 SF		36 SF
	Drawers	14 SF		27 SF
Utility Room			30 SF	45 SF
Bedrooms	1	170 SF 6LF CLO	161 SF 6 LF CLO	161 SF 6 LF CLO
	2	140 SF 4LF CLO	122 SF 6.5 LF CLO.	122 SF 5 LF CLO
	3	110 SF 3 LF CLO	107 SF 6.5 LF CLO	107 SF 5 LF CLO
Bath		1.5	no half bath 1.0	1.5
Linen		3 LF	4 LF	4 LF
Bulk Storage		50-85 SF combo interior & exterior	none exterior	20 SF exterior

4. <u>One Story Cape Cod; Type CGO-4BR-1</u>

a. Exterior

1. Off-street parking: Construct attached wood frame carport, 11 x 20 feet in size near end of existing driveway inside yard of units. Provide concrete floor slab, pitched for proper drainage, and concrete apron connecting new carport floor to existing concrete driveway strips. Construction of carport and attachment (covered walk) shall be wood frame with composition shingle roof to match house and one of several siding types compatible with contemporized house exterior. Provide alternate for new 10 foot concrete driveway.

2. Exterior bulk storage and garbage can enclosure: Construct enclosed covered storage area, 4 x 6 feet, with door and adjacent covered garbage can enclosure, 3 x 5 feet, as an extension to rear of new carport. Construction to match carport. Provide galvanized steel pipe can holder for two cans.

3 3. Patio and walks: Construct new concrete patio, 12 x 12 feet, provide new concrete walks, 3 feet wide, between carport and patio and between driveway and front entrance.

4. Contemporize exterior: Remove existing wood siding. Replace with new cedar shingles, brick veneer or stucco. Contemporize front entrance and cover by constructing wing walls, extending existing roof and installing new 3 x 7 foot solid core flush wood door with fixed glass sidelight. Install new aluminum/glass/screen doors at front and rear entrances.

Replace existing windows with new aluminum sliding windows at bedrooms, bath, and kitchen; new fixed and operable wood sash at living room/dining room.

Replace existing bay window at BR-1 with new bay window of contemporary design.

5. Roof replacement: Provide alternate to replace existing roof with new composition shingles to match new carport and other additions. Reflash on an "as needed" basis.

b. Interior

1. Kitchen/Utility/Room: Remove existing cabinets and counters. Enlarge area to provide separate utility room off kitchen. Install new sheet vinyl floor. Install new work counter, cabinets and appliances in a modified U-shape arrangement, 9.5 x 13.5 feet. Provide new washer/dryer connections and dryer vent in utility room, 5 x 5 feet.
2. Furnace/Water Heater Closet: Provide separate closet, 2 x 6 feet, for furnace/water heater. Provide 5/8 inch VL rated gypsum wallboard and new 2'-6 x 6'-8 metal door.
3. New bath: Construct new full bath adjacent to existing bath, 5 x 8 feet. Provide new water closet, tub lavatory and trim; new accessories, sheet vinyl floor and 2'-6 x 6'-8 wood door. Provide ceramic tile wainscot, 6'-6 high at tub; other walls shall have vinyl wall covering, floor to ceiling. Install new exhaust fan with duct to exterior.
4. New bedroom: Remove screen and enclose porch to provide a 4th bedroom, 12 x 9.83 feet, with a 2 x 9.83 foot closet. Provide new 2'-6 x 6'-8 wood closet door and new 2'-6 x 6'-8 flush wood door between living room and new bedroom. Wall construction shall be of wood studs, insulation and $\frac{1}{2}$ inch gypsum wallboard interior; exterior siding shall be compatible with main house. Build up new wood floor with sleepers to level of existing living room. Install new subfloor and finish wood floor to match existing. Install vinyl wall covering on existing bathroom walls.
5. Closets: Rearrange BR-1 closets to provide more space. Provide new pair 2'-6 x 6'-8 wood doors, shelf and metal rod.

c. Mechanical:

1. Install new electric-fired forced warm air heating/air conditioning system with ducts in attic space.
2. Water heater: Install new 50 gallon capacity electric water heaters on an "as needed" basis.

d. Electrical

1. Service: Some revisions to local low voltage (2400A) distribution system is required. Increase capacity of existing service to 200A.

2. Outlets and Fixtures:
   a. Add 3 outlets and 1 ceiling fixture in 4th bedroom.
   b. Add fixture/outlet to new bathroom.
   c. Add/relocate 8 outlets and add 2 ceiling light fixtures to rehabilitated kitchen/utility area.
   d. Add new front entrance fixture.

AREA COMPARISON TABLE
PARADISE POINT AREA

UNIT TYPE: ONE STORY CAPE COD; TYPE CCO-4BR-1

Category		Design Criteria	Existing Area	Proposed Area
Net Area		1400 SF (max)	1019 SF	1172 SF
Living Room			Living-Dining Combination (333 SF)	
Dining Room				
Kitchen				
Wall Cab.				
Base Cab.				
Counter				
Drawers				
Utility Room				
Bedrooms	1	155 SF 8 LF CLO	163 SF 5 LF CLO	166 SF 11 LF CLO
	2	130 SF 6 LF CLO	143 SF 4.5 LF CLO	143 SF 4.5 LF CLO
	3	105 SF 4 LF CLO	107 SF 4.5 LF CLO	107 SF 4.5 LF CLO
	4	90 SF 3 LF CLO	- 0 -	105 SF 10 LF CLO
Bath		2.0	No half bath 1.0	2.0
Linen		3 LF		
Bulk Storage		60-100 SF comb. interior & exterior	none exterior	20 SF exterior

5. Two Story Cape Cod; Type CGO-5BR-1

a. Exterior

1. Same as Two Story W/O Garages
2. Same as Two Story W/O Garages
3. Same as Two Story W/O Garages
4. Contemporize exterior: Remove existing siding. Replace with new cedar shingles, brick veneer or stucco. Install new 3 x 7 foot solid core flush wood entrance door and new alum/glas/screen doors at front and rear entrance.

   Replace existing windows with new aluminum sliding windows at bedrooms, bath, and kitchen; new fixed and operable wood sash at living room/ dining room.

b. Interior - First Floor

1. Kitchen: Renovate existing kitchen by removing existing counters, cabinets and appliances; install new sheet vinyl floor and new counter, cabinets and appliances in U-shape arrangement, 9 x 9.5 feet. Provide washer/dryer area in kitchen, with connections and vent, enclosed with pair 2'-6 x 6'-8 louvered wood doors.
2. Same as One Story Cape Cod.
3. New bedroom: Construct addition to provide 4th bedroom, 9.83 x 9.33 feet, with a closet, 2x 6 feet. Provide new 2'-6 x 6'-8 bedroom door and pair 2'-6 x 6'-8 wood closet doors.

   Construction of walls and roof shall be of wood frame with exterior and interior finishes to match existing. Provide new slab on grade and wood parquet finish floor.
4. Existing bath: Renovate existing bathroom to provide new tub, water closet, lavatory and trim; new accessories; new ceramic tile, wainscot 6'-6 high at tub Other walls to have vinyl wall covering floor to ceiling. Install new sheet vinyl floor. Construct new linen closet off bath with painted wood shelves and new 2'-0 x 6'-8 wood door.
5. Closets: Construct new coat closet at entry with 2'-0 x 6'-8 wood door, shelf and metal rod. Rearrange closets at BR-1 and 2 to provide more space. Install new pair 2'-6 x 6'-8 wood doors, shelf and metal rod for each new closet.

c. Interior - Second Floor

1. New bedroom: Construct new dormer between existing dormers to convert existing attic storage space into 5th bedroom, 11 x 8.5 feet and new closet, 2 x 4 feet, with 2'-6 x 6'-8 wood door. Interior wall and floor finishes to match existing.
2. Install new vinyl wall covering on existing bathroom walls.

d. Mechanical

1. Same as One Story Cape Cod.
2. Same as One Story Cape Cod.

e. Electrical

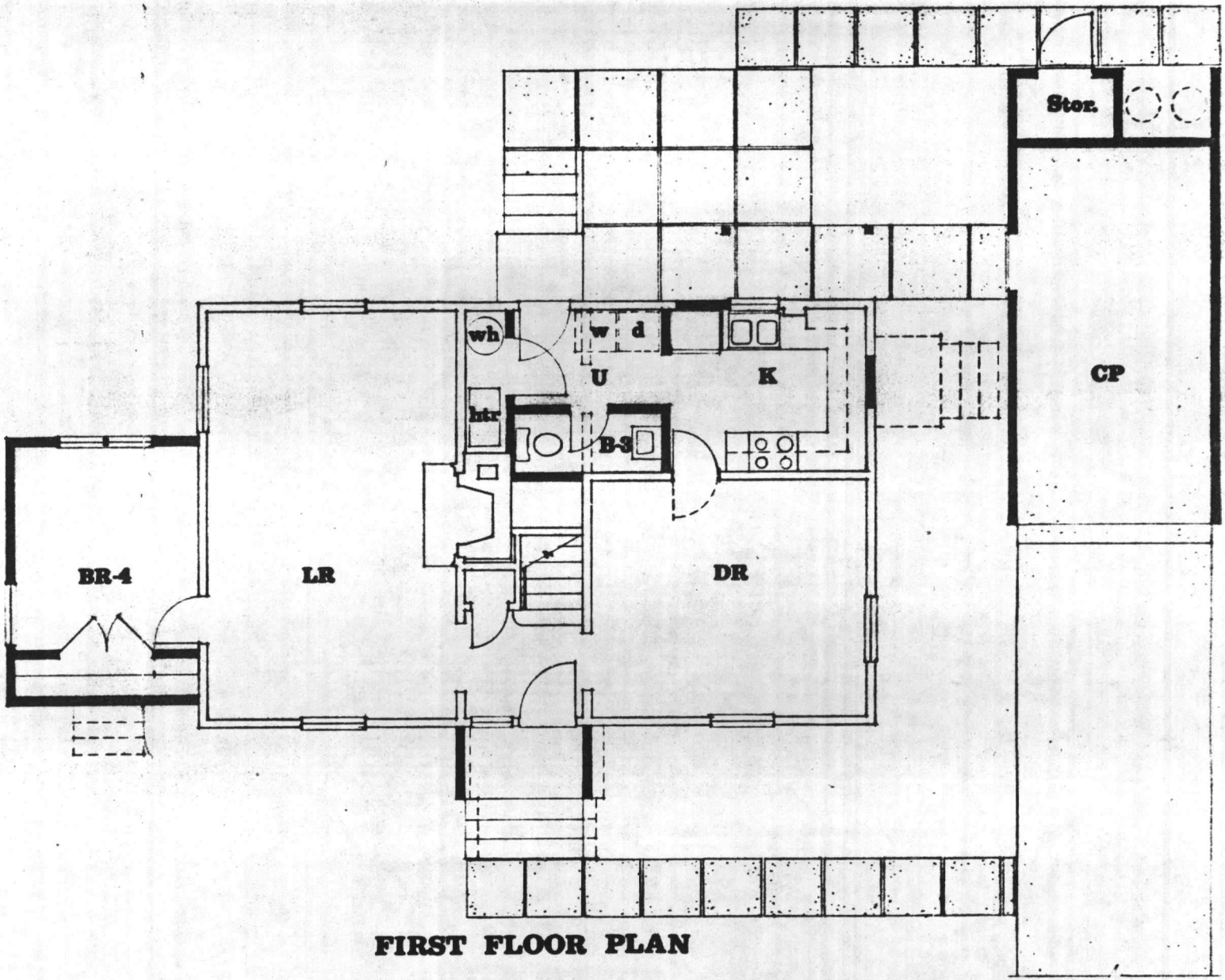
1. Same as One Story
2. Outlets and fixtures:
   a. Add 3 outlets to BR-3
   b. Add 4 outlets to renovated kitchen/utility area.
   c. Add 1 new entrance fixture
   d. Add 2 new fixtures to carport/storage area.
   e. Add 1 new fixture/outlet to renovated bath.
   f. Add 3 new outlets to 5th bedroom.

AREA COMPARISON TABLE

PARADISE POINT AREA

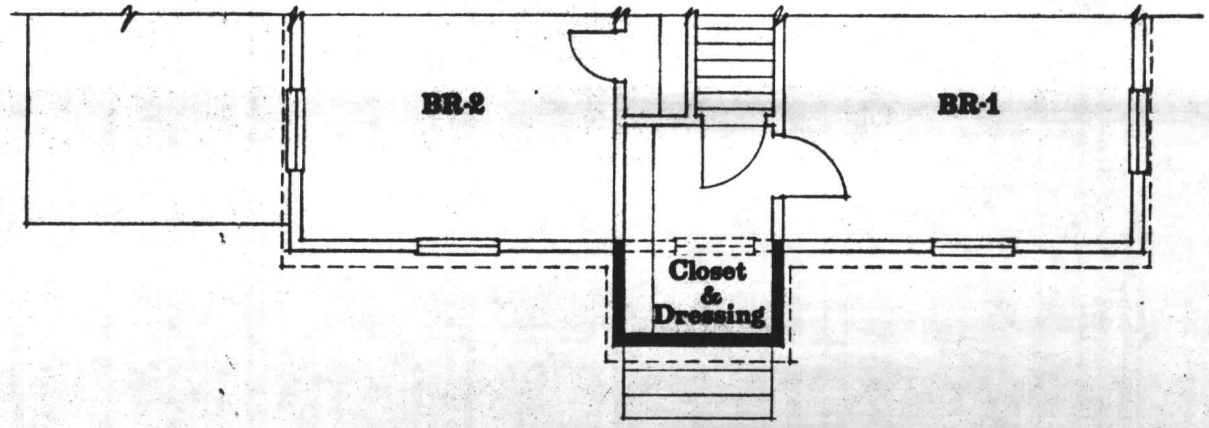
UNIT TYPE: TWO STORY CAPE COD; TYPE CGO-5BR-1

Category		Design Criteria	Existing Area	Proposed Area
Net Area		1400 SF (MAX)	1133 SF	1347 SF
Living Room			215 SF	215 SF
Dining Room			76 SF	76 SF
Kitchen			133 SF	108 SF
	Wall Cab.	24 SF		31 SF
	Base Cab.	32 SF		36 SF
	Counter	12 SF		18 SF
	Drawers	14 SF		18 SF
Utility Room				40 SF
Bedrooms	1	155 SF 8 LF CLO.	150 SF 4.5 LF CLO	150 SF 5.5 LF CLO.
	2	130 SF 6 LF CLO.	150 SF 4.5 LF CLO	150 SF 5.5 LF CLO
	3	105 SF 4 LF CLO.	140 SF 4 LF CLO	140 SF 4 LF CLO
	4	90 SF + 3 LF CLO.	-0-	92 SF + 6 LF CLO
	5	90 SF + 3 LF CLO.	-0-	95 SF + 4 LF CLO.
Bath		2	2	2
Linen		3 LF	2 LF	
Bulk Storage		60-100 SF comb. interior & exterior	none exterior 56 SF interior	20 SF exterior

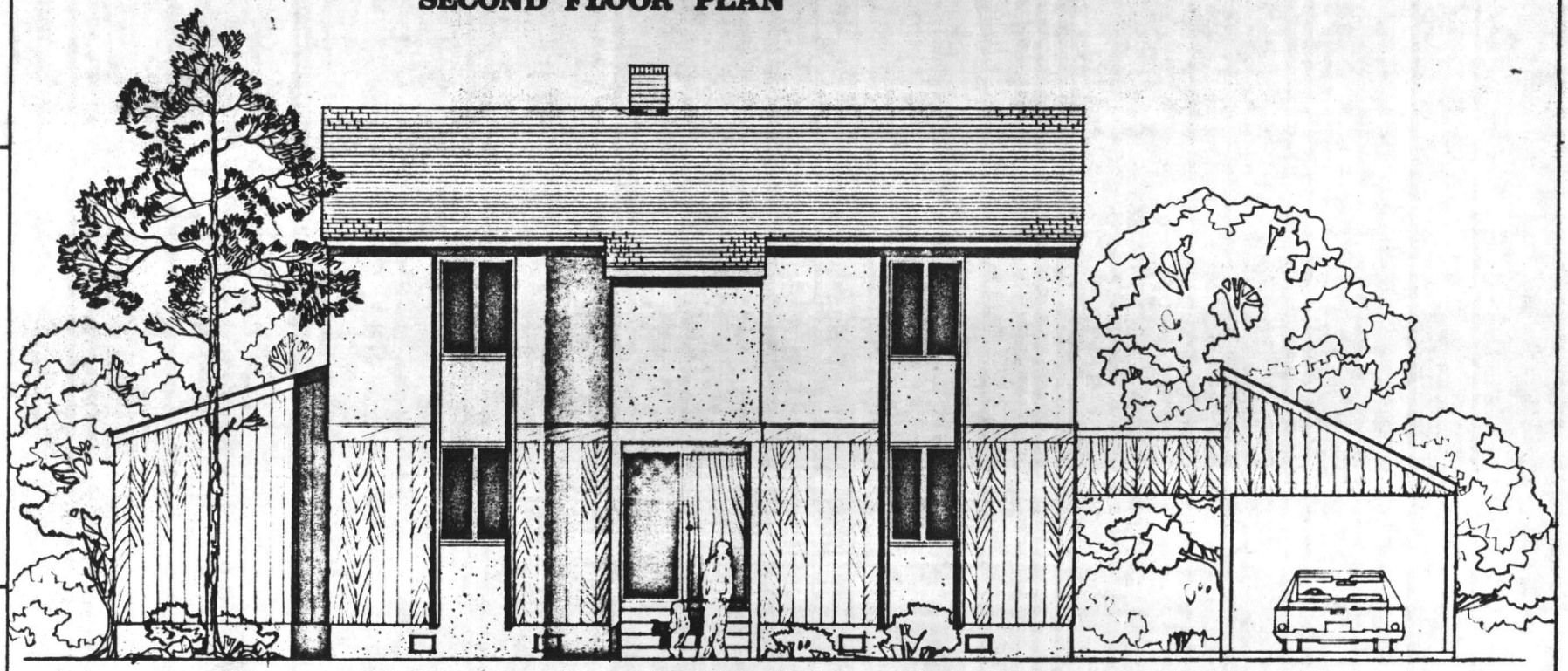


FIRST FLOOR PLAN

FGO·4BR·1



SECOND FLOOR PLAN



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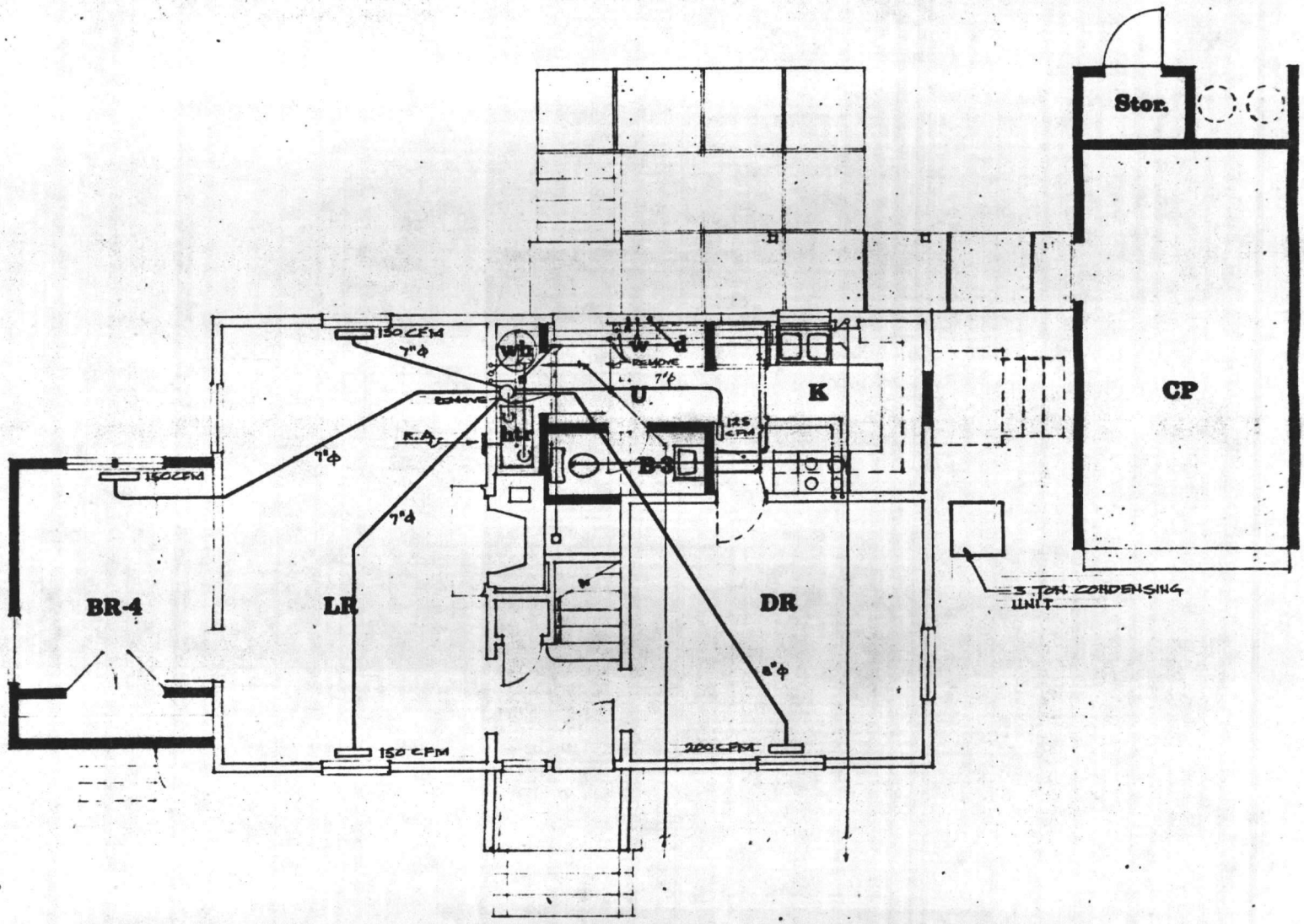
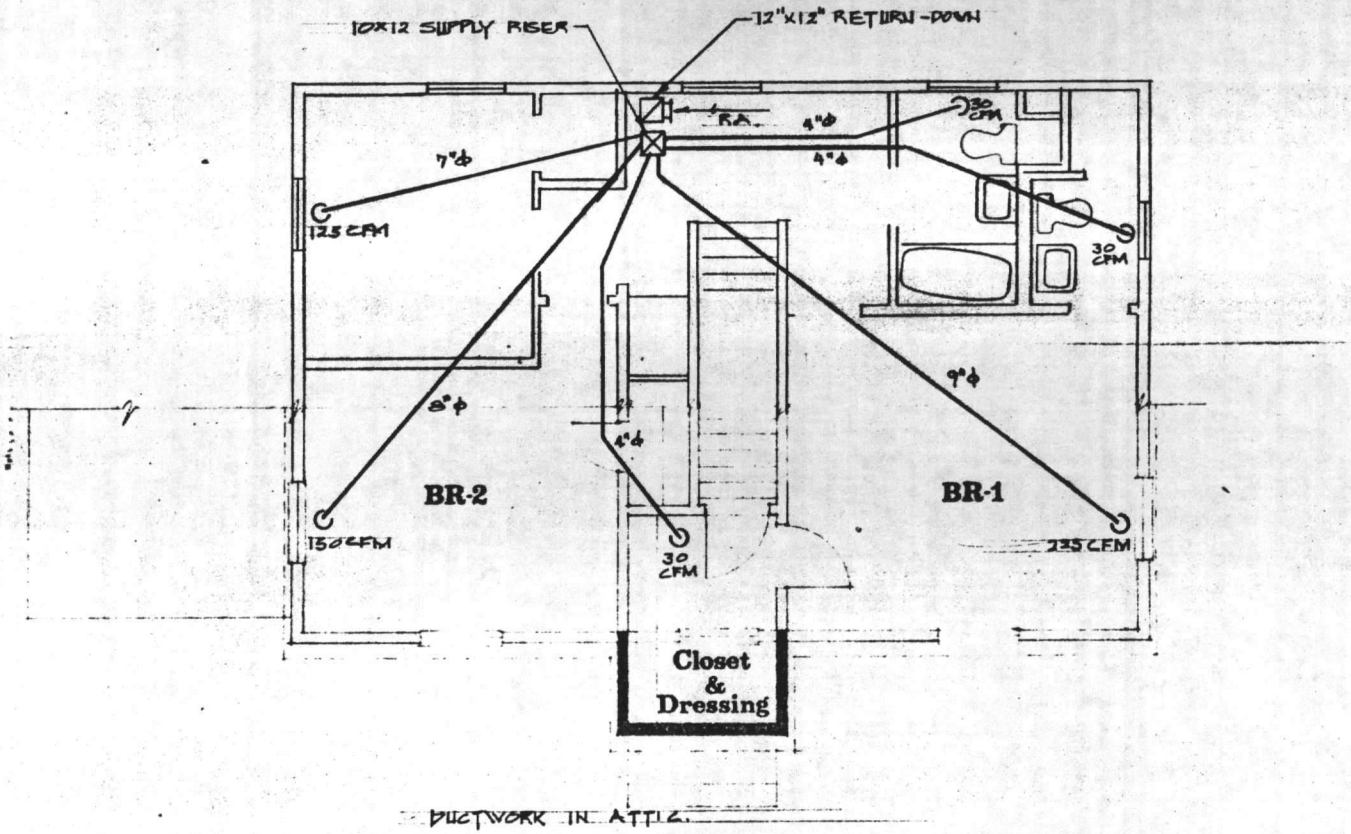


FIRST FLOOR PLAN

FGO·4BR·1



SECOND FLOOR PLAN

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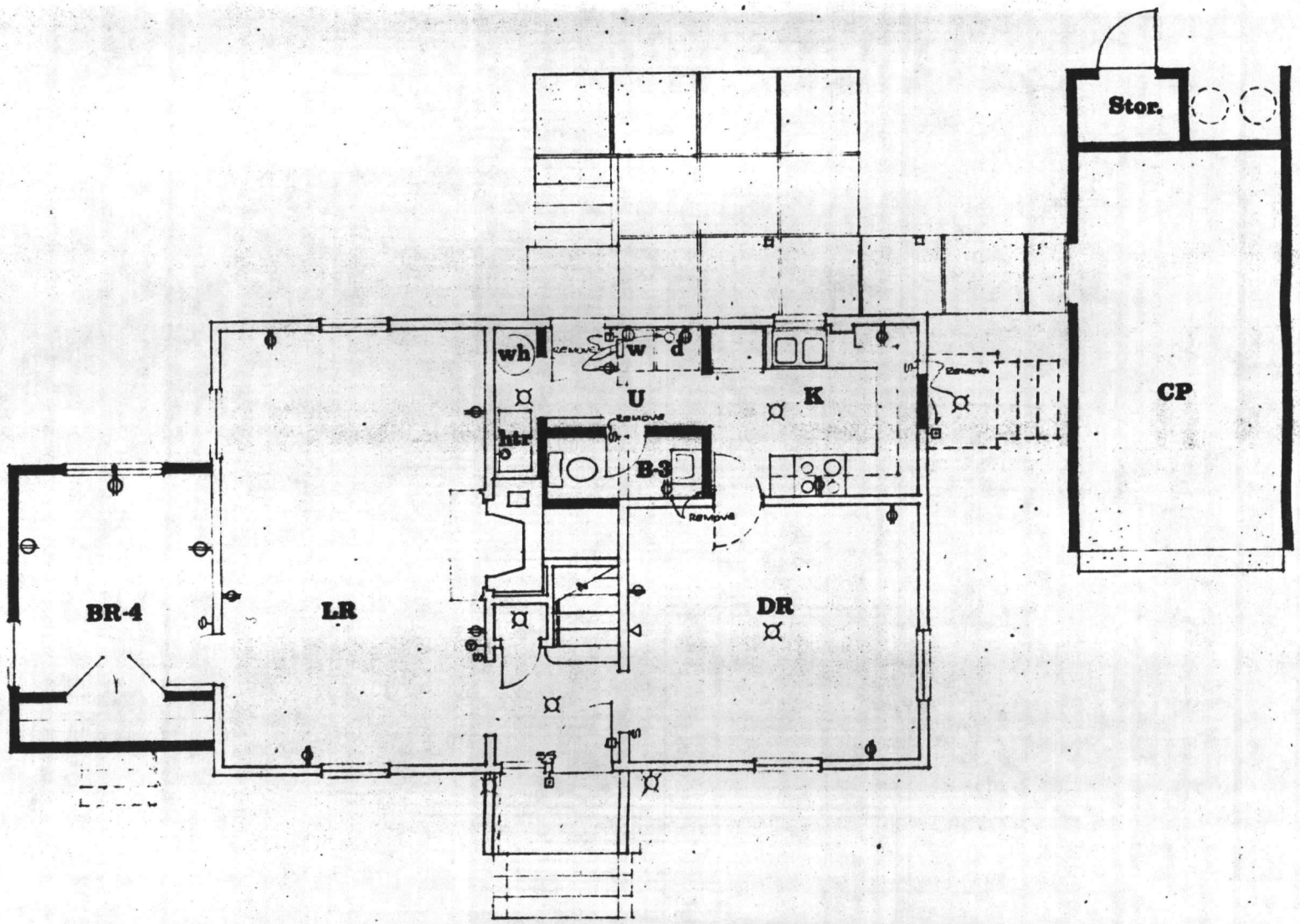

FIRST FLOOR PLAN

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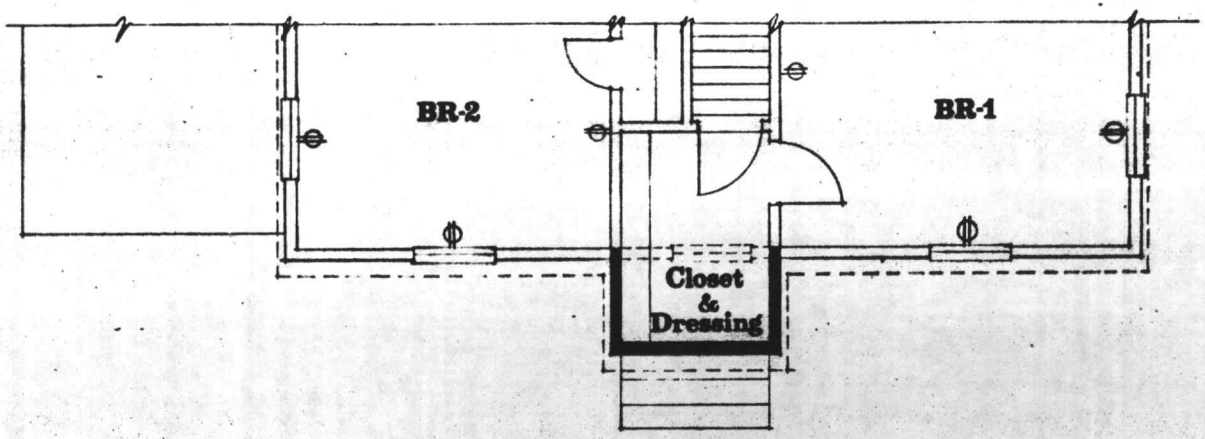

SECOND FLOOR PLAN

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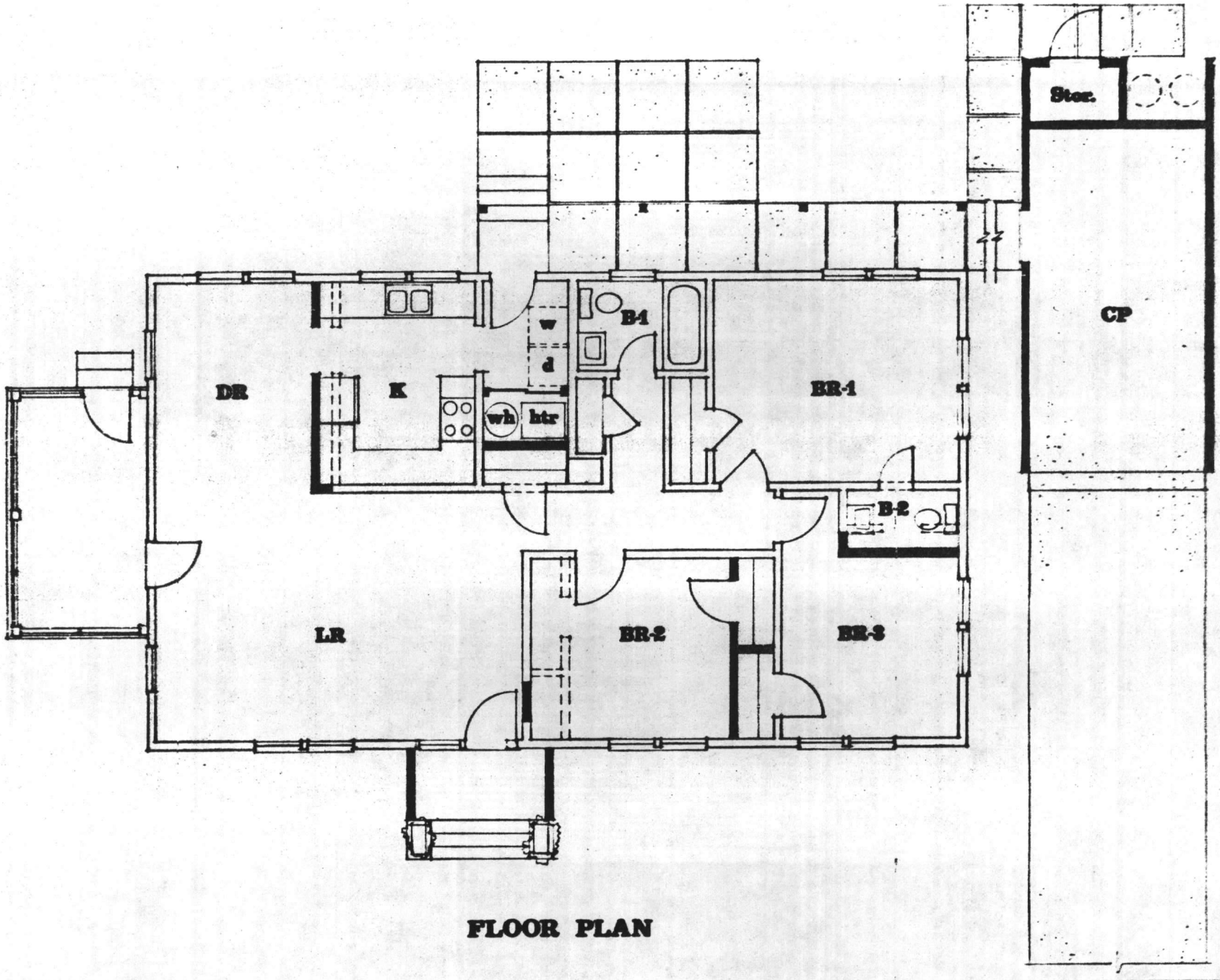


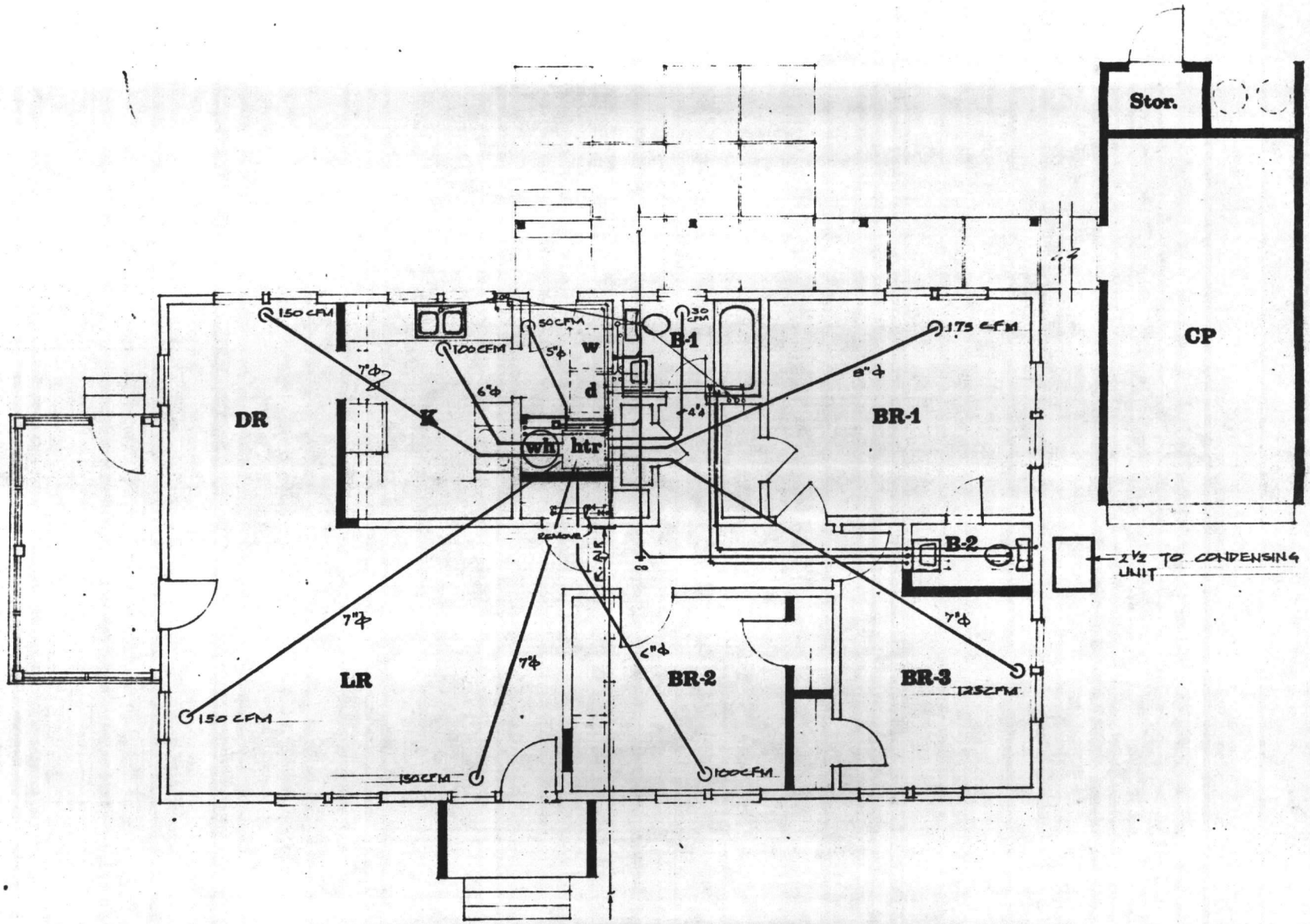
FLOOR PLAN

CGO·3BR·1

FRONT ELEVATION

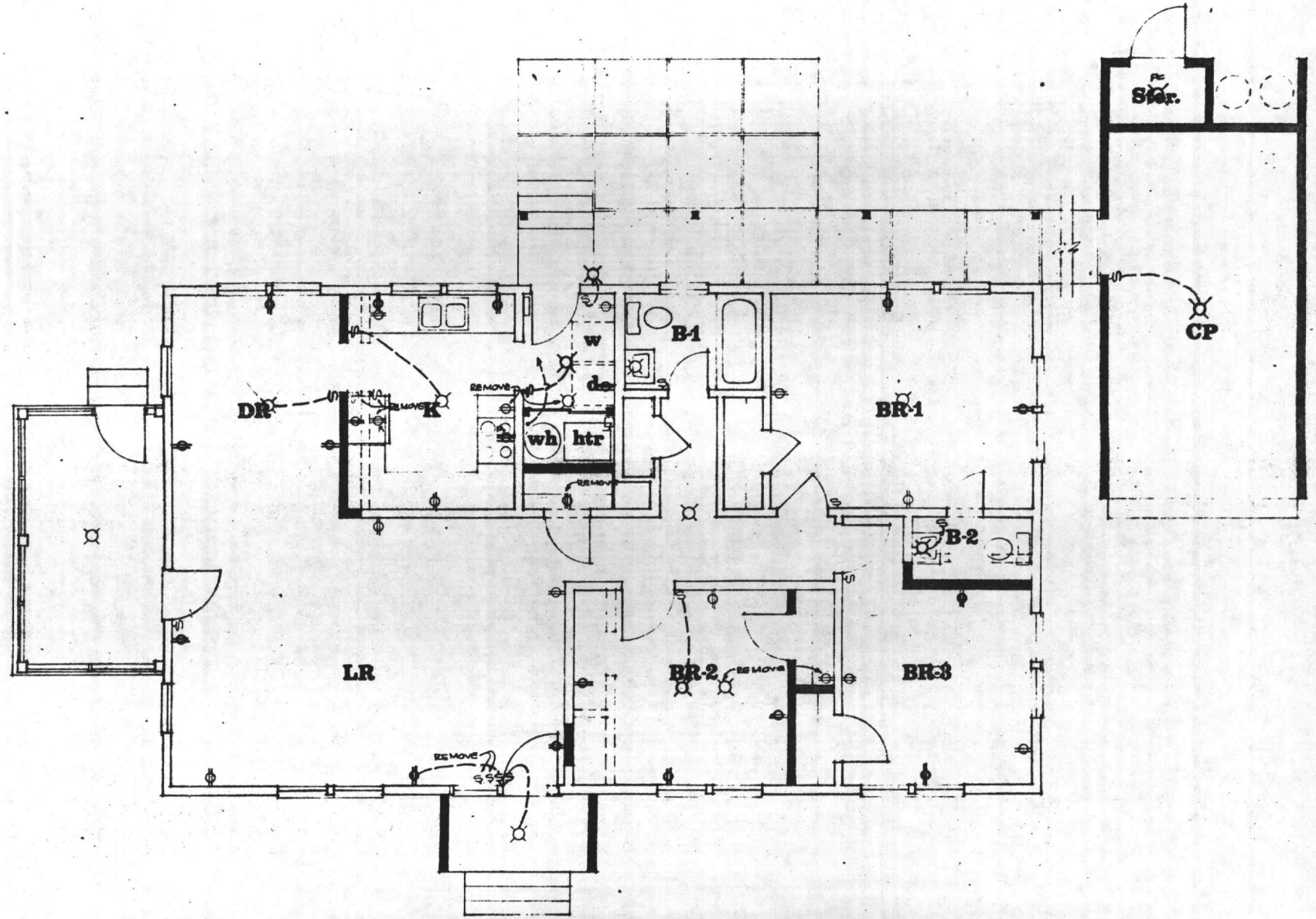
CGO·3BR·1

CGO·3BR·1



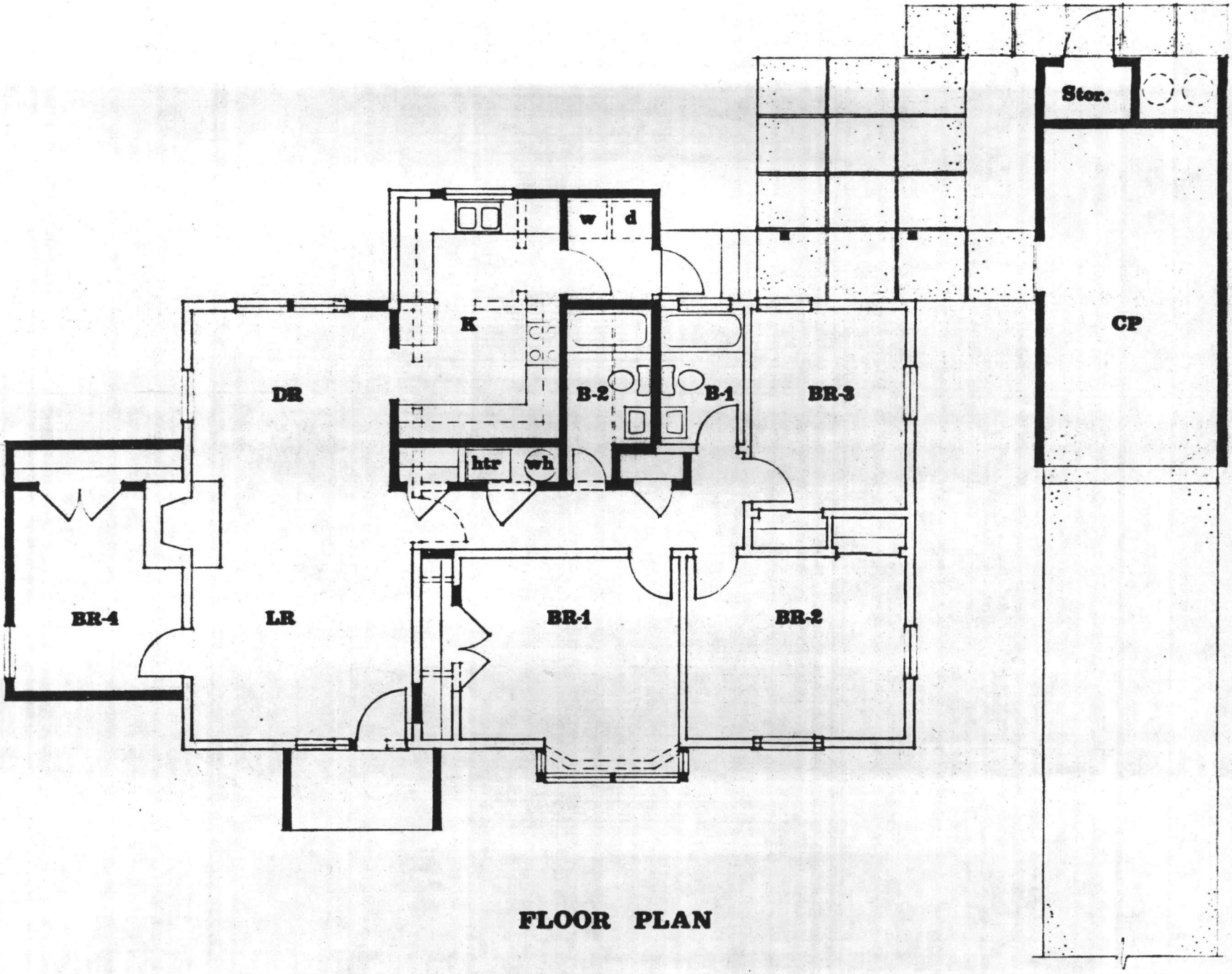
DUCTWORK IN ATTIC SPACE

FLOOR PLAN



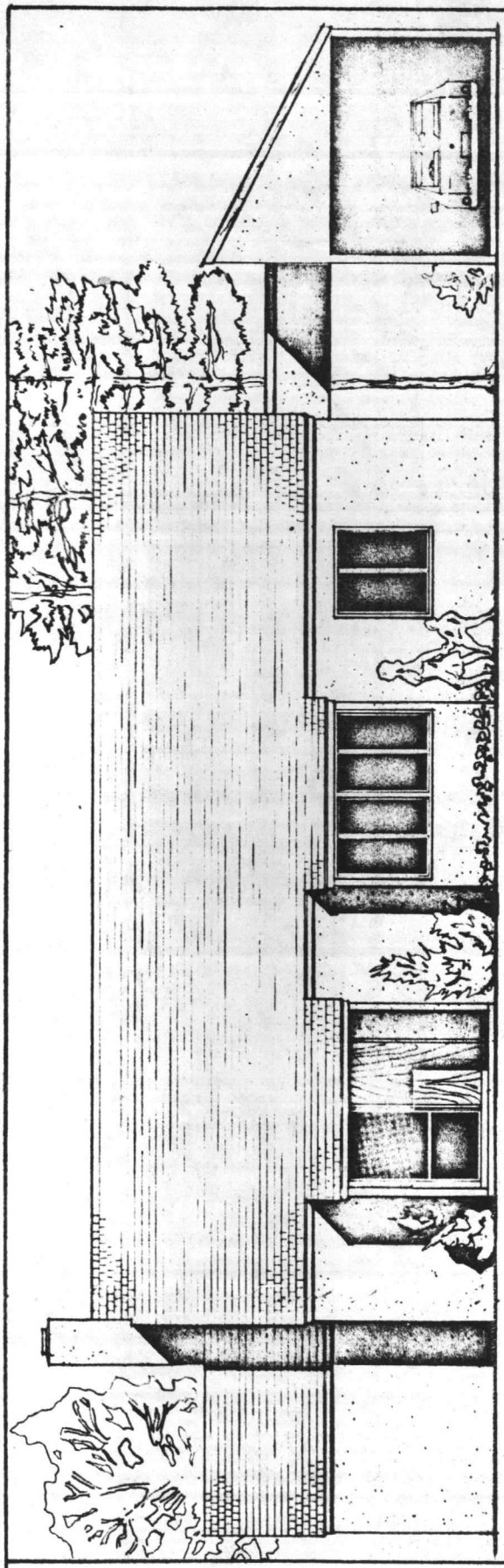
FLOOR PLAN

CGO·3BR·1



FLOOR PLAN

CGO·4BR·1



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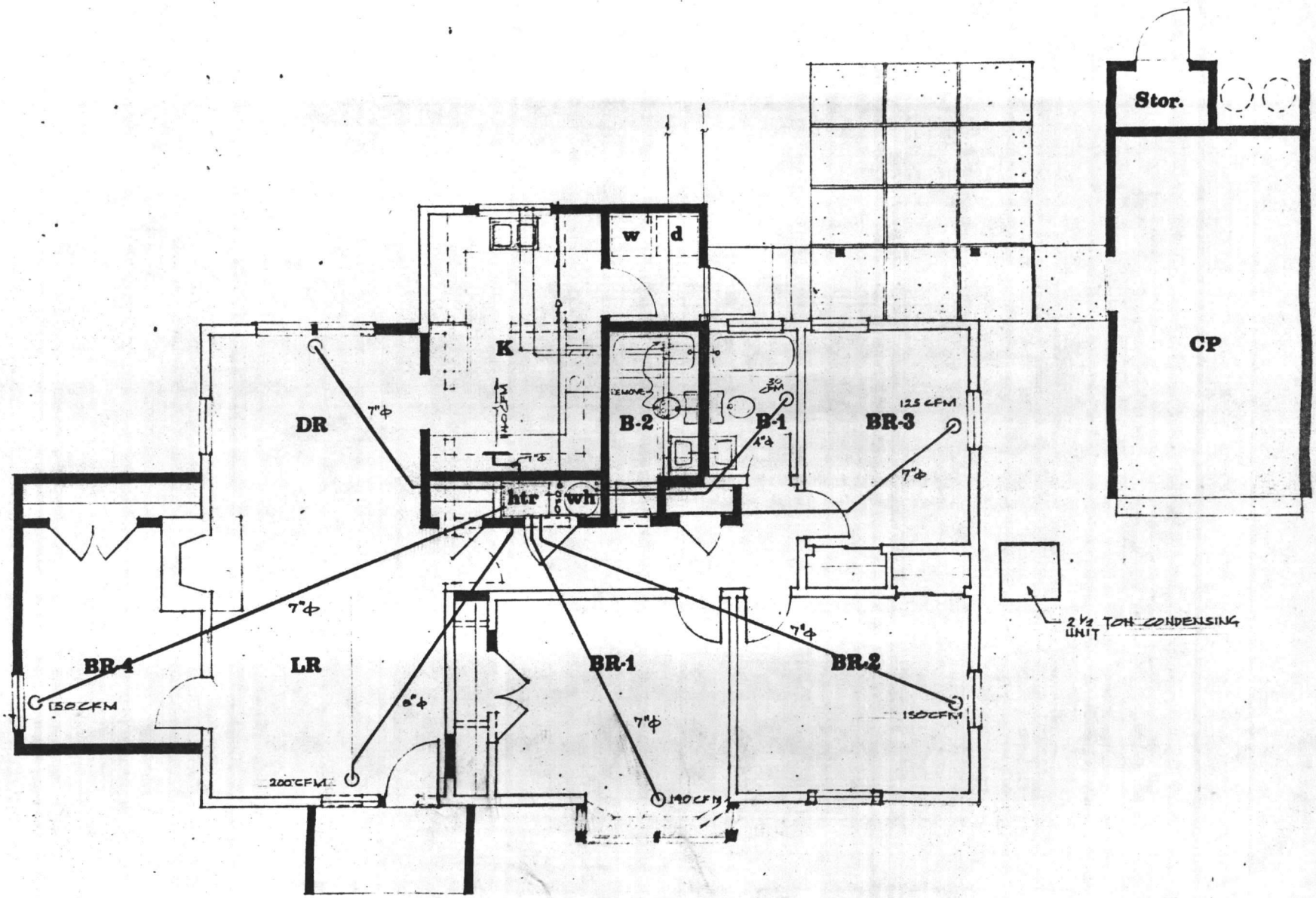
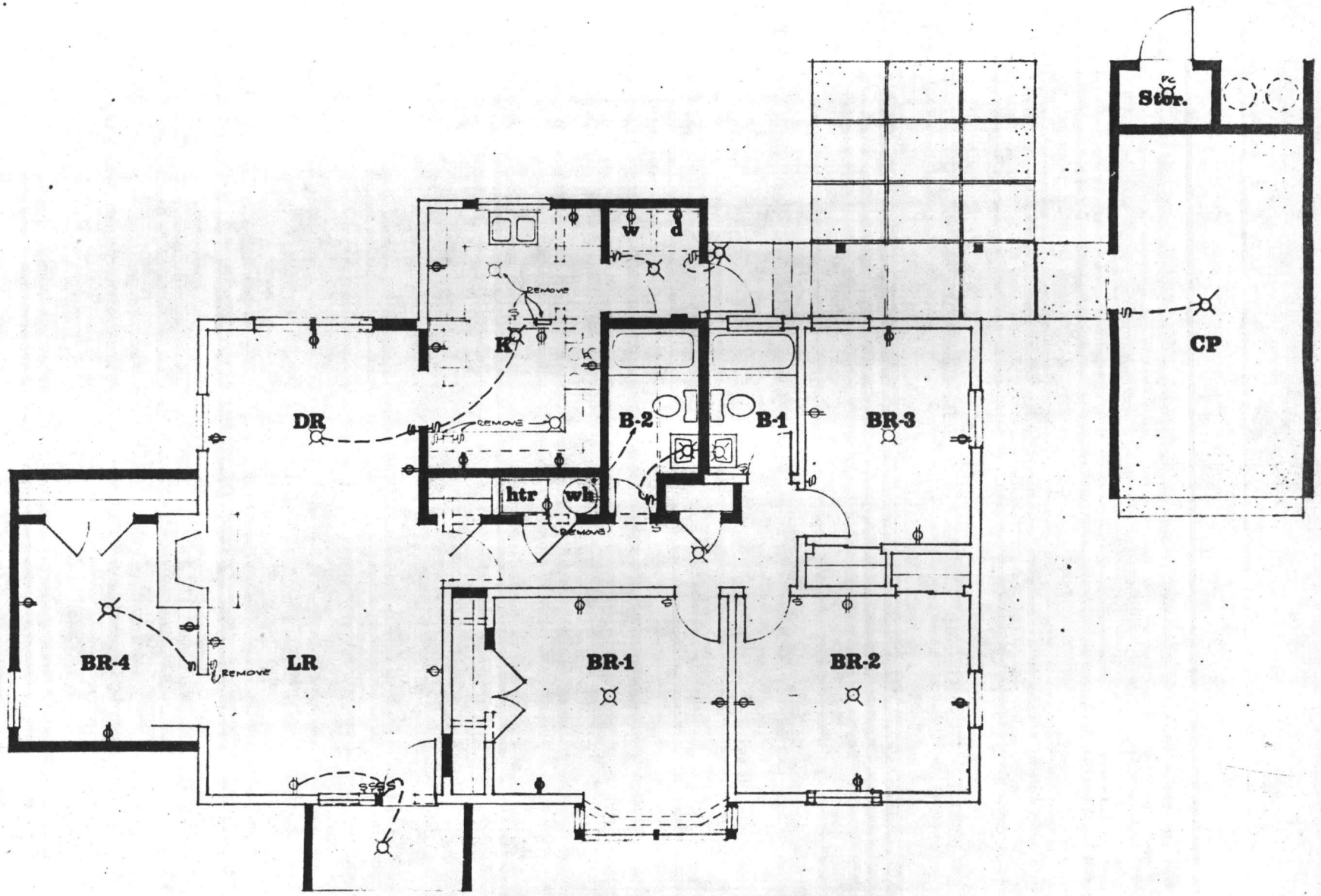


DUCTWORK IN ATTIC SPACE

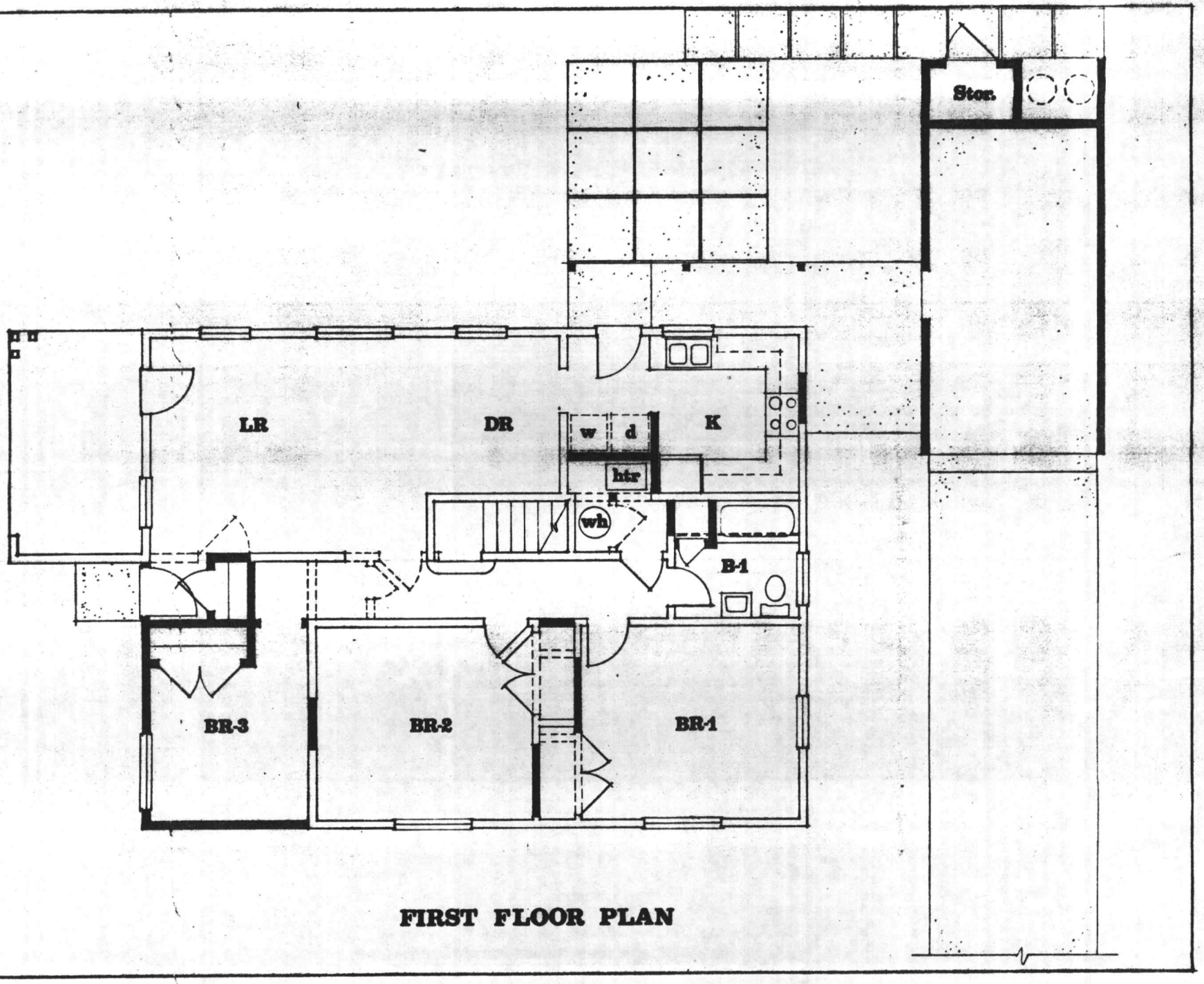
FLOOR PLAN

CGO·4BR·1



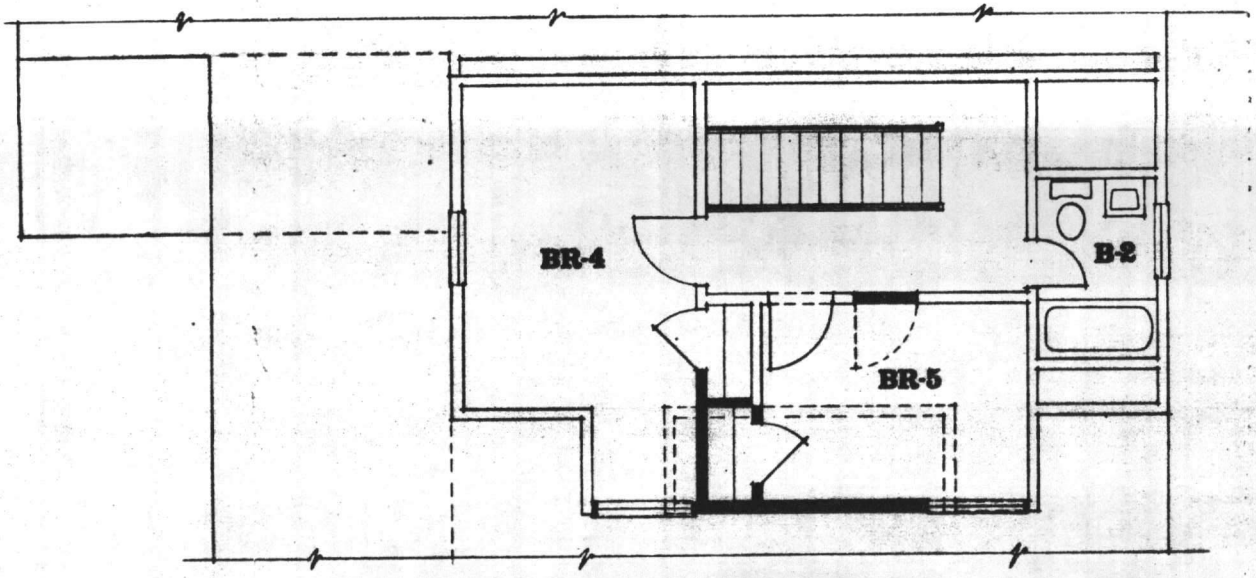
FLOOR PLAN

CGO·4BR·1

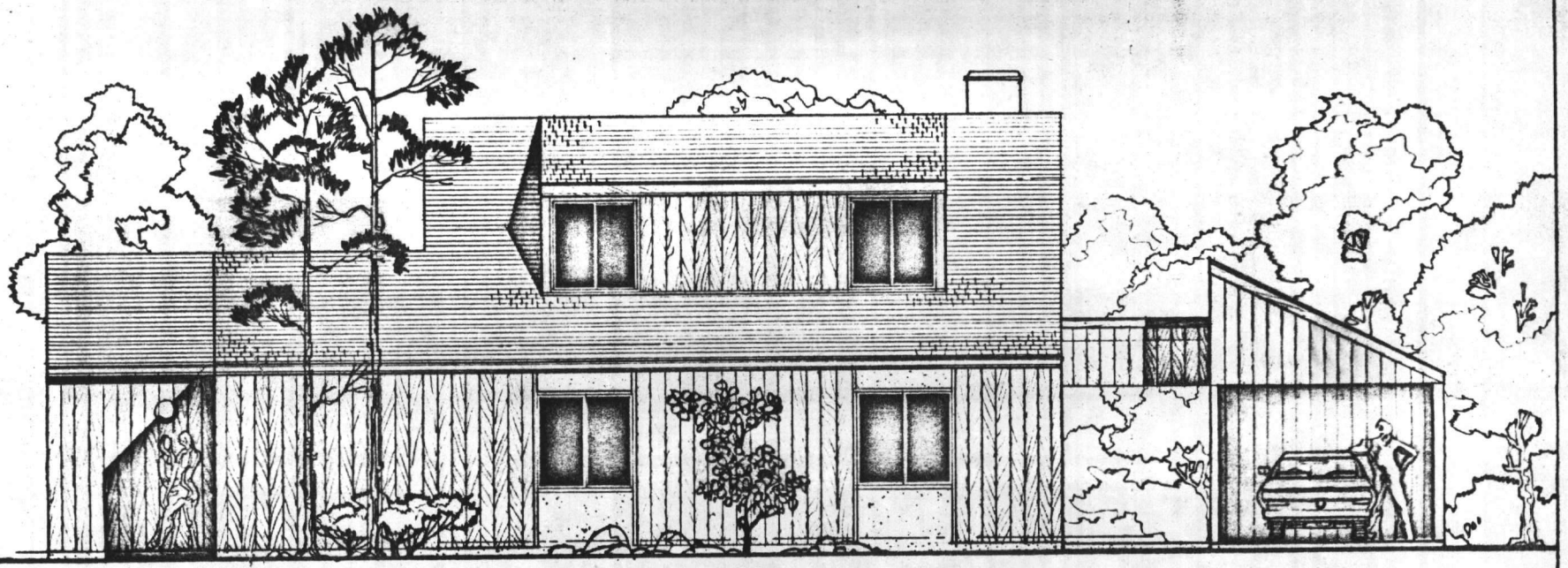


FIRST FLOOR PLAN

CGO·5BR·1

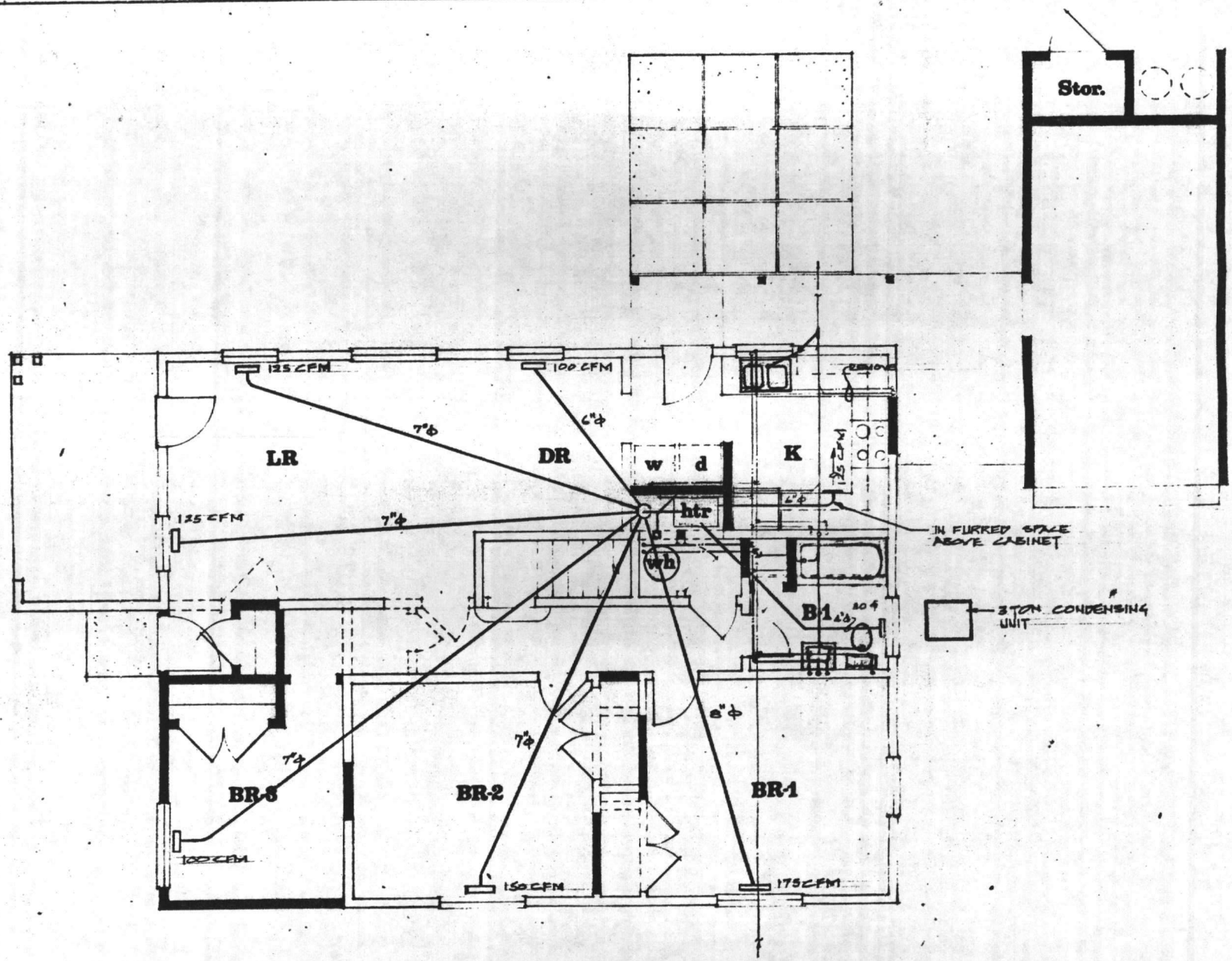


SECOND FLOOR PLAN



FRONT ELEVATION

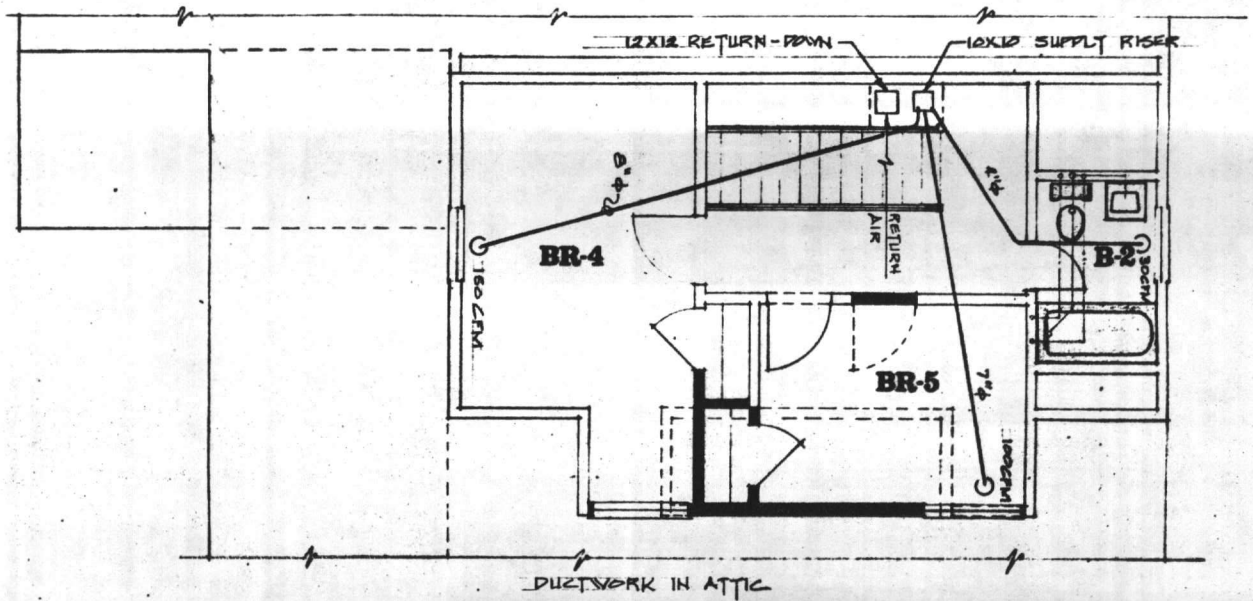
CGO·5BR·1



ALL DUCTWORK IN CRAWL SPACE

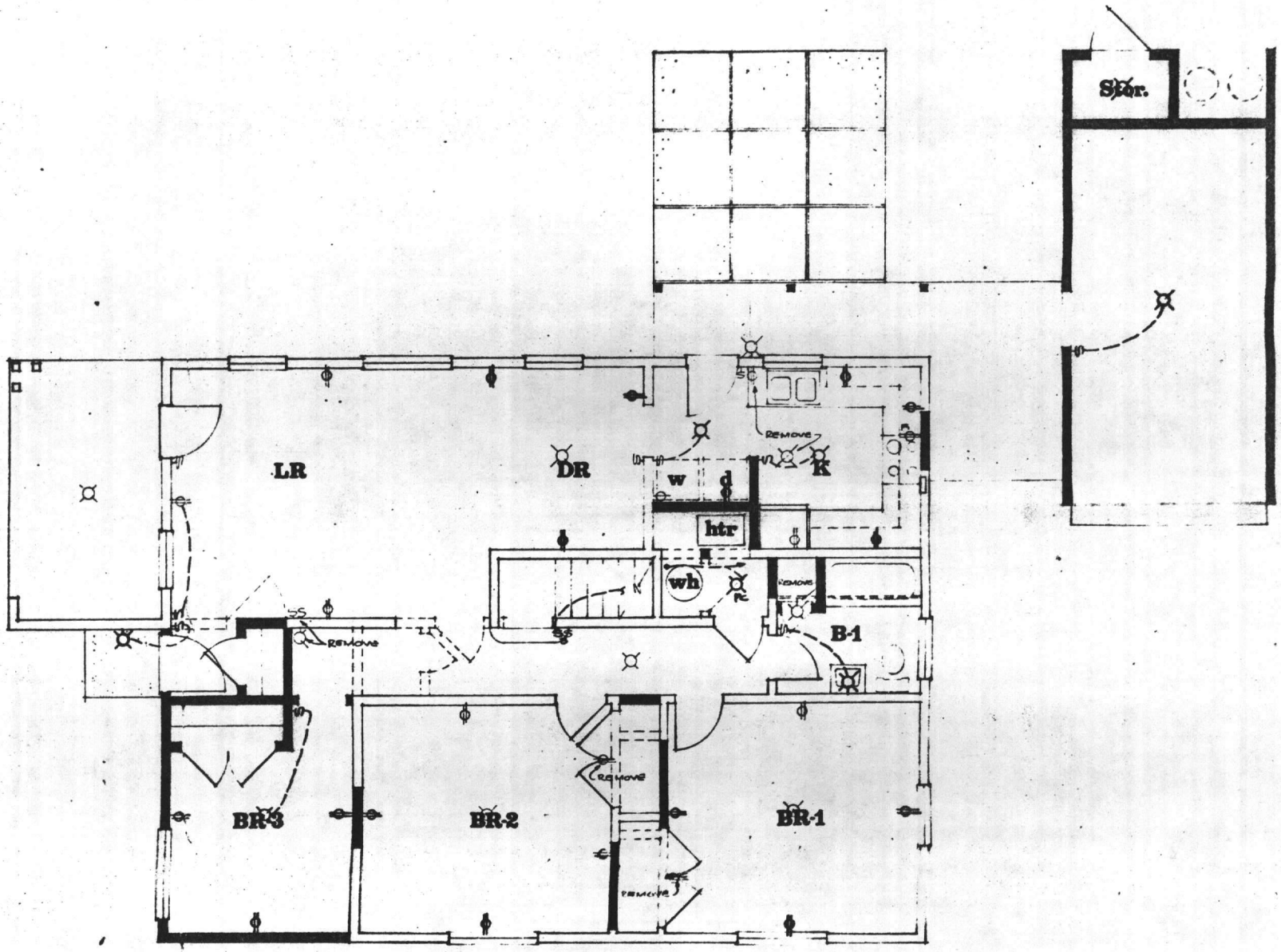
FIRST FLOOR PLAN

CGO·5BR·1



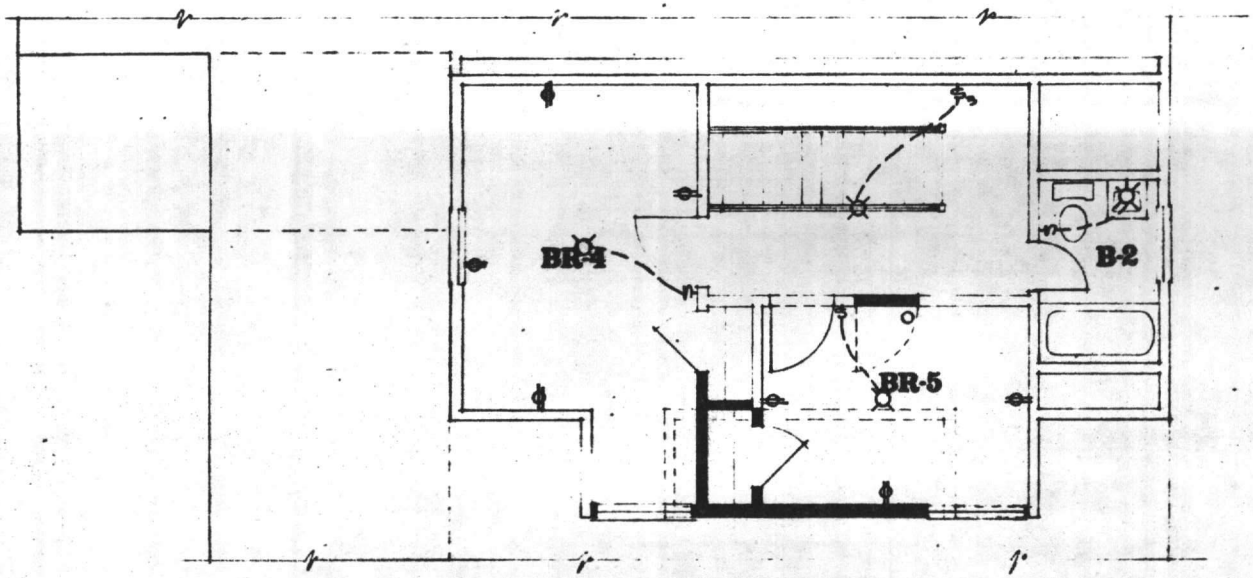
SECOND FLOOR PLAN

CGO·5BR·1



FIRST FLOOR PLAN

CGO·5BR·1



SECOND FLOOR PLAN

CGO·5BR·1

COST ESTIMATING FORM
NAVDOCKS 2417 (REV. 5-63)

0105 01 3800

SHEET 1 OF 4

IDENTIFICATION NUMBER

AREA OF USE | ACTIVITY: FAMILY HOUSING | LOCATION: CAMP LEJEUNE, NC | CATEGORY CODE NUMBER

PROJECT (Or line item) TITLE

PARADISE POINT AREA
TWO STORY W/O GARAGE; TYPE FGO-4BR-1

ITEM (OR FEATURE) DESCRIPTION (Abbreviate if necessary)	QUANTITIES		MATERIAL COSTS		LABOR COSTS		ENGINEERING ESTIMATE	
	NO. OF UNITS	UNIT	UNIT COST	COST	UNIT COST	COST	UNIT COST	COST
1	2	3	4	5	6	7	8	9
EXTERIOR IMPROVEMENTS								
A. CARPORT, STORAGE & COVERED WALK								
1. slab	275	SF					.75	206.
2. walls	495	SF					2.—	990.
3. Rf & framing	275	SF					2.—	550.
4. covered walk	80	SF					5.—	400.
SUB-TOTAL ITEM A.								1746.
B. DRIVEWAY								
1. paving	600	SF					.75	450.
SUB-TOTAL ITEM B.								450.
C. PATIOS & WALKS								
1. paving	275	SF					1.—	275.
SUB-TOTAL ITEM C.								275.
D. NEW EXTERIOR								
1. Replace siding	1810	SF					1.20	2172.
2. Front entrance	1	ea.					230.	230.
3. Storm doors	2	ea.					70.	140.

PREPARED BY (Name) | APPROVED BY | TITLE OR ORGANIZATION | DATE

COST ESTIMATING FORM
NAVDOCKS 2417 (REV. 5-63)
0105 013 3800

SHEET 2 OF 4

IDENTIFICATION NUMBER

AREA OR NC	ACTIVITY	LOCATION	CATEGORY CODE NUMBER

PROJECT (Or line item) TITLE

FGO-4BR-1

ITEM (OR FEATURE) DESCRIPTION (Abbreviate if necessary)	QUANTITIES		MATERIAL COSTS		LABOR COSTS		ENGINEERING ESTIMATE	
	NO. OF UNITS	UNIT	UNIT COST	COST	UNIT COST	COST	UNIT COST	COST
1	2	3	4	5	6	7	8	9
D. NEW EXTERIOR								
4. Windows	14	ea.					50.-	700.
SUB-TOTAL ITEM D								3242.
E. ENCLOSE PORCH FOR 4TH BEDRM.								
1. exterior walls	306	SF					2.50	765.-
2. finished area	140	SF					6.55	917.
3. Painting	684	SF					.21	140.
4. Windows	2	ea					50.-	100.
5. doors	2	ea					90.-	180.
SUB-TOTAL ITEM E								2102.
F. NEW ROOFING								
1. Main building Remove & Replace	1008	SF					1.-	1008.
SUB-TOTAL ITEM F								1008.
INTERIOR IMPROVEMENTS								
G. KITCHEN/UTILITY RM & HALF BATH								
1. Demolition	L/S						200.	200.

PREPARED BY (Name)	APPROVED BY	TITLE OR ORGANIZATION	DATE

COST ESTIMATING FORM
NAVDOCKS 2417 (REV. 5-63)

0105 01 3800

SHEET 3 OF 4

IDENTIFICATION NUMBER

AREA OR NO.	ACTIVITY	LOCATION	CATEGORY CODE NUMBER

PROJECT (or line item) TITLE

FGO-4BR-1

ITEM (OR FEATURE) DESCRIPTION (Abbreviate if necessary)	QUANTITIES		MATERIAL COSTS		LABOR COSTS		ENGINEERING ESTIMATE	
	NO. OF UNITS	UNIT	UNIT COST	COST	UNIT COST	COST	UNIT COST	COST
1	2	3	4	5	6	7	8	9
2. partitions	24	LF					10.	240.
3. flooring	168	SF					1.	168.
4. Kitchen cabnts. & counter	LS						950.	950.
5. DOORS & hdwr.	2	ea					90.	180.
SUB-TOTAL ITEM G								1738.
H. CLOSET EXPANSION								
1. finished area	32	SF					6.55	210.
SUB-TOTAL ITEM H								210.
I. MECHANICAL								
1. Remove existing boiler & convectors	LS						500.	500.
2. New furnace, ducts & controls	LS						2500.	2500.
SUB-TOTAL ITEM I								3000.
J. PLUMBING								
1. Bath (2 fixtures)	2	ea					350.	700.
2. Water heater	1	ea.					250	250.

PREPARED BY (Name)	APPROVED BY	TITLE OR ORGANIZATION	DATE

COST ESTIMATING FORM
NAVDOCKS 2417 (REV. 5-63)

0105 01 3800

SHEET 4 OF 4

IDENTIFICATION NUMBER

AREA OR NC | ACTIVITY | LOCATION | CATEGORY CODE NUMBER

PROJECT (Or line item) TITLE

FGO-4BR-1

ITEM (OR FEATURE) DESCRIPTION (Abbreviate if necessary)	QUANTITIES		MATERIAL COSTS		LABOR COSTS		ENGINEERING ESTIMATE	
	NO. OF UNITS	UNIT	UNIT COST	COST	UNIT COST	COST	UNIT COST	COST
1	2	3	4	5	6	7	8	9
3. Hookup	LS						150.	150.
SUB-TOTAL ITEM J								1100.
H. ELECTRICAL								
1. 200A panel	1	ea.					300.	300.
2. fixture allowance	LS						200.	200.
3. add/relocate outlets	16	ea.					25.	400.
SUB-TOTAL ITEM H								900.
SUB-TOTAL FGO-4BR-1								15,771.
10% CONTINGENCY								1577.
TOTAL PER HOUSE								17,348.
X 40 HOUSES			(40 X 17,348)					693,924.

PREPARED BY (Name) | APPROVED BY | TITLE OR ORGANIZATION | DATE

COST ESTIMATING FORM
NAVDOCKS 2417 (REV. 5-63)
0105 011 3800

SHEET 1 OF 3

IDENTIFICATION NUMBER

AREA OR NO	ACTIVITY	LOCATION	CATEGORY CODE NUMBER
	FAMILY HOUSING	CAMP LEJEUNE NC	

PROJECT (Or Line Item) TITLE

PARADISE POINT AREA
CRACKER BOX; TYPE CGO-3BR-1

ITEM (OR FEATURE) DESCRIPTION (Abbreviate if necessary)	QUANTITIES		MATERIAL COSTS		LABOR COSTS		ENGINEERING ESTIMATE	
	NO. OF UNITS	UNIT	UNIT COST	COST	UNIT COST	COST	UNIT COST	COST
1	2	3	4	5	6	7	8	9
EXTERIOR IMPROVEMENTS								
A. CARPORT, STORAGE & COVERED WALK								1746.
B. DRIVEWAY								450.
C. PATIOS & WALKS								275.
D. NEW EXTERIOR								
1. Replace siding	1287	SF					1.20	
2. Front entrance	1	ea					230.-	230.
3. Storm doors	2	ea					70.-	140.
4. Windows	11	ea					50.	550.
SUB-TOTAL ITEM D								920.
E. ROOFING								
1. Main building Remove & Replace	1805	SF					1.-	1805.
SUB-TOTAL ITEM E								1805.
F. GLAZE PORCH								
1. Remove screen	LS						100.-	100.
2. Glazing	216	SF					3.50	756.
3. Door	1	ea					90.-	90.
SUB-TOTAL ITEM F								946.

PREPARED BY (Name)	APPROVED BY	TITLE OR ORGANIZATION	DATE

COST ESTIMATING FORM
NAVDOCKS 2417 (REV. 5-63)
0105 01 3800

IDENTIFICATION NUMBER

AREA OR SE	ACTIVITY	LOCATION	CATEGORY CODE NUMBER

PROJECT (Or line item) TITLE

CGO-3BR-1

ITEM (OR FEATURE) DESCRIPTION (Abbreviate if necessary)	QUANTITIES		MATERIAL COSTS		LABOR COSTS		ENGINEERING ESTIMATE	
	NO. OF UNITS	UNIT	UNIT COST	COST	UNIT COST	COST	UNIT COST	COST
1	2	3	4	5	6	7	8	9
INTERIOR IMPROVEMENTS								
G. KITCHEN/UTILITY								
1. Demolition	LS						250.	250.
2. Partitions	23	LF					10.-	230.
3. Flooring	58	SF					1.-	58.
4 Cab. & counter	LS						1100	1100.
SUB-TOTAL ITEM G								1827.
H. NEW BATH								
1. Partitions	8	LF					10.-	80.
2. Flooring	23	SF					1.-	23.
3. Door & Hardwr.	1	ea					90.-	90.
4. Wallcovering	168	SF					.30	50.
SUB-TOTAL ITEM H								243.
I. OTHER INTERIOR RENOVATIONS								
1. Partitions	22	LF					10.	220.
2. Doors & Hardwr.	3	ea					90.-	270.
3. Painting	LS						400.	400.
SUB-TOTAL ITEM I								890.

PREPARED BY (Name)	APPROVED BY	TITLE OR ORGANIZATION	DATE

COST ESTIMATING FORM
NAVDOCKS 2417 (REV. 5-63)

0105 011 3800

SHEET 3 OF 3

IDENTIFICATION NUMBER

AREA OR NO	ACTIVITY	LOCATION	CATEGORY CODE NUMBER

PROJECT (Or line item) TITLE

CGO-3BR-1

ITEM (OR FEATURE) DESCRIPTION (Abbreviate if necessary)	QUANTITIES		MATERIAL COSTS		LABOR COSTS		ENGINEERING ESTIMATE	
	NO. OF UNITS	UNIT	UNIT COST	COST	UNIT COST	COST	UNIT COST	COST
1	2	3	4	5	6	7	8	9
J. MECHANICAL								
1. Remove existing boiler & convectors	LS						350.	350.
2. New furnace, ducts & controls	LS						1500.	1500.
SUB-TOTAL ITEM J								1850.
K. PLUMBING								
1. Half bath (fixtures)	2	ea					350.	700.
2. Water heater	1	ea					250.	250.
3. Hook up	LS						150.	150.
SUB-TOTAL ITEM K								1100.
L. ELECTRICAL								
1. 200 A panel	1	ea					300.	300.
2. Fixtures	LS						150.	150.
3. Outlets	7	ea					25.	175.
SUB-TOTAL ITEM L								625.
SUB-TOTAL TYPE CGO-3BR-1								12,677.
10% CONTINGENCY								1268.
TOTAL PER HOUSE								13,945.
X 100 HOUSES (13,945. X 100)								1,394,500.

PREPARED BY (Name)	APPROVED BY	TITLE OR ORGANIZATION	DATE

COST ESTIMATING FORM
NAVDOCKS 2417 (REV. 5-63)

0105 01 3800

SHEET 1 OF 3

IDENTIFICATION NUMBER

AREA OR NO.

ACTIVITY: FAMILY HOUSING

LOCATION: CAMP LEJEUNE NC

CATEGORY CODE NUMBER

PROJECT (Or line item) TITLE

PARADISE POINT AREA
1 STORY CAPE COD; TYPE CGO-4BR-1

ITEM (OR FEATURE) DESCRIPTION (Abbreviate if necessary)	QUANTITIES		MATERIAL COSTS		LABOR COSTS		ENGINEERING ESTIMATE	
	NO. OF UNITS	UNIT	UNIT COST	COST	UNIT COST	COST	UNIT COST	COST
1	2	3	4	5	6	7	8	9
EXTERIOR IMPROVEMENTS								
A. CARPORT, STORAGE & COVERED WALK								1746.
B. DRIVEWAY								450.
C. PATIOS & WALKS								275.
D. NEW EXTERIOR								
1. Replace siding	1774	SF					1.20	2128.
2. Front entrance	1	ea.					230.	230.
3. Storm doors	2	ea.					70.	140.
4. Windows	9	ea.					50.	450.
5. Bay window	1	ea.					550.	550.
SUB-TOTAL ITEM D								3498.
E. ENCLOSE PORCH FOR 4TH BEDRM								2102.
F. NEW ROOFING								
1. Main building remove & replace	1420	SF					1.-	1420.
SUB-TOTAL ITEM F								1420.
INTERIOR IMPROVEMENTS								
G. KITCHEN/UTILITY CLOSET & BATH								
1. Demolition	LS						300.	300.

PREPARED BY (Name)	APPROVED BY	TITLE OR ORGANIZATION	DATE

COST ESTIMATING FORM
NAVDOCKS 2417 (REV. 5-63)

0105 01 3800

IDENTIFICATION NUMBER

AREA OR NO. | ACTIVITY | LOCATION | CATEGORY CODE NUMBER

PROJECT (Or line item) TITLE

CGO-4BR-1

ITEM (OR FEATURE) DESCRIPTION (Abbreviate if necessary)	QUANTITIES		MATERIAL COSTS		LABOR COSTS		ENGINEERING ESTIMATE	
	NO. OF UNITS	UNIT	UNIT COST	COST	UNIT COST	COST	UNIT COST	COST
1	2	3	4	5	6	7	8	9
2. partitions	70	LF					10.	700.
3. flooring	155	SF					1.-	155.
4 Kitchen cabnts & counter	LS						1150.	1150.
5. Doors & hardwr	3	ea					90.	270.
SUB-TOTAL ITEM G								2435.
H. NEW BATHROOM & LINEN CLOSET								
1. Partitions	12	LF					10.	120.
2. flooring	30	SF					1.	30.
3. ceramic tile	50	SF					3.	150.
4. vinyl wall cover	144	SF					.30	43.
5. doors & hardwr.	2	ea.					90.-	180.
SUB-TOTAL ITEM H								523.
I. UTILITY ROOM								
1. Additional area	36	SF					18.-	648.
SUB-TOTAL ITEM I								648.
J. MECHANICAL								
1. Remove existing boiler & convectors	LS						350.	350.

PREPARED BY (Name) | APPROVED BY | TITLE OR ORGANIZATION | DATE

COST ESTIMATING FORM
NAVDOCKS 2417 (REV. 5-63)

0105 01 3800

SHEET 3 OF 3

IDENTIFICATION NUMBER

AREA OR NO.	ACTIVITY	LOCATION	CATEGORY CODE NUMBER

PROJECT (Or line item) TITLE

CGO-4BR-1

ITEM (OR FEATURE) DESCRIPTION (Abbreviate if necessary)	QUANTITIES		MATERIAL COSTS		LABOR COSTS		ENGINEERING ESTIMATE	
	NO. OF UNITS	UNIT	UNIT COST	COST	UNIT COST	COST	UNIT COST	COST
1	2	3	4	5	6	7	8	9
2. New furnace ducts & controls	LS						1750.	1750.
SUB-TOTAL ITEM J								2100.
K. PLUMBING								
1. New bath (3-fixt.)	3	ea					350.	1050.
2. Water heater	1	ea					250.	250.
3. Hookup	LS						150	150.
SUB-TOTAL ITEM K								1450.
L. ELECTRICAL								
1. 200 A panel	1	ea.					300.	300.
2. fixture allowance	LS						150.	150.
3. add/relocate outlets	11	ea					25.	275.
SUB-TOTAL ITEM L								725.
SUB-TOTAL TYPE CGO-4BR-1								17,372.
10% CONTINGENCY								1737.
TOTAL PER HOUSE								19,109.
X 43 HOUSES			(43 X 19,109)					821,695.

PREPARED BY (Name)	APPROVED BY	TITLE OR ORGANIZATION	DATE

COST ESTIMATING FORM
NAVDOCKS 2417 (REV. 5-63)

0105 01 3800

IDENTIFICATION NUMBER

AREA OR NO | ACTIVITY: FAMILY HOUSING | LOCATION: CAMP LEJEUNE NC | CATEGORY CODE NUMBER

PROJECT (or line item) TITLE

PARADISE POINT AREA
TWO STORY CAPE COD; TYPE CGO-5BR-1

ITEM (OR FEATURE) DESCRIPTION (Abbreviate if necessary)	QUANTITIES		MATERIAL COSTS		LABOR COSTS		ENGINEERING ESTIMATE	
	NO. OF UNITS	UNIT	UNIT COST	COST	UNIT COST	COST	UNIT COST	COST
1	2	3	4	5	6	7	8	9
EXTERIOR IMPROVEMENTS								
A. CARPORT, STORAGE & COVERED WALK								1746.
B. DRIVEWAY								450.
C. PATIOS & WALKS								275.
D. NEW EXTERIOR								
1. Remove siding	1360	SF					.20	272.
2. New siding	1190	SF					1.—	1190.
3. Windows	11	ea					50.—	550.
4. Entrance door	1	ea					120.	120.
5. Storm doors	2	ea					70.	140.
SUB-TOTAL ITEM D								2272.
E. ROOFING								
1. Main building Remove & replace	1320	SF					1.-	1320.
SUB-TOTAL ITEM E								1320.
F. ADDITIONAL LIVING AREAS								
1. First floor addition for 4th bedroom	160	SF					18.—	2880.
2. 2nd floor dormer for 5th bedroom	54	SF					18.—	972.
SUB-TOTAL ITEM F								3852.

PREPARED BY (Name) | APPROVED BY | TITLE OR ORGANIZATION | DATE

COST ESTIMATING FORM
NAVDOCKS 2417 (REV. 5-63)
0105 01 3600

SHEET 2 OF 3

IDENTIFICATION NUMBER

AREA OR NO.	ACTIVITY	LOCATION	CATEGORY CODE NUMBER

PROJECT (Or line item) TITLE

OGO-5BR-1

ITEM (OR FEATURE) DESCRIPTION (Abbreviate if necessary)	QUANTITIES		MATERIAL COSTS		LABOR COSTS		ENGINEERING ESTIMATE	
	NO. OF UNITS	UNIT	UNIT COST	COST	UNIT COST	COST	UNIT COST	COST
1	2	3	4	5	6	7	8	9
INTERIOR IMPROVEMENTS								
G. KITCHEN/UTILITY								
1. Demolition	LS						400.	400.
2. Partitions	10	LF					10.-	100.
3. flooring	75	SF					1.-	75.
4. cab. & counter	LS						1000.	1000.
5. doors & hardwr	1	ea					90.	90.
SUB-TOTAL ITEM G								1665.
H. RENOVATE EXISTING BATH								408.
I. OTHER INTERIOR RENOVATIONS								
1. Partitions	46	LF					10.-	460.
2. Doors & hardwr.	5	ea.					90.-	450.
3. Painting	LS						600.	600.
SUB-TOTAL ITEM I								1510.
J. MECHANICAL								
1. Remove existing boiler & convectors	LS						500.	500.
2. New furnace, ducts & controls	LS						2500.	2500.
SUB-TOTAL ITEM J								3000.

PREPARED BY (Name)	APPROVED BY	TITLE OF ORGANIZATION	DATE

COST ESTIMATING FORM
NAVDOCKS 2417 (REV. 5-63)

0105 01 3800

SHEET 3 OF 3

IDENTIFICATION NUMBER

AREA OR NO	ACTIVITY	LOCATION	CATEGORY CODE NUMBER

PROJECT (Or line item) TITLE

CGO-5BR-1

ITEM (OR FEATURE) DESCRIPTION (Abbreviate if necessary)	QUANTITIES		MATERIAL COSTS		LABOR COSTS		ENGINEERING ESTIMATE	
	NO. OF UNITS	UNIT	UNIT COST	COST	UNIT COST	COST	UNIT COST	COST
1	2	3	4	5	6	7	8	9
H. PLUMBING								
1. Bath fixtures	3	ea.					150.	450.
2. Water heater	1	ea.					250.	250.
3. Hookup	LS						150.	150.
SUB-TOTAL ITEM H								850.
I. ELECTRICAL								
1. 200 A panel	1	ea					300.	300.
2. Fixtures	LS						150.	150.
3. Outlets	10	ea					25.	250.
SUB TOTAL ITEM I								700.
SUB-TOTAL TYPE CGO-5BR-1								18,043.
10% CONTINGENCY								1804.
TOTAL PER HOUSE								19,847.
X 24 HOUSES			(			x 24)		476,328.

PREPARED BY (Name)	APPROVED BY	TITLE OR ORGANIZATION	DATE

PART III - TARAWA TERRACE I

A. EXISTING CONDITIONS

1. The types of NCO and EM family housing units considered in this Section of this study are located in TARAWA TERRACE, SECTION I on the base at Camp Lejeune, North Carolina. These housing units, completed in 1953, do not meet current minimum adequacy standards for military housing. The deficiencies are in net living area; kitchen, bath and storage facilities; fire separation; thermal and sound insulation; other amenities such as patios and air conditioning. The installation of central air conditioning equipment and supply duct work is currently under contract and is not included as part of this study excepting where modifications are required for compatability with recommendations contained herein.

2. The Area Comparison Table included with Requirements for each housing type, Part III, B of this study, indicate the areas of deficiency.

3. Latest Family Housing Surveys indicate a deficit of 4BR or more units and a large surplus of 3BR units in the NCO and EM categories. Refer to Recommended Improvements, Part III, C of this study for methods to increase bedroom count.

4. The following field survey results for each unit type indicate typical existing conditions.

BARTHOLOMEW & WAKEHAM, ARCHITECTS DATE 23 April, 1973

FIELD SURVEY OF EXISTING HOUSING CONDITIONS
MARINE CORPS BASE, CAMP LEJEUNE, NORTH CAROLINA

TARAWA TERRACE I

UNIT TYPE BASIC 3BR; EM-3BR-1 COMPLETED 1953
PORCHES ADDED: 1965

EXTERIOR CONDITIONS

A. SITE	REMARKS
1. Landscaping	Adequate
2. Parking	Off street parking adequate in number (32 cars for 16 units at this location). Some paving and curb deterioration.
3. Pedestrian Circulation	Poor; additional walks needed. Some deterioration of existing walks.
4. Playground & Game Facilities (Community Center)	Scattered and deteriorated playground equipment in yards.
5. Other	Some tenant owned equipment, fencing and alterations exist. Unsightly clotheslines on street side.
B. SITE UTILITIES	
6. Sanitary Sewer	Line size minimun; slow drainage; evidence of roots or other obstruction in lines.
7. Storm Drainage	Swales in yards; some evidence of standing water.
8. Water Supply	Could not find outside cutoff for each unit; multiple units on 1 valve.
9. Electrical Distribution	CP&L (public utility company)
10. Other	

C. BUILDING	REMARKS
11. Roofing	Composition shingles new in 1960-61; no evidence of leaks; 3-5 year life remaining.
12. Siding	Asbestor shingles-poor condition; wood siding-some evidence of rot; cedar shingles-good condition.
13. Windows	Metal casements in wood frame; poor operation; screens in poor condition.
14. Doors	Poor condition; screens badly damaged.
15. Storage	Bulk storage on porch. Poor condition.
16. Trash Removal	By means of 6&8 CY dumpsters (2 per 12-20 units avg.); dumpsters in yards with no pad under; in some cases dumpsters are in street circulation pattern.
17. Fire Separation	Masonry firewall between each 3 units; no rated separation between units.
18. Other	No gutters or downspouts

INTERIOR CONDITIONS

D. STRUCTURAL	
19. Floor Joists	Slab on grade
20. Wall Studs	Some random evidence of termite damage.
21. Ceiling/Roof Trusses	Some sagging at opening between living room and kitchen.
22. Other	There are 92 units on crawl space. Some random evidence of rot and termite damage.
E. KITCHEN	Inefficient arrangement
23. Sink	Double bowl porcelin enamel; some chipping; generally fair condition.

	REMARKS
24. Garbage Disposer	None
25. Countertop	Good condition; inadequate size and poor arrangement.
26. Cabinets	Fair condition; inadequate size and poor arrangement.
27. Refrigerator	14 CF; good condition
28. Range	20" gas; good condition
29. Exhaust	Fan in clg. above range w/pull chain; fair condition.
30. Washer/Dryer	Connection in kitchen; poor location and inefficient arrangement.
31. Other	
E. BATHROOMS	No half bath
32. Toilet	Poor condition (broken seat, come chipping)
33. Tub (steel)	Some evidence of rust
34. Lavatory	Some chipping of finish
35. Accessories	Adequate
36. Wainscot	Plastic laminate nailed to wall at tub; poor condition.
37. Other	

F. FINISHES	REMARKS
38. Floors	Asphalt tile floor throughout; poor condition
39. Walls	Painted gypsum wallboard; fair condition.
40. Ceilings	Painted GWB; fair condition.
41. Other	5/8" plywood sliding closet doors; poor condition; some damage.
G. MECHANICAL EQUIPMENT	
42. Heating Unit	Gas-fired space heater exposed to view in living room.
43. Water Heater	Gas-fired, vented thru roof; exposed in kitchen (30 gal.)
44. Piping	Uninsulated in attic; previous problems of freezing. Appears adequate however recent rehab. of off-base units nearby resulted in a finding of complete deterioration of water supply piping.
45. Other	
H. ELECTRICAL	
46. Service	100 A fused panel is inadequate for rehabilitation.
47. Outlets	Deficit of 4 in bedrooms
48. Light Fixtures	None in living room
49. Wiring	Appears adequate
50. Other	Master TV antenna hook-up; no doorbell

I. MISCELLANEOUS	REMARKS
51. Insulation (Thermal & Sound)	Blown in termal insulation @ clg. joists; no sound insulation between units.
52. Other (Hardware)	All locksets and knobs rusty and slow operation; some hardware missing.

BARTHOLOMEW & WAKEHAM, ARCHITECTS DATE 23 April 1973

FIELD SURVEY OF EXISTING HOUSING CONDITIONS
MARINE CORPS BASE, CAMP LEJEUNE, NORTH CAROLINA

TARAWA TERRACE I

UNIT TYPE BASIC 2BR, TYPE EM-2BR-1 COMPLETED 1953
PORCHES ADDED: 1965

EXTERIOR CONDITIONS

A. SITE	REMARKS
1. Landscaping	Adequate
2. Parking	No off street parking at this location
3. Pedestrian Circulation	Same as basic 3BR
4. Playground & Game Facilities	Same as basic 3BR
5. Other	Same as basic 3BR
B. SITE UTILITIES 6. Sanitary Sewer	Plumbing backup; probably from tree roots in lines.
7. Storm Drainage	Same as basic 3BR
8. Water Supply	Adequate
9. Electrical Distribution	CP&L (public utility company)
10. Other	

BARTHOLOMEW & WAKEHAM, ARCHITECTS DATE 23 April, 1973

FIELD SURVEY OF EXISTING HOUSING CONDITIONS
MARINE CORPS BASE, CAMP LEJEUNE, NORTH CAROLINA

TARAWA TERRACE I

UNIT TYPE BASIC 2BR, TYPE EM-2BR-1 COMPLETED 1953
PORCHES ADDED: 1965

EXTERIOR CONDITIONS

A. SITE	REMARKS
1. Landscaping	Adequate
2. Parking	No off street parking at this location
3. Pedestrian Circulation	Same as basic 3BR
4. Playground & Game Facilities	Same as basic 3BR
5. Other	Same as basic 3BR
B. SITE UTILITIES	
6. Sanitary Sewer	Plumbing backup; probably from tree roots in lines.
7. Storm Drainage	Same as basic 3BR
8. Water Supply	Adequate
9. Electrical Distribution	CP&L (public utility company)
10. Other	

C. BUILDING

	REMARKS
11. Roofing	Same as basic 3BR
12. Siding	Vertical wood and asbestor shingle
13. Windows	Some broken panes; torn screens, metal casements in wood frames.
14. Doors	Screens damaged
15. Storage	Bulk storage on porch; fair condition.
16. Trash Removal	Same as basic 3BR
17. Fire Separation	Same as basic 3BR
18. Other	

INTERIOR CONDITIONS

D. STRUCTURAL

19. Floor Joists	Slab on grade
20. Wall Studs	Same as basic 3BR
21. Ceiling/Roof Trusses	Adequate
22. Other	Same as basic 3BR
E. KITCHEN	Inefficient arrangement
23. Sink	Small porcelin enamel; badly chipped

	REMARKS
24. Garbage Disposer	None
25. Countertop	Inadequate size; fair condition
26. Cabinets	Inadequate size; poor condition
27. Refrigerator	9CF size; poor condition
28. Range	20" Gas, fair condition
29. Exhaust	Fan in clg. above range with pull chain; fair condition
30. Washer/Dryer	Washer conn. under sink; dryer next to ref.; poor arrangement.
31. Other	No dining room; no utility room; poor living room fenestration as window opens to enclosed porch.
F. BATHROOMS 32. Toilet	Same as basic 3BR
33. Tub (steel)	Same as basic 3BR
34. Lavatory	Small; badly chipped
35. Accessories	Same as basic 3BR
36. Wainscot	Same as basic 3BR
37. Other	

G. FINISHES	REMARKS
38. Floors	Same as basic 3BR
39. Walls	Same as basic 3BR
40. Ceilings	Same as basic 3BR
41. Other	Same as basic 3BR
H. MECHANICAL EQUIPMENT	
42. Heating Unit	Same as basic 3BR
43. Water Heater	Same as basic 3BR
44. Piping	Same as basic 3BR
45. Other	
I. ELECTRICAL	
46. Service	100 A fused panel inadequate for rehabilitation
47. Outlets	Deficit in bedroom (2 in each)
48. Light Fixtures	Some outside fixtures inoperable. Ceiling fixture needed in living room.
49. Wiring	Same as basic 3BR
50. Other	Same as basic 3BR

J. MISCELLANEOUS	REMARKS
51. Insulation (Thermal & Sound)	Same as basic 3BR
52. Other	Same as basic 3BR

B. REQUIREMENTS

1. General

a. Convert existing method of garbage collection from dumpsters to individual garbage cans for each unit.

b. Remove deteriorated and scattered playground equipment.

2. Basic 3BR (Multi-Family); Type EM-3BR-1

a. Exterior

1. Provide patio and pedestrian walks
2. Provide garbage can enclosure screen
3. Remove existing clothesline poles
4. Contemporize building exterior
5. Install new roof

b. Interior

1. Increase net living area, closet and bulk storage space.
2. Add half bath and utility room.
3. Renovate existing baths. Provide ceramic tile wainscot and sheet vinyl flooring.
4. Renovate kitchen to accomodate efficient new U-shaped counter arrangement.
5. Remove existing asphalt tile floor. Replace with new radium treated wood parquet flooring.
6. Replace interior doors and hardware.
7. Provide 1 hour fire separation between units.

c. Mechanical

1. Replace existing gas-fired space heater with new forced air system. Provide furnace/water heater enclosure. Replace water heaters.

d. Electrical

1. Increase capacity to accomodate rehabilitation. Add additional electric outlets compatible with other recommended improvements.

3. Basic 2BR (Multi-Family); Type EM-2BR-1

a. Exterior
   1. Same as Basic 3BR
   2. Same as Basic 3BR
   3. Same as Basic 3BR
   4. Same as Basic 3BR
   5. Same as Basic 3BR

b. Interior
   1. Same as Basic 3BR
   2. Add utility room
   3. Renovate existing bathroom
   4. Same as Basic 3BR
   5. Same as Basic 3BR
   6. Same as Basic 3BR
   7. Same as Basic 3 BR
   8. Same as Basic 3BR
   9. Same as Basic 3BR

4. Type A (Multi-family); Type EM-3BR-2
5. Type A (Multi-family); Type EM-4BR-1
6. Type B (Multi-family); Type EM-3BR-3
7. Type C-1 (Multi-family); Type EM-3BR-4
8. Type C-2 (Multi-family); Type EM-3BR-5
9. Type X-1 (Multi-family); Type EM-3BR-6
10. Type X-2 (Multi-family); Type EM-4BR-2

Staff NCO quarters

11. Type O-1 (detached); Type NCO-3BR-1
12. Type O-3 (detached); Type NCO-3BR-2
13. Type O-4 (detached); Type NCO-2BR-1

14. Types OD-1A & OD-1B (Semi-detached); Type NCO-5BR-1

a. Exterior
   1. Convert 1 screened porch into patio; remove 1 porch; provide pedestrian walks.
   2. Provide garbage can enclosure screen
   3. Contemporize building exterior
   4. Install new roof

b. Interior
   1. Convert two units into one 5BR, 2 bath unit.
   2. Relocate one bathroom; renovate one existing bathroom.
   3. Renovate existing kitchen to accomodate new efficient U-shape arrangement.
   4. Provide utility room.
   5. Remove existing asphalt tile floor, install new radium treated wood parquet flooring.
   6. Replace interior doors and hardware

c. Mechanical
   1. Install new electric-forced air heating/air conditioning system.
   2. Replace water heater.

d. Electrical
   1. Increase service capacity and add/relocate outlets to accomodate improvements.
   2. Install new light fixtures throughout.

15. Type OD-2 (Semi-detached); Type NCO-4BR-1

a. Exterior
   1. Same as Type OD-1A&1B
   2. Same as Type OD-1A&1B
   3. Same as Type OD-1A&1B
   4. Same as Type OD-1A&1B

b. Interior
   1. Convert 2 units into one 4BR, 2 bath unit.
   2. Renovate existing bathrooms
   3. Renovate existing kitchen
   4. Provide utility area. (Same as Type OD-1A&1B)
   5. Same as Type OD-1A&1B
   6. Same as Type OD-1A&1B

c. Mechanical
   1. Same as Type OD-1A & 1B
   2. Same as Type OD-1A & 1B

d. Electrical
   1. Same as Type OD-1A & 1B
   2. Same as Type OD-1A & 1B

16. Type OD-3 (Semi-detached); Type NCO-2BR-2

C. DESCRIPTION OF RECOMMENDED IMPROVEMENTS

1. General

There being a deficit of 4BR or more units and a surplus of 3BR units in the NCO and EM categories, it is recommended that the present type OD-1 units (consisting of a duplex containing 1-1BR and 1-2BR unit) be combined to provide 13-5BR quarters and the present type OD-2 units (duplexes containing 2-1BR units) be combined to provide 11-4BR quarters in the NCO category.

It is further recommended that approximately half the present type A units and all type X-2 units be improved to include a 4th bedroom, thereby providing 29-4BR quarters in the EM category.

2. Basic 3BR (Multi-family); Type EM-3BR-1

a. Exterior

1. Patio and walks: Remove existing screen porch and flat roof (existing bulk storage room to remain). Remaining concrete porch slab will be a usable open patio. Provide new 3 foot wide concrete walk to garbage can area. Install new 8 x 7 foot sliding glass door to patio.
2. Garbage can enclosure: Construct covered garbage can enclosure, 3 x 5 feet, as an extension of existing bulk storage room. Enlarge storage room to 4 x 10 feet to afford patio privacy. New construction shall be of wood frame with composition shingle roof and siding compatible with buildings. Provide galvanized steel can holder for two cans.

3. Contemporize exterior: Remove existing asbestos shingle, wood and striated plywood siding. Replace with new stucco; or combinations of stucco and cedar shingles; stucco and tedlar coated composition siding or other comparable materials with long life and low maintenance qualities. Existing cedar siding may remain where in good condition. It is recommended that exterior siding materials vary from building to building, (rather than unit to unit as at present)and that a unified neighborhood appearance be accomplished through the repetitive use of one material; in this case, stucco.

   Install new side entrance of 3 X 7 foot solid core flush wood door and glass sidelight. Install new aluminum and glass/screen door at entrance.

   Replace existing metal casement windows with new aluminum sliding sash compatible with exterior design.

4. Roof: Replace existing roof with new 235# composition shingles. Schedule of roof replacement should be coordinated with building additions phase for proper material match. Reflash on an "as needed" basis.

b. Interior

1. Additional living area: Construct new wood frame addition at end of unit, 7 X 24.67 feet, providing 168 SF additional net living area. Construction shall be slab on grade with wood frame walls, wood roof trusses and gypsum wallboard finish walls and ceiling to match existing. Install new wood parquet floor. Relocate wall of BR-3 to increase net area. Remove existing plywood clothes closets and sliding doors. Construct new closets, with stud walls and gypsum wall board finish, to provide additional storage. Install new hinged closet doors throughout.
2. New bath and utility room: Install new half bath, 5 X 5 feet, adjacent to existing bath. Provide new water closet; lavatory and trim; medicine cabinet and required accessories; new sheet vinyl floor; new vinyl wall covering, floor to ceiling; new 2'-0 X 6'-8 flush wood door with hardware, at bath. Add utility room, 5 X 5 feet, provide washer/dryer connections; dryer

vent thru roof; new sheet vinyl floor.

3. Existing bath: Remove existing plumbing fixtures; replace with new tub, water closet and lavatory; replace trim. Remove existing plastic laminate wainscot; replace with new ceramic tile; set in cement mortar 6'-6" high at tub. Other walls to have vinyl wall covering floor to ceiling. Install new sheet vinyl floor. Provide new accessories.
4. Kitchen: Remove existing cabinets, counter and appliances. Install new wood cabinets and plastic laminate covered work counter in U arrangement. Provide new double bowl stainless steel sink and trim; garbage disposer; refrigerator and electric range. Install new sheet vinyl flooring.
5. Floors: Remove existing asphalt tile. Install new radium treated wood parquet flooring in mastic over existing concrete slab.
6. Hardware: Replace finish door hardware throughout.
7. Fire separation: Add one layer 5/8 in. UL rated gypsum wallboard to each side of partitions between living units to provide 1 hour separation.
8. Furnace/water heater enclosure: Construct closet enclosure of wood studs with 5/8 in. gypsum wallboard walls and ceiling. Provide louvered door.

c. Mechanical
   1. HVAC: Remove existing gas-fired space heater. Install new electric furnace connected to concealed sheet metal duct system. Modify existing ducts for compatibility with recommended improvements.
   2. Water heater: Replace existing gas-fired water heaters with new 50 gal. capacity electric heaters.

d. Electrical
   1. Service: Increase existing 100A service to 150A capacity. Install new breaker type panel.
   2. Outlets and fixtures: Replace all existing light fixtures.
      a. Add 2 outlets to BR-1
      b. Add 1 outlet each to BR-2&3
      c. Add 3 outlets to living-dining area
      d. Add 2 new clg. fixtures to living-dining area

AREA COMPARISON TABLE

TARAWA TERRACE I

UNIT TYPE: BASIC 3BR; Type EM-3BR-1			
Category	Design Criteria	Existing Area	Proposed Area
Net Area 1080	1080 SF (Max)	868 SF	1007 SF
Living Room	12 Ft. min. dim.	(196 SF)	(246SF)
Dining Room	9'-6 min. dim.	Kitchen/dining combination	Separate area (94 SF)
Kitchen	U-shape of L-shape	Inefficient arrangement (151 SF)	U-shape arrangement 72 SF
Wall Cab.	24 SF (min.)	19 SF	26 SF
Base Cab.	32 SF (min.)	26 SF	48 SF
Counter	12 SF (min.)	10 SF	24 SF
Drawers	14 SF (min.)	11 SF	16 SF
Utility Room		None	30 SF area off kitchen for wash/dry
Bedrooms 1	150 SF area 6 LF closet	133 SF area 5 LF closet	142 SF area 6 LF closet
2	125 SF area 4 LF closet	115 SF area 4.5 LF closet	115 SF area 7 LF closet
3	100 SF area 3 LF closet	92 SF area 5 LF closet	111 SF area 3.5 LF closet
Bath	1.5 (min)	1.0	1.5
Linen	2 LF	2.5 LF	3 LF
Bulk Storage	50-85 SF total; 24 SF min. exterior	none interior; 24 SF exterior	40 SF (exterior) 16 SF (interior) 56 SF total

3. Basic 2BR (Multi-family); Type EM-2BR-1

a. Exterior

1. Same as basic 3BR
2. Same as basic 3BR
3. Contemporize exterior: Remove existing siding. Replace with new stucco, stained vertical wood or tedlar coated composition siding.

   Install new 3 x 7 foot solid core flush wood entrance door. Install new aluminum/glass/screen door at front and rear entrances.

   Replace existing met. casement windows with aluminum horizontal sliding sash. Provide new fixed and operable wood sash at dining room.
4. Roof: Same as 3BR

b. Interior

1. Additional living area: Construct new addition, 97 SF in area on street side of units, to provide additional area for BR-1, utility and storage and dining room. Construction shall be slab on grade with wood frame walls and roof and gypsum wallboard finishes. Remove existing plywood closets and sliding doors. Construct new closets with stud walls, gypsum wallboard finish, shelf and metal hanging rod. Install new hollow-core flush wood hunged closet doors.
2. New utility room: Construct new utility room, 7.5 x 6.5 feet, containing washer/dryer connections and furnace/water heater, adjacent to existing bathroom. Install 5/8 in. UL rated gypsum wallboard on walls and ceiling. Install new sheet vinyl floor. Install new 2'-6 x 6'-8 wood door.
3. Same as Basic 3BR
4. Same as Basic 3BR
5. Same as Basic 3BR
6. Same as Basic 3BR
7. Same as Basic 3BR

c. Mechanical

1. HVAC: Remove existing gas-fired space heater. Install new electric-fired forced warm air heating/air conditioning system. Modify existing ductwork to accomodate recommended improvements.
2. Water heater: Replace existing gas-fired water heater with new 30 gal. capacity electric heater.

d. Electrical

1. Service: Increase existing 100A service to 150A. Install new breaker type panel.
2. Fixtures and outlets: Replace existing light fixtures throughout.
    a. Add 1 outlet to each bedroom
    b. Add 2 outlets to dining room
    c. Add 4 outlets and fixture to utility room
    d. Add 2 outlets to kitchen

TARAWA TERRACE I

UNIT TYPE: BASIC 2 BR; TYPE EM-2BR-1

Category		Design Criteria	Existing Area	Proposed Area
Net Area		950 SF (max)	726 SF	761 SF
Living Room		12' min. dim.	174 SF	174 SF
Dining Room		9'-0 min. dim.	Kitchen/dining combination	Separate area (70 SF)
Kitchen		U-shape or L-shape preferred	(136 SF)	U-shape arrangement (72 SF)
	Wall Cab.	21 SF (min)	12 SF	26 SF
	Base Cab.	28 SF (min)	12 SF	48 SF
	Counter	10 SF (min)	6 SF	24 SF
	Drawers	12 SF (min)	6 SF	16 SF
Utility Room		Required	None	45 SF for Wash/Dry and Furn/WH
Bedrooms	1	10' min. dim. 150 SF area 6 LF closet	94 SF area 4.5 LF closet	135 SF area 6.5 LF closet
	2	9'2 min. dim. 125 SF area 4 LF closet	94 SF area 3.5 LF closet	113 SF area 6.5 LF closet
Bath		1.0	1.0	1.0
Linen		2LF	2LF	2.5 LF
Bulk Storage		40-70 SF total; 24 SF min. exterior	None interior 24 SF exterior	40 SF exterior 13 SF interior 53 SF total

4. Type A (Multi-family); Type EM-3BR-2
5. Type A (Multi-family); Type EM-4BR-1
6. Type B (Multi-family); Type EM-3BR-3
7. Type C-1 (Multi-family); Type EM-3BR-4
8. Type C-2 (Multi-family); Type EM-3BR-5
9. Type X-1 (Multi-family); Type EM-3BR-6
10. Type X-2 (Multi-family); Type EM-4BR-2

Staff NCO quarters

11. Type O-1 (detached); Type NCO-3BR-1
12. Type O-3 (detached); Type NCO-3BR-2
13. Type O-4 (detached); Type NCO-2BR-1

14. Type OD-1A & OD-1B (Semi-detached); Type NCO-5BR-1

a. Exterior

1. Convert existing screen porch to patio: Remove screen and flat roof from existing porch to rear of OD-1A unit; existing bulk storage to remain and be enlarged. Construct 3 foot wide concrete walk from patio to garbage can area. Install new 8 x 7 foot sliding glass door to patio.

   Remove existing screen porch from end of OD-1B unit entirely.

2. Garbage can enclosure: Same as Basic 3BR
3. Contemporize exterior: Remove existing siding. Replace with new stucco, stained vertical wood siding or brick veneer.

   Install new main entrance of 3 x 7 foot solid core flush wood door and fixed glass sidelight. Provide new alum/glass/screen door.

   Replace existing metal casement windows with new aluminum horizontal sliding sash.

4. Roof: Same as Basic 3BR

b. Interior

1. Remove existing interior partitions and construct new wood stud/gypsum wallboard partitions as shown on drawings.
2. Bathrooms: Remove existing bath at OD-1A unit. Install new full bathroom adjacent to existing; provide new water closet, lavatory and trim; new 36 x 36 in. shower with ceramic tile floor, curb and wainscot, 6'-6 high; new accessories; new sheet vinyl floor and vinyl wall covering on walls.

   Renovate existing bathroom: Same as Basic 3BR (para. C, 2, b, 3).

3. Kitchen: Remove existing kitchen equipment. Construct new kitchen, 8 x 12 feet; install new counter, cabinets and appliances in U-shape arrangement. Install new sheet vinyl flooring.
4. New utility room: Same as Basic 2BR.
5. Floors: Same as Basic 3BR.
6. Doors and hardware: Replace existing interior doors with new hollow core flush wood hinged doors of appropriate sizes. Install new stainless steel hardware.

c. Mechanical
   1. HVAC: Same as Basic 3BR
   2. Water heater: Replace existing gas-fired heater with new 50 gal. capacity electric water heater.

d. Electrical
   1. Service: Same as Basic 3BR
   2. Outlets and fixtures: Replace existing light fixtures throughout.
      a. Add 8 outlets/2 new fixtures to new kitchen/utility room ares.
      b. Add 1 outlet/fixture to new bathroom.
      c. Add 2 outlets/2 new fixtures to hall.
      d. Add 2 outlets to BR-1
      e. Add 2 outlets to BR-2
      f. Add 2 outlets to BR-3

TARAWA TERRACE I

UNIT TYPE: OD-1A & 1B; TYPE NCO-5BR-1

Category		Design Criteria	Existing Area	Proposed Area
Net Area		1250 SF (Max.)	1417 SF	1367 SF
Living Room				283 SF
Dining Room				85 SF
Kitchen				85 SF
	Wall Cab.	24 SF		36 SF
	Base Cab.	32 SF		36 SF
	Counter	12 SF		30 SF
	Drawers	14 SF		20 SF
Utility Room			NONE	48 SF
Bedrooms	1	140 SF 6 LF CLO		173 SF 7.5 LF CLO
	2	115 SF 4 LF CLO		120 SF 8.5 LF CLO
	3	100 SF 3 LF CLO		120 SF 8.5 LF CLO
	4	90 SF + 3 LF CLO		115 SF + 10 LF CLO
	5	90 SF + 3 LF CLO		93 SF + 5.5 LF CLO
Bath		2.0	2.0	2.0
Linen		2 LF		2 LF
Bulk Storage		60-100 SF comb. interior & exterior		

15. Type OD-2 (Semi-detached); Type NCO-4BR-1

a. Exterior

1. Convert existing screen porch to patio. Remove existing screen, flat roof and wooden storage area from rear of units. Remove portion of existing concrete slab, 9.5 x 19.5 feet. Install new 8 x 7 foot sliding glass door to patio. Construct new 3 foot wide walk from patio to garbage can area.
2. Garbage can enclosure and exterior bulk storage: Construct new covered storage area, 5 x 6.5 feet, and garbage can screen 5 x 3 feet, at patio. Construction to be of wood frame with exterior siding compatible with building. Provide new 2'-6 x 6'-8 flush wood door and plywood storage shelving. Provide galvanized steel garbage can holder for two cans.
3. Contemporize exterior: Remove existing siding. Replace with new stucco, stained vertical wood siding or brick veneer.

   Install new 3 x 7 foot solid core flush wood entrance door and aluminum/glass/screen door.

   Replace existing metal casement windows with new aluminum horizontal sliding sash. Construct new contemporary bay window of wood sash at new dining room.
4. Roof: Same as Basic 3BR

b. Interior

1. Same as Type OD-1A & 1B
2. Existing bathrooms: Renovate existing bathrooms. (Same as Basic 3BR)
3. Existing Kitchen: Remove existing kitchen equipment. Install new work counters, cabinets and appliances in parallel arrangement, 8.67 x 9.5 feet. Install new sheet vinyl flooring.
4. New Utility Room: Construct new utility area adjacent to hall to include washer/dryer connections and furnace/water heater. Install 5/8 in. UL rated gypsum wallboard on walls and ceiling. Install metal sliding doors and new sheet vinyl flooring.
5. Floors: Same as OD-1A & 1B
6. Doors and Hardware: Same as OD-1A & 1B

c. Mechanical

1. Same as OD-1A & 1B
2. Same as OD-1A & 1B

d. Electrical

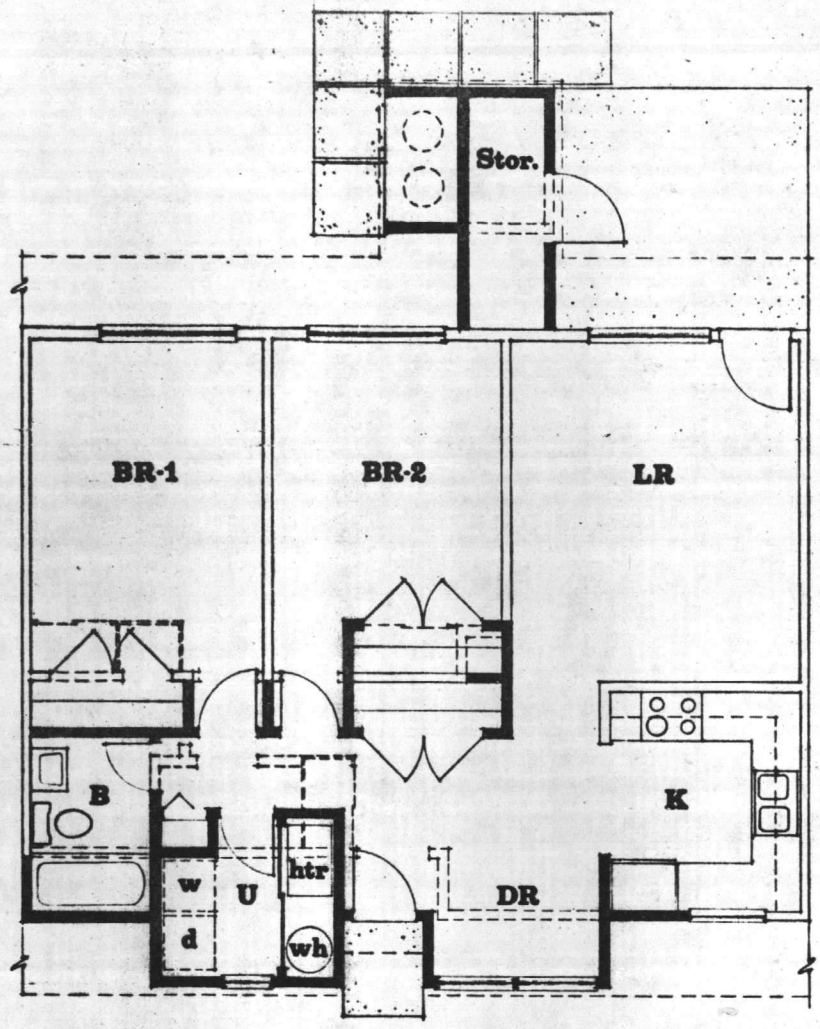
1. Service: Same as Basic 3BR
2. Outlets and fixtures: Replace existing light fixtures throughout.
    a. Add 2 new outlets in kitchen.
    b. Add 2 new outlets in dining room.
    c. Add 3 new outlets in utility room.
    d. Add 2 new outlets each in BR-3&4.

TARAWA TERRACE I

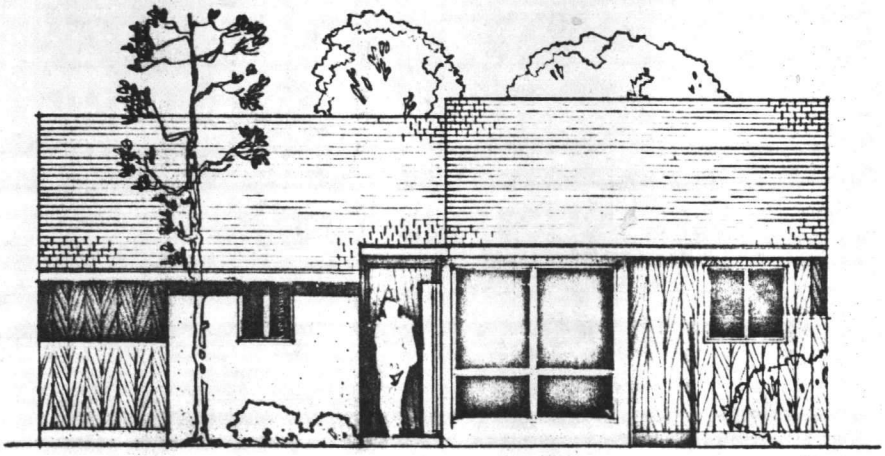
UNIT TYPE: OO-2; TYPE NCO-4BR-1

Criteria	Design Criteria	Existing Area	Proposed Area
Net Area	1250 SF (Max)	1256 SF	1242 SF
Living Room			204 SF
Dining Room			83 SF
Kitchen			82 SF
Wall Cab.	24 SF		25 SF
Base Cab.	32 SF		33 SF
Counter	12 SF		22 SF
Drawers	14 SF		22 SF
Utility Room		NONE	33 SF
Bedrooms 1	140 SF 6LF CLO		142 SF 8LF CLO
Bedrooms 2	115 SF 4LF CLO		116 SF 8LF CLO
Bedrooms 3	100 SF 3LF CLO		105 SF 5.5LF CLO
Bedrooms 4	90 SF 3LF CLO		105 SF 5.5LF CLO
Bath	2.0	2.0	2.0
Linen	2LF		4.5LF
Bulk Storage	60-100 SF comb. interior & exterior	17 SF exterior 22 SF interior 39 SF total	22 interior 30 exterior

16. Type OD-3 (Semi-detached); Type NCO-2BR-2

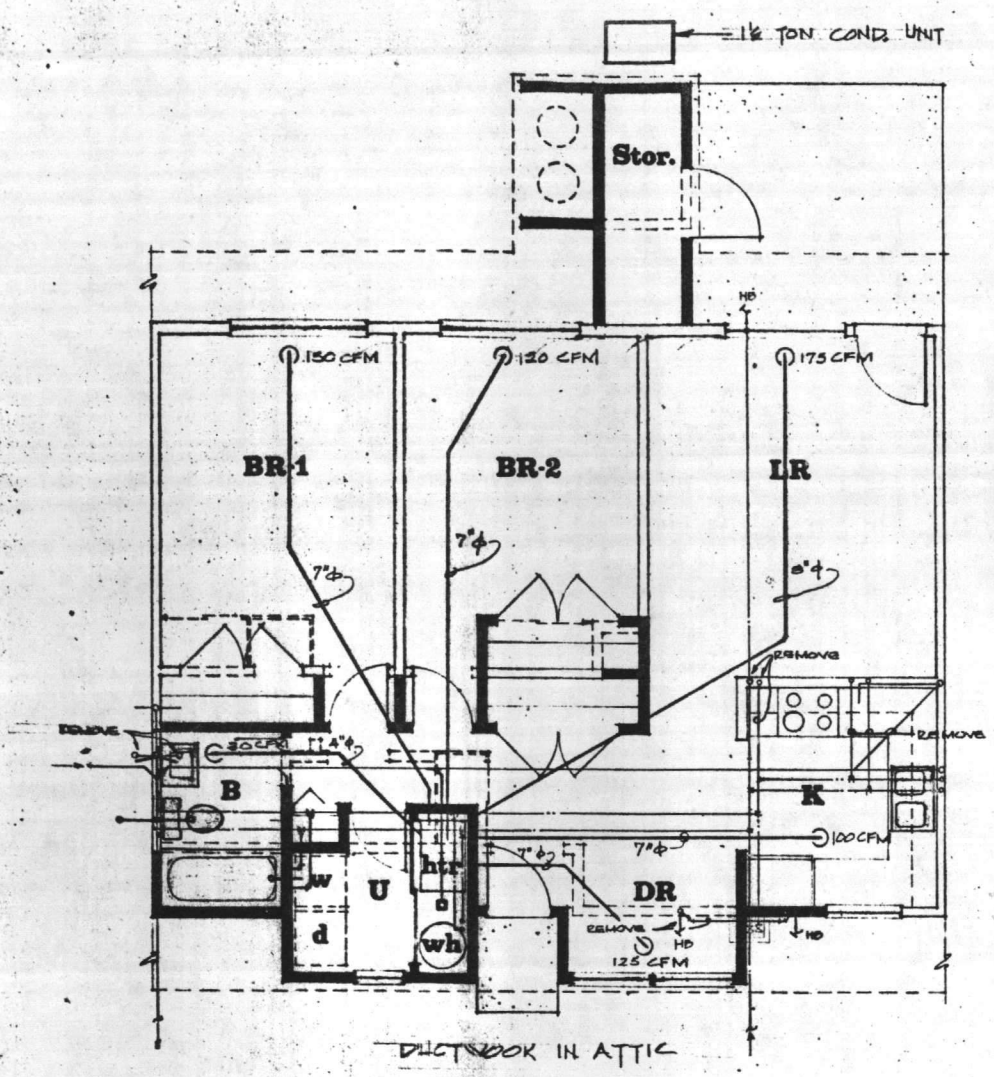


FLOOR PLAN



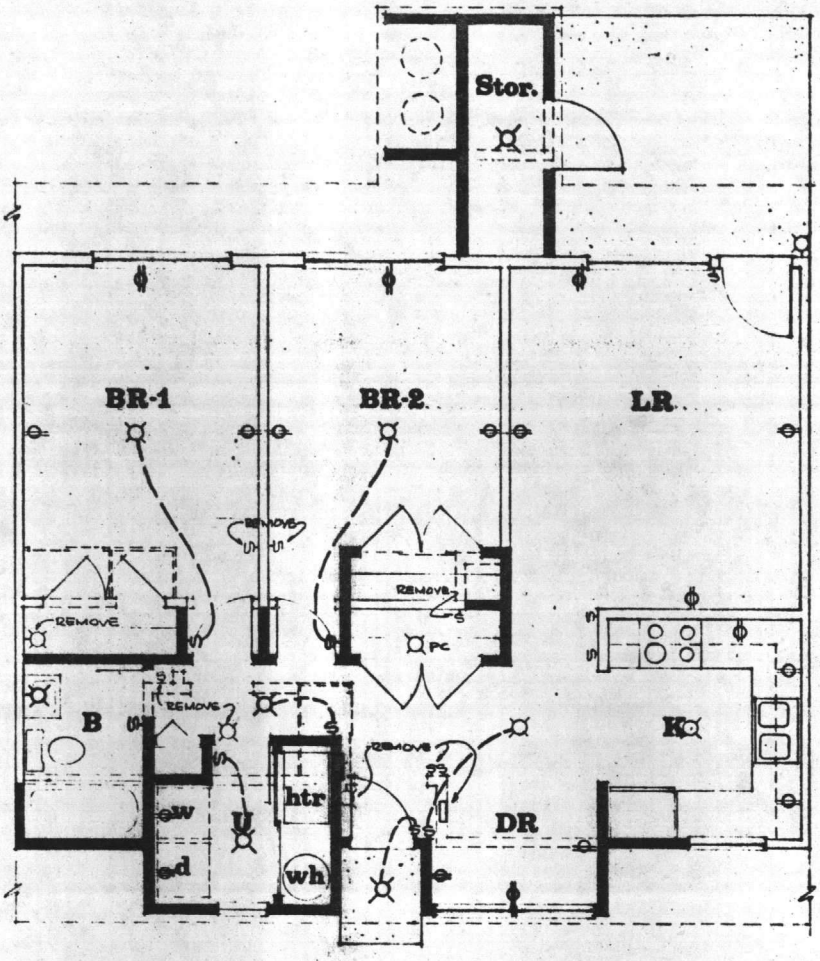
FRONT ELEVATION

EM·2BR·1



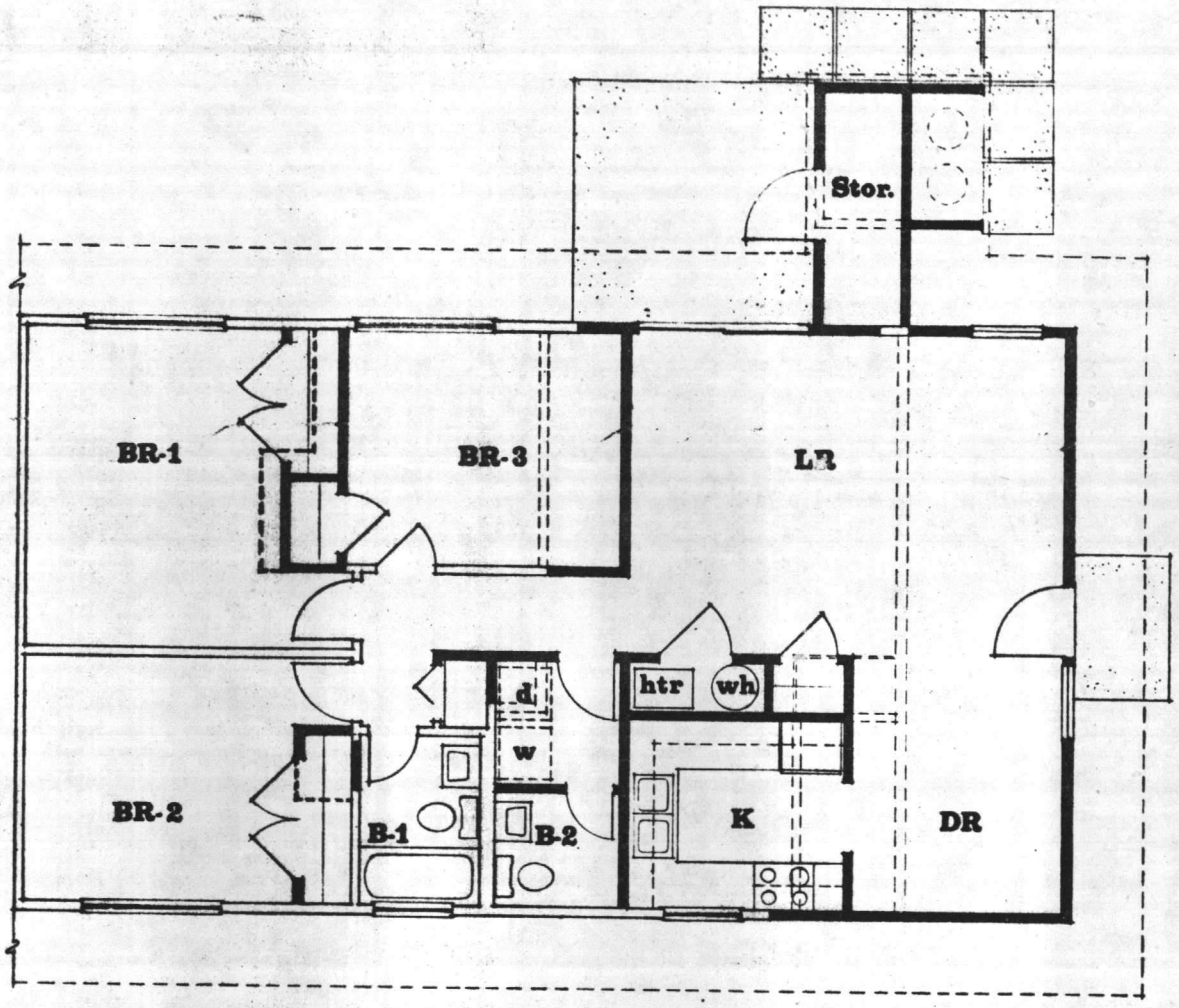
FLOOR PLAN

EM·2BR·1

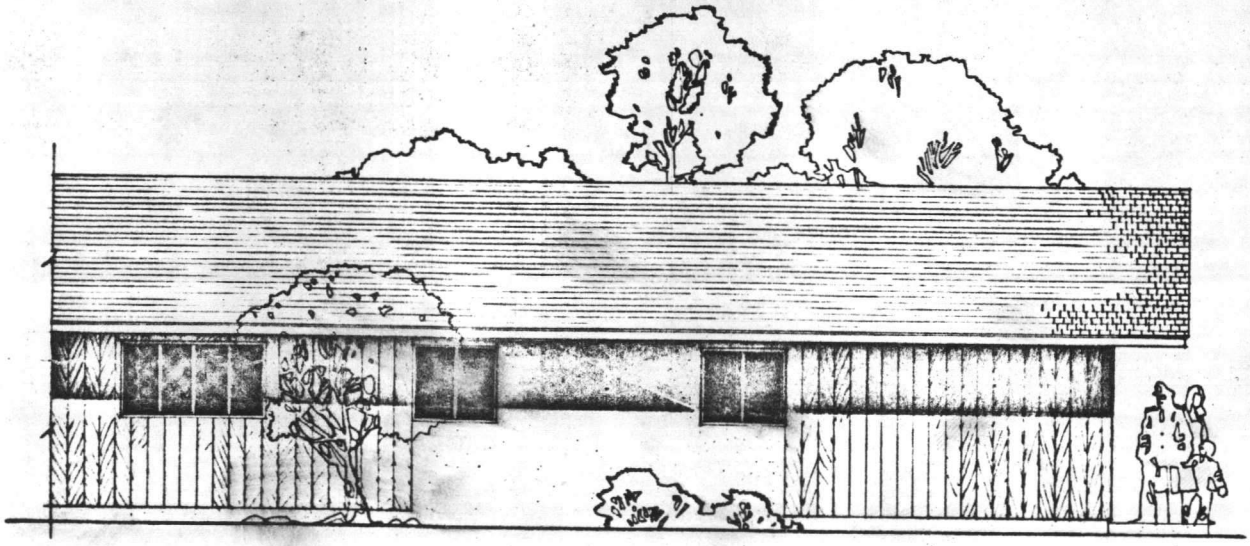


FLOOR PLAN

EM·2BR·1

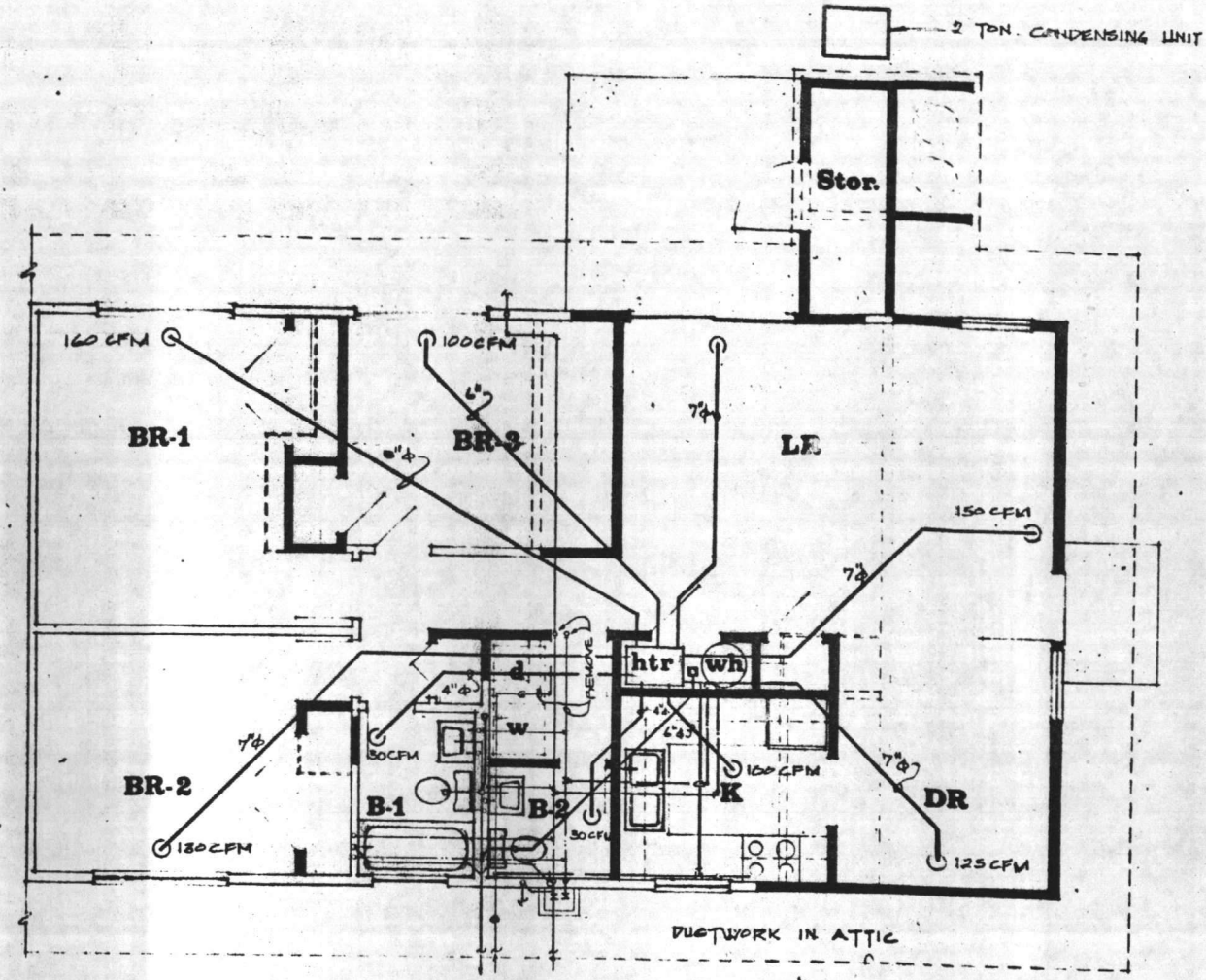


FLOOR PLAN



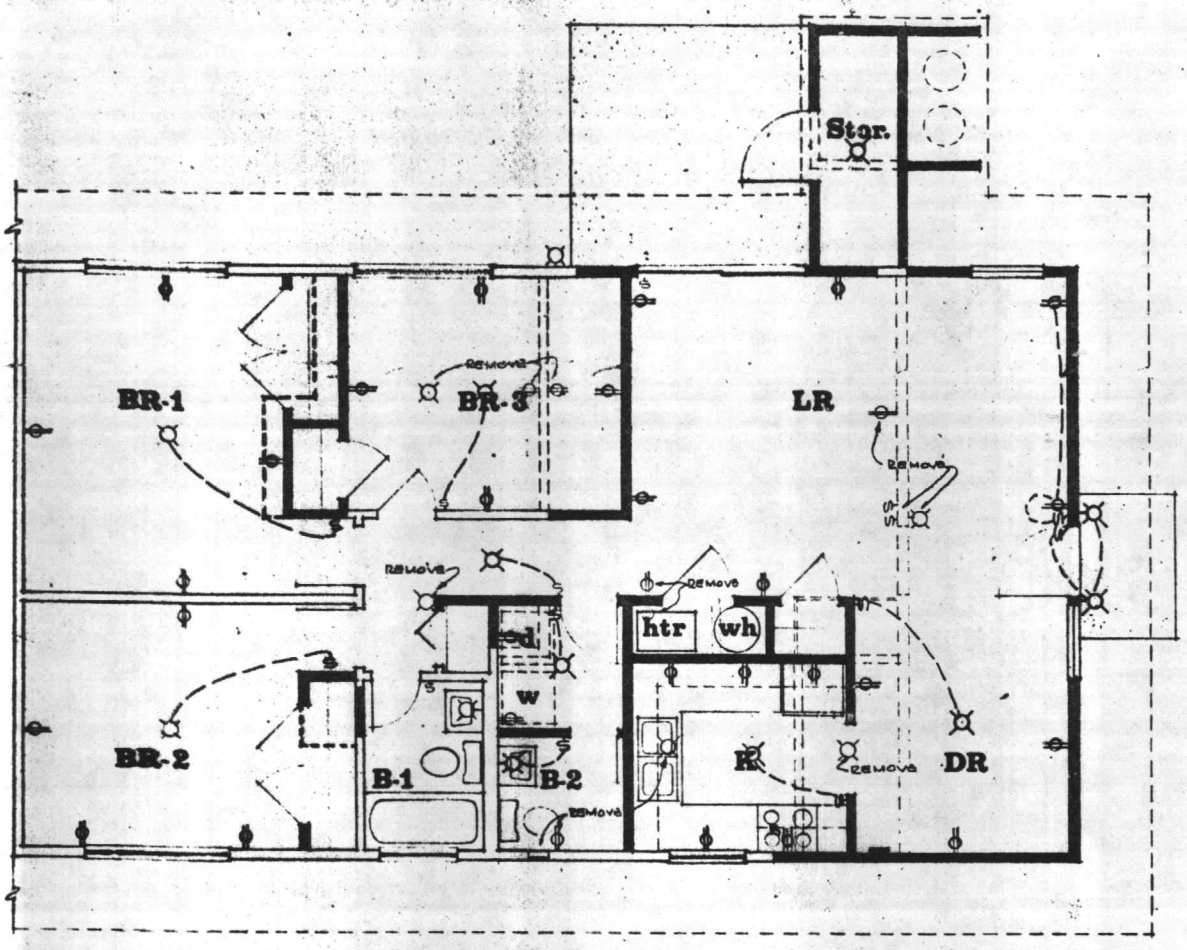
FRONT ELEVATION

EM·3BR·1



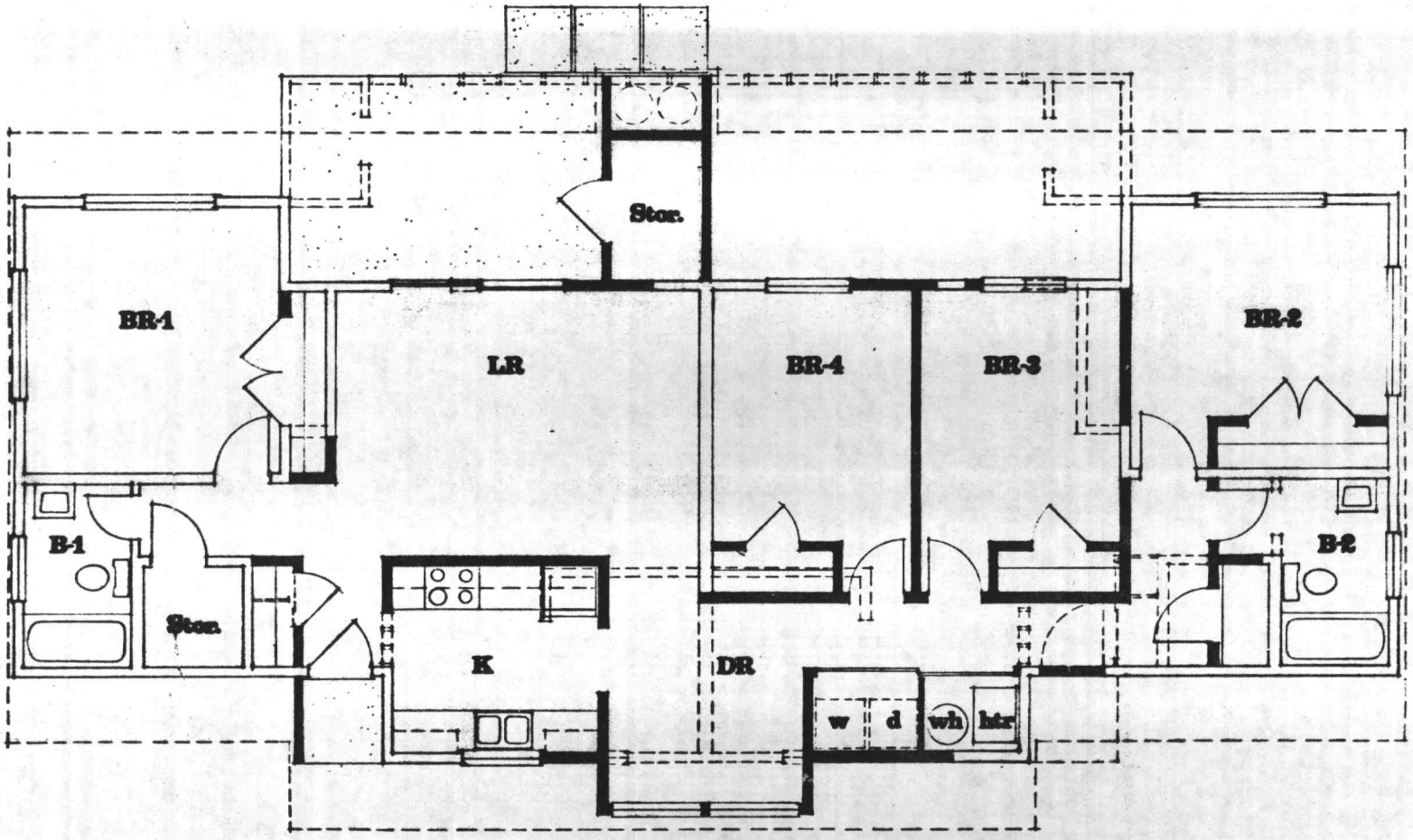
FLOOR PLAN

EM·3BR·1



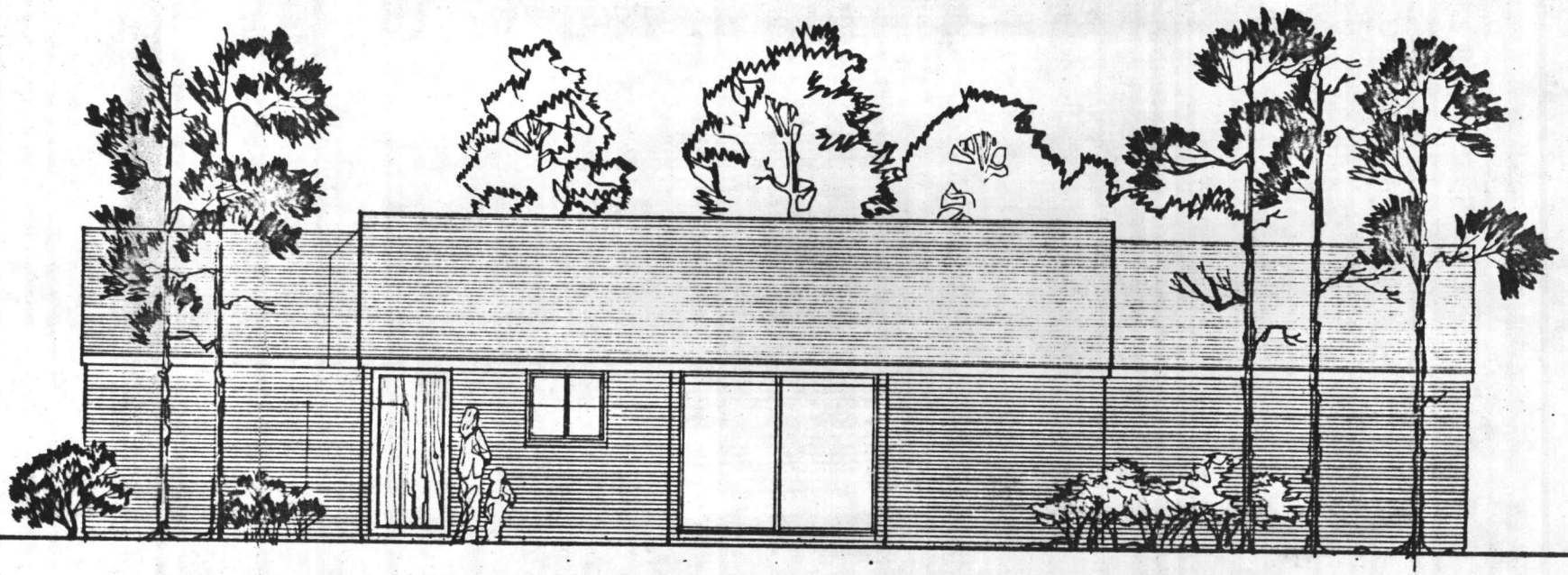
FLOOR PLAN

EM·3BR·1



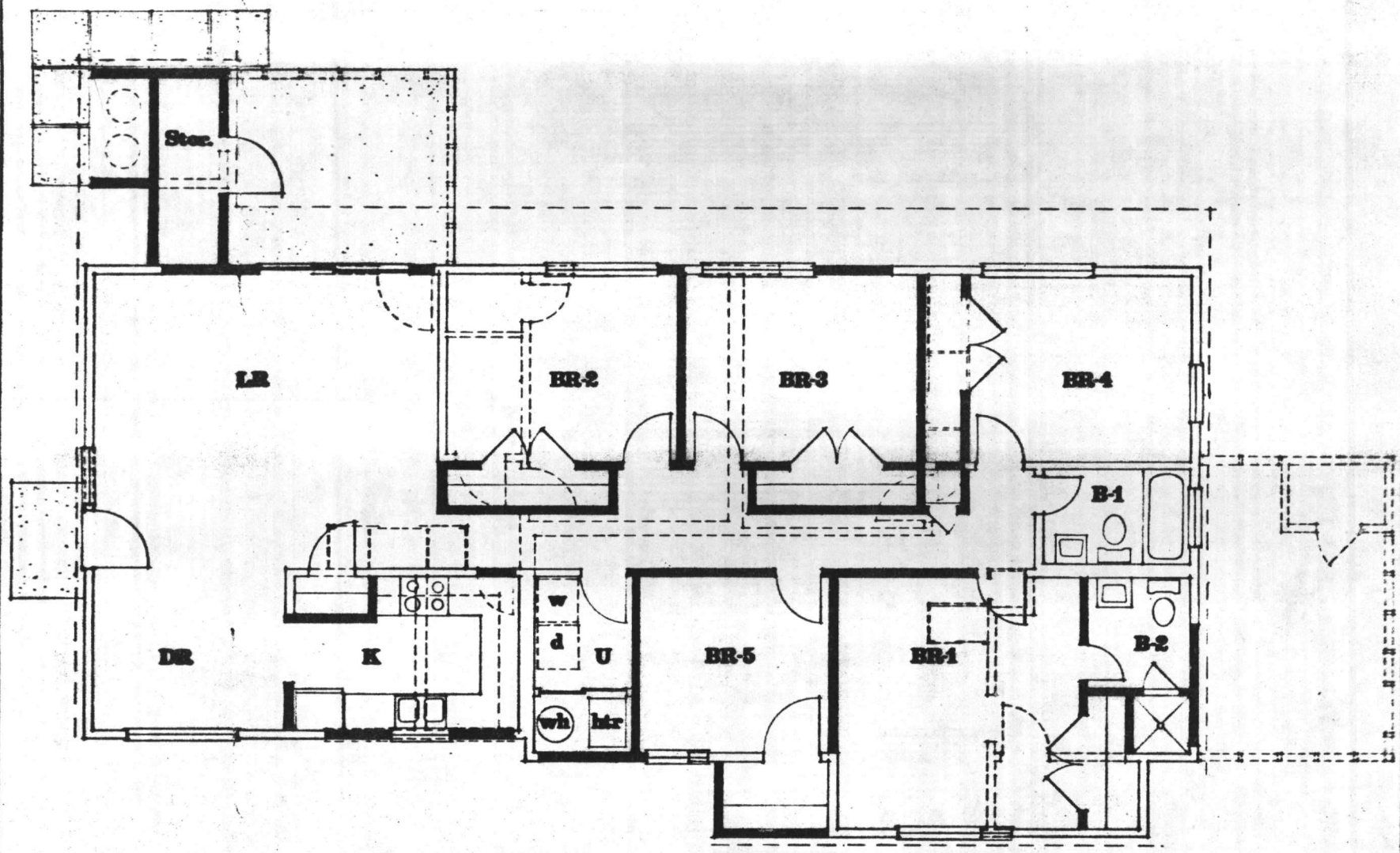
FLOOR PLAN

NCO · 4BR · 1



FRONT ELEVATION

NCO·4BR·1



FLOOR PLAN

NCO·5BR·1

COST ESTIMATING FORM
NAVDOCKS 2417 (REV. 5-63)
0105 011 2800

SHEET 1 OF 3

IDENTIFICATION NUMBER

AREA OR NO.

ACTIVITY: FAMILY HOUSING

LOCATION: CAMP LEJEUNE NC

CATEGORY CODE NUMBER

PROJECT (Or line item) TITLE

TARAWA TERRACE I
BASIC 2BR; EM-2BR-1

ITEM (OR FEATURE) DESCRIPTION (Abbreviate if necessary)	QUANTITIES		MATERIAL COSTS		LABOR COSTS		ENGINEERING ESTIMATE	
	NO. OF UNITS	UNIT	UNIT COST	COST	UNIT COST	COST	UNIT COST	COST
1	2	3	4	5	6	7	8	9
EXTERIOR IMPROVEMENTS								
A. STORAGE; CAN ENCLOSURE								1114.
B. NEW EXTERIOR								
1. Remove & replace existing siding	304	SF					1.20	365.
2. Windows	4	ea					50.-	200.
3. Entrance door	1	ea					120.-	120.
4. Storm door	1	ea					70.-	70.
5. Patio door	1	ea					250.-	250.
SUB-TOTAL ITEM B.								1005.
C. ROOFING								
1. Remove & replace @ existing unit	1089	SF					1.-	1089.
SUB-TOTAL ITEM C								1089.
D. NEW LIVING AREA								
1. Demolition	LS						500.	500.
2. Finished area	97	SF					18.-	1746.
SUB-TOTAL ITEM D								2246.

PREPARED BY (Name)	APPROVED BY	TITLE OR ORGANIZATION	DATE

COST ESTIMATING FORM
NAVDOCKS 2417 (REV. 5-63)
0105 01 3800

SHEET 2 OF 3

IDENTIFICATION NUMBER

AREA OR NO.	ACTIVITY	LOCATION	CATEGORY CODE NUMBER

PROJECT (Or line item) TITLE

EM-2BR-1

ITEM (OR FEATURE) DESCRIPTION (Abbreviate if necessary)	QUANTITIES		MATERIAL COSTS		LABOR COSTS		ENGINEERING ESTIMATE	
	NO. OF UNITS	UNIT	UNIT COST	COST	UNIT COST	COST	UNIT COST	COST
1	2	3	4	5	6	7	8	9
INTERIOR IMPROVEMENTS								
E. KITCHEN								
1. Partitions	25	LF					10.-	25.
2. Flooring	36	SF					1.-	36.
3. Counter & cab.	LS						900	900.
SUB-TOTAL ITEM E								961.
F. EXISTING BATH RENOVATIONS								403.
G. OTHER INTERIOR RENOVATIONS								
1. Partitions	50	LF					10.-	500.
2 Doors & hardwr.	11	ea					90.-	990.
3. Flooring	690	SF					1.-	690.
4 Painting	LS						300.	300.
SUB-TOTAL ITEM G								2480.
H MECHANICAL								
1. New furnace & duct modifications	LS						850	850.
SUB-TOTAL ITEM H								850.

PREPARED BY (Name)	APPROVED BY	TITLE OR ORGANIZATION	DATE

COST ESTIMATING FORM
NAVDOCKS 2417 (REV. 5-63)
0105 01 3900

SHEET 3 OF 3

IDENTIFICATION NUMBER

AREA OR NO. | ACTIVITY | LOCATION | CATEGORY CODE NUMBER

PROJECT (Or line item) TITLE

EM-2BR-1

ITEM (OR FEATURE) DESCRIPTION (Abbreviate if necessary)	QUANTITIES		MATERIAL COSTS		LABOR COSTS		ENGINEERING ESTIMATE	
	NO. OF UNITS	UNIT	UNIT COST	COST	UNIT COST	COST	UNIT COST	COST
1	2	3	4	5	6	7	8	9
I. PLUMBING								
1. New bath fixt.	3	ea.					150.	450.
2. Water heater	1	ea.					200.	200.
3. Hookup	LS						150.	150.
SUB-TOTAL ITEM I								800.
J. ELECTRICAL								
1. 150 A Panel	1	ea					250	250.
2. Fixtures	LS						125.	125.
3. Outlets	9	ea.					25.	225.
SUB-TOTAL ITEM J								900.
SUB-TOTAL TYPE EM-2BR-1								11,848
10% CONTINGENCY								1185.
TOTAL PER UNIT								13,033.
x 420 UNITS	(420 x							5,473,776.

PREPARED BY (Name) | APPROVED BY | TITLE OR ORGANIZATION | DATE

COST ESTIMATING FORM
NAVDOCKS 2417 (REV. 5-63)
0105 01 3800

SHEET 1 OF 4

IDENTIFICATION NUMBER

AREA OF NC | ACTIVITY: FAMILY HOUSING | LOCATION: CAMP LEJEUNE, NC | CATEGORY CODE NUMBER

PROJECT (Or line item) TITLE

TARAWA TERRACE I
BASIC 3BR; TYPE EM-3BR-1

ITEM (OR FEATURE) DESCRIPTION (Abbreviate if necessary)	QUANTITIES		MATERIAL COSTS		LABOR COSTS		ENGINEERING ESTIMATE	
	NO. OF UNITS	UNIT	UNIT COST	COST	UNIT COST	COST	UNIT COST	COST
1	2	3	4	5	6	7	8	9
EXTERIOR IMPROVEMENTS								
A. STORAGE, CAN ENCLOSURE								
1. Remove porch	LS						250.	250.
2. Walls	272	SF					2.-	544.
3. Doors & hardwr	1	ea					90.-	90.
4. Roof	88	SF					2.-	176.
5. Walks	72	SF					.75	54.
SUBTOTAL ITEM A								1114.
B. NEW EXTERIOR								
1. Remove & Replace existing siding	582	SF					1.20	698.
2. Windows	5	ea.					50.-	250.
3. Patio door	1	ea.					250.	250.
SUB-TOTAL ITEM B								1198.
C. ROOFING								
1. Remove & Replace @ existing unit	1221	SF					1.-	1221.
SUB-TOTAL ITEM C								1221.
D. NEW LIVING AREA								
1. Finished area	175	SF					18.-	3150.
SUB-TOTAL ITEM D								3150.

PREPARED BY (Name)	APPROVED BY	TITLE OR ORGANIZATION	DATE

COST ESTIMATING FORM
NAVDOCKS 2417 (REV. 5-63)
0105 01 3800

SHEET 2 OF 4

IDENTIFICATION NUMBER

AREA OR NO. | ACTIVITY | LOCATION | CATEGORY CODE NUMBER

PROJECT (or line item) TITLE

EM-3BR-1

ITEM (OR FEATURE) DESCRIPTION (Abbreviate if necessary)	QUANTITIES		MATERIAL COSTS		LABOR COSTS		ENGINEERING ESTIMATE	
	NO. OF UNITS	UNIT	UNIT COST	COST	UNIT COST	COST	UNIT COST	COST
1	2	3	4	5	6	7	8	9
INTERIOR IMPROVEMENTS								
E. KITCHEN/UTILITY CLOSET								
1. Demolition	LS						300.	300.
2. Flooring	33	SF					1.-	33.
3. Cabnts & counter	LS						900.	900.
4. Doors & hardwr	2	ea.					90.	180.
5. Partitions	42	LF					10.	420.
SUB-TOTAL ITEM E								1833.
F. BATH/UTILITY AREA								
1. Partitions	10	LF					10.	100.
2. Doors & hardwr	2	ea					90.	180.
3. Flooring	50	SF					1.	50.
4. Wall covering	160	SF					.30	48.
SUB-TOTAL ITEM F								378.
G. EXISTING BATH RENOVATIONS								
1. Ceramic tile	50	SF					3.-	150.
2 Flooring	30	SF					1.-	30.
3. Wall covering	144	SF					.30	43.
4. Doors & hardwr	2	ea.					90.-	180.
SUB-TOTAL ITEM G								403.

PREPARED BY (Name) | APPROVED BY | TITLE OR ORGANIZATION | DATE

COST ESTIMATING FORM
NAVDOCKS 2417 (REV. 5-63)
0105 01 3800

SHEET 3 OF 4

IDENTIFICATION NUMBER

AREA OR NO. | ACTIVITY | LOCATION | CATEGORY CODE NUMBER

PROJECT (Or line item) TITLE

EM-3BR-1

ITEM (OR FEATURE) DESCRIPTION (Abbreviate if necessary)	QUANTITIES		MATERIAL COSTS		LABOR COSTS		ENGINEERING ESTIMATE	
	NO. OF UNITS	UNIT	UNIT COST	COST	UNIT COST	COST	UNIT COST	COST
1	2	3	4	5	6	7	8	9
H. INTERIOR RENOVATIONS								
1. Partitions	50	LF					10.-	500.
2 Doors & Hardwr	6	ea					90.-	540.
3. Flooring	864	SF					1.-	864.
4. Painting	LS							400.
SUB-TOTAL ITEM H								2304.
I. MECHANICAL								
1. New furnace & duct modifications	LS						900.	900.
SUB-TOTAL ITEM I								900.
J. PLUMBING								
1. New bath fixt.	2	ea					350.	700.
2 Exist. bath	3	ea					150.	450.
3. Water heater	1	ea					200.	200.
4. Hookup	LS						150.	150.
SUB-TOTAL ITEM J								1500.

PREPARED BY (Name) | APPROVED BY | TITLE OR ORGANIZATION | DATE

COST ESTIMATING FORM
NAVDOCKS 2417 (REV. 5-63)
0105 01 3800

SHEET 4 OF 4

IDENTIFICATION NUMBER

SHEET OR NO.	ACTIVITY	LOCATION	CATEGORY CODE NUMBER

PROJECT (Or line item) TITLE

EM-3BR-1

ITEM (OR FEATURE) DESCRIPTION (Abbreviate if necessary)	QUANTITIES		MATERIAL COSTS		LABOR COSTS		ENGINEERING ESTIMATE	
	NO. OF UNITS	UNIT	UNIT COST	COST	UNIT COST	COST	UNIT COST	COST
1	2	3	4	5	6	7	8	9
K. ELECTRICAL								
1. 150 A panel	LS						250.	250.
2. Fixture allowance	LS						150.	150.
3. add, relocate outlets	13	ea.					25.	325.
SUB-TOTAL ITEM K								725.
SUB-TOTAL TYPE EM-3BR-1								14,726.
10% CONTINGENCY								1473.
TOTAL PER UNIT								16,199.
X 180 UNITS			(180 x 16,199.)					2,915,820.

PREPARED BY (Name)	APPROVED BY	TITLE OR ORGANIZATION	DATE

COST ESTIMATING FORM
NAVDOCKS 2417 (REV. 5-63)
0105 013 3800

SHEET 1 OF 3

IDENTIFICATION NUMBER

AREA OR NC | ACTIVITY: FAMILY HOUSING | LOCATION: CAMP LEJEUNE NC | CATEGORY CODE NUMBER

PROJECT (Or Line Item) TITLE

TARAWA TERRACE I
NCO-5BR-1

ITEM (OR FEATURE) DESCRIPTION (Abbreviate if necessary)	QUANTITIES		MATERIAL COSTS		LABOR COSTS		ENGINEERING ESTIMATE	
	NO. OF UNITS	UNIT	UNIT COST	COST	UNIT COST	COST	UNIT COST	COST
1	2	3	4	5	6	7	8	9
EXTERIOR IMPROVEMENTS								
A. PATIO, WALKS, STORAGE, CAN ENCLOSURE								1063.
B. NEW EXTERIOR								
1. Siding	1554	SF					1.20	1865.
2. New entrance	1	ea					230.	230.
3. Storm door	1	ea					70.	70.
4. Patio door	1	ea					250.	250.
5. Windows	9	ea					50.	450.
SUB-TOTAL ITEM B								2865.
C. ROOFING	2142	SF					1.-	2142.
D. NEW LIVING AREA								
1. finished area	24	SF					18.-	432
INTERIOR IMPROVEMENTS								
E. KITCHEN								
1. Partitions	10	LF					10.-	100.
2. Flooring	40	SF					1.-	40.
3. Cab & counter	LS						950.	950.
SUB-TOTAL ITEM E								1090.
F. NEW BATH								
1. Partitions	18	LF					10.-	180.
2. Ceramic tile	70	SF					3.-	210.

PREPARED BY (Name) | APPROVED BY | TITLE OR ORGANIZATION | DATE

COST ESTIMATING FORM
NAVDOCKS 2417 (REV. 5-63)

0105 01 3800

IDENTIFICATION NUMBER

AREA OR NO. | ACTIVITY | LOCATION | CATEGORY CODE NUMBER

PROJECT (or line item) TITLE

NCO-5BR-1

ITEM (OR FEATURE) DESCRIPTION (Abbreviate if necessary)	QUANTITIES		MATERIAL COSTS		LABOR COSTS		ENGINEERING ESTIMATE	
	NO. OF UNITS	UNIT	UNIT COST	COST	UNIT COST	COST	UNIT COST	COST
1	2	3	4	5	6	7	8	9
F. NEW BATH								
3. Flooring	25	SF					1.-	25.
4. Wall covering	160	SF					.30	48.
5. Door & hardwr.	1	ea					90.	90.
SUB-TOTAL	ITEM	F						553.
G. EXIST. BATH RENOVATIONS	1	ea						403.
H. OTHER INTERIOR RENOVATIONS								
1. Demolition	LS						500.	500.
2. Partitions	111	LF					10.-	1110.
3. Doors & hardwr.	14	ea.					90.	1260.
4. Flooring	1262	SF					1.	1262.
5. Painting	LS						450.	450.
SUB-TOTAL	ITEM	H						4582.
I MECHANICAL								
1. New furnace & duct modifications	LS						1500.	1500.
J. PLUMBING								
1. New bath fixt.	3	ea					350.	1050.
2. Exist. bath fixt.	3	ea					150.	450.

PREPARED BY (Name) | APPROVED BY | TITLE OR ORGANIZATION | DATE

COST ESTIMATING FORM
NAVDOCKS 2417 (REV. 5-63)
0105 01 3800

SHEET 3 OF 3

IDENTIFICATION NUMBER

AREA OR NC	ACTIVITY	LOCATION	CATEGORY CODE NUMBER

PROJECT (Or line item) TITLE

NCO-5BR-1

ITEM (OR FEATURE) DESCRIPTION (Abbreviate if necessary)	QUANTITIES		MATERIAL COSTS		LABOR COSTS		ENGINEERING ESTIMATE	
	NO. OF UNITS	UNIT	UNIT COST	COST	UNIT COST	COST	UNIT COST	COST
1	2	3	4	5	6	7	8	9
J. PLUMBING								
3. Water heater	1	ea					250.	250.
4. Hookup	LS						150.	150.
SUB-TOTAL ITEM J								1900.
K. ELECTRICAL								
1. 200 A Panel	1	ea					300.	300.
2. Fixtures	LS						200.	200.
3. Outlets	17	ea					25.	425.
SUB TOTAL ITEM K								925.
SUB-TOTAL TYPE NCO-5BR-1								17,455.
10% CONTINGENCY								1745.
TOTAL PER UNIT								19,200.
X 13 UNITS			(	X	13)			249,600.

PREPARED BY (Name)	APPROVED BY	TITLE OR ORGANIZATION	DATE

COST ESTIMATING FORM
NAVDOCKS 2417 (REV. 5-63)
0105 011 3800

SHEET 1 OF 3

IDENTIFICATION NUMBER

AREA OF NC | ACTIVITY: FAMILY HOUSING | LOCATION: CAMP LEJEUNE NC | CATEGORY CODE NUMBER

PROJECT (Or Line Item) TITLE

TARAWA TERRACE I
TYPE NCO-4BR-1

ITEM (OR FEATURE) DESCRIPTION (Abbreviate if necessary)	QUANTITIES		MATERIAL COSTS		LABOR COSTS		ENGINEERING ESTIMATE	
	NO. OF UNITS	UNIT	UNIT COST	COST	UNIT COST	COST	UNIT COST	COST
1	2	3	4	5	6	7	8	9
PATIO, WALKS	EXTERIOR IMPROVEMENTS							
A. STORAGE, CAN ENCLOSURE								
1. Demolition	LS						400.	400.
2. Walls	275	SF					2.-	550.
3. Door & hardwr	1	ea					90.-	90.
4. Walk	30	SF					.75	23.
SUB-TOTAL ITEM A								1063.
B. NEW EXTERIOR								
1. Siding	1550	SF					1.20	1860.
2. Entrance dr.	1	ea					120.	120.
3. Storm door	1	ea					70.	70.
4. Patio door	1	ea					250.	250.
5. Windows	9	ea					50.	450.
6. Bay window	1	ea					550.	550.
SUB-TOTAL ITEM B								3300.
C. ROOFING								
1. New roof	2038	SF					1.-	2038.
SUB-TOTAL ITEM C								2038.
D. NEW LIVING AREA								
1. finished area	19	SF					18.-	342.

PREPARED BY (Name)	APPROVED BY	TITLE OR ORGANIZATION	DATE

COST ESTIMATING FORM
NAVDOCKS 2417 (REV. 5-63)
0105 01 3800

IDENTIFICATION NUMBER

AREA OR NO.	ACTIVITY	LOCATION	CATEGORY CODE NUMBER

PROJECT (Or line item) TITLE

NCO-4BR-1

ITEM (OR FEATURE) DESCRIPTION (Abbreviate if necessary)	QUANTITIES		MATERIAL COSTS		LABOR COSTS		ENGINEERING ESTIMATE	
	NO. OF UNITS	UNIT	UNIT COST	COST	UNIT COST	COST	UNIT COST	COST
1	2	3	4	5	6	7	8	9
INTERIOR IMPROVEMENTS								
E. KITCHEN								
1. Partitions	20	LF					10.-	200.
2. Flooring	46	SF					1.-	46.
3. Cab & Counter	LS						800.	800.
SUB-TOTAL ITEM E								1046.
F. BATHROOM RENOVATIONS	2	ea					403.	806.
G. OTHER INTERIOR RENOVATIONS								
1. Demolition	LS						500.	500.
2. Partitions	87	LF					10.-	870.
3. Doors & hardwr.	14	ea					90.	1260.
4. Flooring	1085	SF					1.-	1085.
5. Painting	LS						400.	400.
SUB-TOTAL ITEM G								4115.
H. MECHANICAL								
1. New furnace & duct modifications							1500.	1500.
SUB TOTAL ITEM H								1500.
I. PLUMBING								
1. Bath fixtures	6	ea					150.	900.

PREPARED BY (Name)	APPROVED BY	TITLE OR ORGANIZATION	DATE

COST ESTIMATING FORM
NAVDOCKS 2417 (REV. 5-63)
0105 017 3800

SHEET 3 OF 3

IDENTIFICATION NUMBER

AREA OR NO.	ACTIVITY	LOCATION	CATEGORY CODE NUMBER

PROJECT (Or line item) TITLE

NCO-4BR-1

ITEM (OR FEATURE) DESCRIPTION (Abbreviate if necessary)	QUANTITIES		MATERIAL COSTS		LABOR COSTS		ENGINEERING ESTIMATE	
	NO. OF UNITS	UNIT	UNIT COST	COST	UNIT COST	COST	UNIT COST	COST
1	2	3	4	5	6	7	8	9
I. PLUMBING								
2. Water heater	1	ea					250.	250.
3. Hookup	LS						150.	150.
SUB-TOTAL ITEM I								1300.
J. ELECTRICAL								
1. 150 A panel	1	ea					250.	250.
2. FIXTURES	LS						150	150.
3. outlets	11	ea					25.	275.
SUB-TOTAL ITEM J								675.
SUB-TOTAL TYPE NCO-4BR-1								16,279.
10% CONTINGENCY								1628.
TOTAL PER UNIT								17,907.
X 11 UNITS			(17,907. x 11)					196,977.

PREPARED BY (Name)	APPROVED BY	TITLE OR ORGANIZATION	DATE