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APPLICANTS' EXHIBIT 2

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OFFICE OF SECRETARY
DOCKETING & SERVICE
BRANCH

A STUDY TO IDENTIFY
POTENTIAL SHELTERS
IN THE BEACH AREAS NEAR SEABROOK STATION

NUCLEAR REGULATORY COMMISSION

Docket No. 50-443/444^a Official Exh. No. 2
In the matter of Seabrook
Staff _____ IDENTIFIED ☒
Applicant ☒ RECEIVED ☒
Intervenor _____ REJECTED _____
Cont'g Off'r _____
Contractor _____ DATE 5/18/88
Other Applic Witness n/a
Reporter KA

Performed for
New Hampshire Yankee

Prepared by
Stone & Webster Engineering Corporation

Revision 1, August 1987

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SECTION 1

INTRODUCTION

This study was undertaken to identify potential public sheltering capabilities of municipal and commercial buildings considered to be suitable for short-term emergency use by the beach population along the Massachusetts and New Hampshire coastlines within the 10-mile Emergency Planning Zone (EPZ) of the Seabrook Station. The towns included in this region, from north to south, are: Rye, North Hampton, Hampton, and Seabrook in New Hampshire; Salisbury, Massachusetts; and the portion of Plum Island between the 5- and 10-mile EPZ radii lying within the Massachusetts towns of Newburyport and Newbury (see Figure 1). The region studied is approximately one-half mile wide. A survey of private residences in the same coastline region was also conducted to determine their sheltering characteristics.

The original report of this study (March 1986) identified potential sheltering in basements and masonry buildings. The Seabrook Station sheltering vs. evacuation decision criteria for the Seabrook EPZ are based upon the typical sheltering characteristics of wood-frame buildings. The March 1986 report has been updated to identify the sheltering space available in wood-frame buildings in order to reflect the total sheltering potential.

SECTION 2

APPROACH

The first step in the original study was to meet with various local, state, and federal organizations to gather background information. Meetings were held with officials of the Region 1 Office of the Federal Emergency Management Agency (FEMA), the civil defense agencies of Massachusetts and New Hampshire, and the American Red Cross chapters at Newburyport, Massachusetts, and Exeter, New Hampshire.

The next step was to visit the Tax Assessors' offices at the town halls of Rye, North Hampton, Hampton, and Seabrook in New Hampshire, and Salisbury, Newbury, and Newburyport in Massachusetts. Available listings of all commercial properties and tax-exempt properties (municipal and church buildings) in the beach area were examined. Maps were obtained for later field use.

Information from the tax assessment card for each property was transferred to a work sheet (Shelter Survey Form, Table 1). Of particular interest were the building address, construction characteristics, available floor space, number of stories and whether or not there is a basement. Each building was then visually inspected externally to confirm the tax assessment information. Any discrepancies were noted; also, any features of interest not available on the tax assessment cards were recorded. From this information, a list of potential shelters was developed.

2.1 SHIELDING FACTORS

Masonry buildings and buildings with masonry basements have the potential for providing representative (typical) shielding factors of 0.4 to 0.6 for airborne (cloud) radionuclides (Reference 1). From the same reference, wood-frame buildings have typical cloud shielding factors of 0.9. The shielding factor is a ratio of the radiation dose that would be received by a person inside the structure to the dose received by a person outside the structure on an assumed smooth ground surface. For example, if the shielding factor is 0.4, a person sheltered inside the structure would receive only 40 percent of the dose that an unsheltered person would receive. Wood-frame buildings without basements were not included in the March 1986 report but have been added in this revision in order to reflect the total sheltering potential.

2.2 PUBLIC SHELTERS

Each potential public shelter listed was visually inspected externally by a health physicist who estimated structure-specific cloud and ground shielding factors. These factors were estimated using information provided in Reference 1 as a guide, and allowing for such factors as number of windows and doors, percentage of basement walls extending above ground, and other construction features relating to adequate shielding. In some cases, structural features of a particular masonry building, mostly large window areas, would prevent use of the entire available floor area. In these cases, the floor areas available for use as a potential shelter were appropriately reduced as described in Section 3. As explained in

Reference 1, the shielding factors vary depending upon wall materials, construction geometry, location within the structure, etc. All of the shelters listed in Tables 2 through 7 have a cloud shielding factor of 0.9 or better.

2.3 RESIDENTIAL SHELTERING

In addition to identifying potential public shelters for the transient beach population, a sample survey of private residences in the beach area of each community studied (except for Salisbury, Massachusetts, where all residences were surveyed) was performed for the original report (March 1986) to determine the fraction of residences with shelter characteristics comparable to the potential public shelters listed. This was done by selecting representative streets at random and counting both the homes without basements and those with basements and/or masonry structure as determined by external observation. The total number of residential buildings in the beach area of each community was also obtained, primarily from street listings and tax records available in the towns.

For this revision, the residence sampling was increased to 100 percent for Hampton and Seabrook. The percentage of homes with basements and/or masonry structure did not change appreciably from the smaller sample surveyed previously. This was also found to be the case when the Salisbury sampling was increased to 100 percent during the original study. The remaining wood-frame residences without basements and/or masonry structure meet the sheltering characteristics considered for protective action decisions.

Condominiums are included in the total residence figures for Hampton and Seabrook for this revision, with one condominium unit equaling one residence. The results are shown in Table 8.

SECTION 3

RESULTS

3.1 PUBLIC SHELTERS

Tables 2 through 7 list potential public shelters for Rye, North Hampton, Hampton, Seabrook, Salisbury, and Plum Island, respectively. The tables list the name and address of each potential shelter and the approximate potential public shelter area. The shelters are listed in order of decreasing shelter area.

Rye has a total potential shelter area of approximately 160,000 ft² in 23 public shelters; North Hampton has 11,400 ft² in 4 public shelters; Hampton has 1,380,000 ft² in 205 public shelters; Seabrook has 70,900 ft² in 17 public shelters; Salisbury has 302,000 ft² in 50 public shelters; and Plum Island has 31,500 ft² in 18 public shelters. The number of persons that can be provided short-term shelter in a given area can be estimated by dividing the available shelter area by 10 square feet per person, which is the value used in the Reception and Care Facility Survey Program of the Federal Emergency Management Agency (formerly the National Shelter Study).

It is recognized, however, that not all of the potential shelter area listed in Tables 2 through 7 can be considered as being available for sheltering because of stored materials, internal structural features, etc. The amount of usable shelter area varies depending upon building usage (i.e., restaurant, clothing store, motel, etc). A separate field survey of a

sample of buildings was conducted by New Hampshire Yankee in July 1987. The survey examined the fraction of total potential shelter area that would be expected to be available for short-term sheltering. It consisted of visual inspection of the interiors of 78 potential public shelters located along Ocean Boulevard in Hampton Beach. The survey identified a prevalence of three general classes of business establishments: Class 1 - hotels, motels, restaurants, and lounges; Class 2 - entertainment centers (arcades); Class 3 - clothing, gift, and convenience stores (mercantile establishments). The available fraction of total area (not already occupied by internal features) was estimated to average two-thirds, one-half, and one-third for Classes 1, 2, and 3, respectively.*

On this basis, the available areas for short-term public sheltering in the potential shelters listed in this study are 102,000 square feet for Rye, 7,600 square feet for North Hampton, 861,000 square feet for Hampton, 35,800 square feet for Seabrook, 175,000 square feet for Salisbury, and 17,900 square feet for Plum Island. Applying the guideline of 10 square feet per person to these available areas yields a total capacity of 10,200 shelterees in Rye, 760 shelterees in North Hampton, 86,100 shelterees in Hampton, 3,580 shelterees in Seabrook, 17,500 shelterees in Salisbury, and 1,790 shelterees in Plum Island.

*When applied to the FEMA guideline of 10 square feet per person, these available fractions approximate the permissible occupation load values of the National Fire Code, Section 101, Life Safety Code for dining/drinking establishments and mercantile establishments (roughly equivalent to Classes 1 and 3) which are 15 and 30 square feet per person, respectively.

3.2 RESIDENTIAL SHELTERING

The results of the sample survey of private residences are shown in Table 8. The estimated percentage of beach residences with basement and/or masonry sheltering capability available for their occupants ranges from a low of 34 percent in Hampton to a high of 78 percent in Rye. The remaining percentage of residences (wood-frame without basements) provide sheltering characteristics at least as effective as those used in calculations made for determining appropriate protective action decisions. The field survey results support the conclusions that there are very few residences that would not meet these sheltering characteristics.

REFERENCES

1. Aldrich, David C.; Ericson, David M., Jr.; and Johnson, Jay D. Public Protection Strategies for Potential Nuclear Reactor Accidents: Sheltering Concepts with Existing Public and Private Structures, Sandia Laboratories, SAND 77-1725, February 1978.

TABLE 1

SAMPLE SHELTER SURVEY FORM

SHELTER SURVEY FORM

REF. NO. _____

Building Name:

Address:

Owner:

Building Use:

Year-round _____ or Seasonal _____

Distance Ring (mi) < 2 _____, 2-3 _____, 3-4 _____, 4-5 _____, >5 _____

Number of non-basement stories _____

Square feet per story _____

Structure Description:

Structure Category:

_____ Wood-frame

_____ Masonry

_____ Large Office or Industrial (>5000 ft²/story)

_____ Other (describe)

Comments:

Non-basementBasementHabitable area, ft²Persons @ one per 10 ft²

Cloud Shielding factor

Ground Shielding factor

TABLE 2

RYE - CHARACTERISTICS OF POTENTIAL PUBLIC SHELTERS

<u>Name/Address</u>		<u>Shelter Area, ft²</u>
St. Francis Retreat Center 860 Central Road		49,140
Pirate's Cove 1200 Ocean Boulevard	Total Wood-frame Basement	13,490 (9,200) (4,290)
St. Theresa's Church/Parish Center 816 Central Road	Total Masonry Basement	13,000 (9,750) (3,250)
Jeanette's Sea Shoppe/ Philbrick's Convenience Store 2203 Ocean Boulevard		8,600
Saunders (Restaurant) 175 Rye Harbor Road		7,430
Rye Beach Motel 23 Locke Road		7,100
Pilot House 2000 Ocean Boulevard	Total Wood-frame Basement	6,270 (5,470) 800)
Crown Colony 1381 Ocean Boulevard		6,190
Cable House 20 Old Beach Road	Total Wood-frame Basement	5,800 (3,870) (1,930)
Dunes Motel and Dining Room 2281 Ocean Boulevard		5,480
Rye Beach Post Office 830 Central Road	Total Masonry Basement	5,180 (3,450) (1,730)
Rye Harbor Motel 2000 Ocean Boulevard		5,060
Beach Club Inc. 2450 Ocean Avenue		4,070

TABLE 2 (Continued)

RYE - CHARACTERISTICS OF POTENTIAL PUBLIC SHELTERS

<u>Name/Address</u>	<u>Shelter Area, ft²</u>
Atlantic Four Winds Motor Court 1233 Ocean Boulevard	3,690
Sandpiper Country Store 2277 Ocean Boulevard	3,000
Paul's Carriage House 2263 Ocean Boulevard	2,910
Harbormaster Restaurant 1323 Ocean Boulevard	2,690
Wallis Sands State Beach Bathhouse Ocean Boulevard at Wallis Road	2,550
Driftwood Grill 1215 Ocean Boulevard	2,480
Drake's Harborside Restaurant 1667 Ocean Boulevard	2,360
St. Andrews by the Sea Church Road	1,760
Lamplighter Craft Shop Ocean Boulevard at Rye Harbor State Park	1,000
Rye Harbor State Park (4 Bldgs.)	570
Grand Total	<u>159,820</u> ft ² in 23 Shelters

TABLE 3

NORTH HAMPTON - CHARACTERISTICS OF POTENTIAL PUBLIC SHELTERS

<u>Name/Address</u>		<u>Shelter Area, ft²</u>
Fuller Gardens	Total	7,160
Willow Avenue	Wood-frame	(6,760)
	Basement	(400)
Andrews by the Ocean	Total	1,760
28 Ocean Boulevard	Masonry	(240)
	Wood-frame	(1,520)
Seaside Village Motel		1,700
1 Ocean Boulevard		
Paul's (Ice Cream Parlor)		820
16 Ocean Boulevard		
	Grand Total	<u>11,440</u> ft ² in 4 shelters

TABLE 4

HAMPTON - CHARACTERISTICS OF POTENTIAL PUBLIC SHELTERS

<u>Name/Address</u>		<u>Shelter Area, ft²</u>
Hampton Beach Casino 169 Ocean Boulevard	Total Basement Wood-frame	109,860 (960) (108,900)
Ashworth Hotel 295-305 Ocean Boulevard	Total Nonbasement Basement	50,700 (35,460) (15,240)
Mainsail Motel 40 Ashworth Avenue		29,400
Surf Hotel 275 Ocean Boulevard	Total Basement Wood-frame	23,460 (4,560) (18,900)
Janmere Motel 52 Ashworth Avenue	Total Masonry Wood-frame	22,700 (4,700) (18,000)
Royal Hampton Motel 6 Ashworth Avenue		20,300
Sand Motel 30-32 Ashworth Avenue		19,300
Moulton Hotel 245 Ocean Boulevard	Total Basement Wood-frame	19,270 (4,770) (14,500)
Dimitri's Restaurant 81 Ocean Boulevard		18,460
Playland Arcade 209-211 Ocean Boulevard	Total Basement First floor	17,760 (8,880) (8,880)
Seagate Motel/Stores/Garage 9 Ashworth Avenue		17,720
St. Patrick's Church/ Parsonage 40 Church Street	Total Basement Wood-frame	17,120 (1,520) (15,600)
Seaside Motel 8-18 B Street		15,600

TABLE 4 (Continued)

HAMPTON - CHARACTERISTICS OF POTENTIAL PUBLIC SHELTERS

<u>Name/Address</u>		<u>Shelter Area, ft²</u>
Flagship Motor Court 198 Ashworth Avenue		15,400
Sea Castle Motel 377 Ocean Boulevard	Total Basement Wood-frame	13,910 (910) (13,000)
Hillcrest Inn 113 Ocean Boulevard	Total Basement Wood-frame	13,510 (4,110) (9,400)
Hollingsworth Motel 7 A Street		13,500
Peacock Lounge 225 Ocean Boulevard	Total Basement Wood-frame	13,260 (1,760) (11,500)
Avon Motel 15-17 B Street		13,200
The Happy Hampton 253 Ocean Boulevard	Total Basement Wood-frame	13,190 (1,790) (11,400)
Hampton Beach Regal Inn 162 Ashworth Avenue		13,000
Drift Motel 13 Ocean Boulevard	Total Basement Wood-frame	12,830 (830) (12,000)
Beachview Motel/Supermarket 101 Ocean Boulevard		12,400
Laurentian Motel 24 Ashworth Avenue	Total Basement Wood-frame	12,310 (1,010) (11,300)
Atlantic Motel 20 Brown Avenue	Total Basement Wood-frame	12,110 (3,910) (8,200)
Sea Den Motel 449 Ocean Boulevard	Total Masonry/Basement Wood-frame	11,920 (9,820) (2,100)

TABLE 4 (Continued)

HAMPTON - CHARACTERISTICS OF POTENTIAL PUBLIC SHELTERS

<u>Name/Address</u>		<u>Shelter Area, ft²</u>
Atlantic Motel 393 Ocean Boulevard	Total Basement Wood-frame	11,880 (2,280) (9,600)
Hampton Beach Fire Station Garage 58 Ashworth Avenue	Total Masonry Wood-frame	11,750 (5,150) (6,600)
Ye Colonial Inn 139 Ocean Boulevard	Total Basement Wood-frame	11,400 (3,000) (8,400)
Royal Crest North 94 Ashworth Avenue	Total Masonry Wood-frame	11,250 (950) (10,300)
Kentville Motel 315 Ocean Boulevard	Total Basement Wood-frame	11,090 (2,690) (8,400)
Algier's Motel 345 Ocean Boulevard	Total Basement Wood-frame	11,020 (1,520) (9,500)
Springfield Motor Lodge 89 Ocean Boulevard	Total Basement Wood-frame	10,960 (3,360) (7,600)
Pelham Hotel 121 Ocean Boulevard	Total Basement Wood-frame	10,930 (2,630) (8,300)
Colony Motel 46 Ashworth Avenue		10,900
Grand View Motel 353 Ocean Boulevard	Total Basement Wood-frame	10,660 (2,660) (8,000)
Tides Motel 95-99 Ashworth Avenue		10,300
Monte Carlo Inn 10-12 G Street		10,200

TABLE 4 (Continued)

HAMPTON - CHARACTERISTICS OF POTENTIAL PUBLIC SHELTERS

<u>Name/Address</u>		<u>Shelter Area, ft²</u>
White Gull	Total	9,950
21 F Street	Wood-frame	(7,000)
	Basement	(2,950)
The Puritan Hotel	Total	9,460
109-111 Ocean Boulevard	Basement	(2,360)
	Wood-frame	(7,100)
Windjammer Motel	Total	9,380
935 Ocean Boulevard	Basement	(1,380)
	Wood-frame	(8,000)
Hampton Harbor Motel	Total	9,080
208-210 Ashworth Avenue	Nonbasement	(400)
	Basement	(880)
	Wood-frame	(7,800)
Sea Side Chalet		9,030
190 Ashworth Avenue		
Anchor Inn	Total	8,990
73 Ocean Boulevard	Basement	(2,190)
	Wood-frame	(6,800)
Lobster Trap Restaurant		8,860
507 Ocean Boulevard		
Dicken's Tavern		8,820
6 A Street		
Summer Wind Motel		8,670
128 Ashworth Avenue		
Mrs. Mitchell's Country Shoppe		7,840
205 Ocean Boulevard		
Harris Sea Ranch	Total	7,820
79 Ocean Boulevard	Basement	(1,120)
	Wood-frame	(6,700)
Budapest Apt.		7,700
21-23 B Street		
Rocky Wold Motel	Total	7,660
349 Ocean Boulevard	Basement	(660)
	Wood-frame	(7,000)

TABLE 4 (Continued)

HAMPTON - CHARACTERISTICS OF POTENTIAL PUBLIC SHELTERS

<u>Name/Address</u>		<u>Shelter Area, ft²</u>
Mari-Ann Motel	Total	7,510
2 Ocean Boulevard	Basement	(2,310)
	Wood-frame	(5,200)
Ocean Motel		7,510
580 Winnacunnet Street		
Tastee Tower		7,370
313 Ocean Boulevard		
Sun & Surf Motel	Total	7,220
528 Ocean Boulevard	Basement	(1,020)
	Wood-frame	(6,200)
Dolphyn Motel	Total	7,200
48 Ashworth Avenue	Masonry	(1,900)
	Wood-frame	(5,300)
Sunny's Lincoln House		7,000
95 Ocean Boulevard		
Marguerite Motel		6,880
112-116 Ashworth Avenue		
Brownie's Motel	Total	6,700
130-184 Ashworth Avenue	Basement	(700)
	Wood-frame	(6,000)
Longview Apartments	Total	6,570
20 C Street	Wood-frame	(4,930)
	Basement	(1,640)
Vista Motel		6,500
511 Ocean Boulevard		
Algiers Too Motel	Total	6,480
341 Ocean Boulevard	Basement	(980)
	Wood-frame	(5,500)
Wilbert Hotel		
22-24 C Street		
B & S Jewelry/Neptune/ Seacrest	Total	6,410
117 Ocean Boulevard	Basement	(1,410)
	Wood-frame	(5,000)

TABLE 4 (Continued)

HAMPTON - CHARACTERISTICS OF POTENTIAL PUBLIC SHELTERS

<u>Name/Address</u>		<u>Shelter Area, ft²</u>
Seascape Motel 955 Ocean Boulevard		6,370
Bailey Beach Resort and Seafood Barn 933 Ocean Boulevard		6,260
Hampton Beach Police Station 66 Ashworth Avenue		6,100
Dudley Clothier/ Sunset Restaurant	Total Nonbasement Basement	5,970 (3,790) (2,180)
Dory Inn 1044 Ocean Boulevard		5,950
Redwood Apartments 87 Ocean Boulevard		5,870
Boulevard Motel 520 Ocean Boulevard		5,850
Hampton Beach Mall 23-25 Ocean Boulevard	Total Basement Wood-Frame	5,850 (1,950) (3,900)
Roy Family Bed & Breakfast 473 Ocean Boulevard	Total Basement Wood-frame	5,850 (1,550) (4,300)
Jen's Ocean Manor 753 Ocean Boulevard		5,850
Harris Motel 75 Ocean Boulevard	Total Basement Wood-frame	5,850 (450) (5,400)
The Old Salt 83 Ocean Boulevard		5,830
DW's Oceanside Hotel 365 Ocean Boulevard	Total Basement Wood-frame	5,790 (1,490) (4,300)
Seafarer Hotel 4 J Street		5,780

TABLE 4 (Continued)

HAMPTON - CHARACTERISTICS OF POTENTIAL PUBLIC SHELTERS

<u>Name/Address</u>		<u>Shelter Area, ft²</u>
Joan's Subs & Pizza 132 Ashworth Avenue	Total Basement Wood-frame	5,760 (960) (4,800)
Atlantic Breakers Motel 409 Ocean Boulevard		5,600
L Street Tavern 17 L Street	Total Nonbasement Basement Wood-frame	5,590 (1,620) (870) (3,100)
Famous Door Realty 9 Ocean Boulevard	Total Basement Wood-frame	5,590 (890) (4,700)
Riviera Motor Inn 431 Ocean Boulevard		5,540
Rexall Drug St. 131 Ocean Boulevard	Total Basement Wood-frame	5,540 (1,570) (3,970)
Westport Motel 86 Ashworth Avenue		5,520
Beverly Motel 196 Ashworth Avenue		5,500
Elmdale 6 G Street		5,450
Nautical Motel 147 Ashworth Avenue		5,320
Golden Eagle 144 Ashworth Avenue		5,240
Mermaid Apt. 19 B Street		5,240
Connecticut Village 7 H Street	Total Masonry Wood-frame	5,140 (2,790) (2,350)

TABLE 4 (Continued)

HAMPTON - CHARACTERISTICS OF POTENTIAL PUBLIC SHELTERS

<u>Name/Address</u>		<u>Shelter Area, ft²</u>
Mai Kai Restaurant 52 Ashworth Avenue	Total Nonbasement Basement	5,120 (4,030) (1,090)
Voyager Motel 20 Ocean Boulevard	Total Basement Wood-frame	5,080 (780) (4,300)
Sea Squire Motor Lodge 1088 Ocean Boulevard	Total Basement Wood-frame	5,040 (1,140) (3,900)
Port of Call Motel 7 F Street		5,030
Shirley Motel 339 Ocean Boulevard	Total Basement Wood-frame	5,030 (1,030) (4,000)
Bell Regis Motel 98 Ashworth Avenue		4,980
Wave Motel 535 Ocean Boulevard		4,880
Bolyea Apt. 22 B Street		4,870
Webster House 15 G Street		4,840
Beacon Hotel 105 Ocean Boulevard	Total Basement Wood-frame	4,780 (1,780) (3,000)
Harris Real Estate 31 Ocean Boulevard	Total Masonry Wood-Frame Basement	4,770 (1,590) (1,590) (1,590)
Royal Crest Motel 98 Ashworth Avenue		4,720
Pepin's Inn 20 G Street		4,700

TABLE 4 (Continued)

HAMPTON - CHARACTERISTICS OF POTENTIAL PUBLIC SHELTERS

<u>Name/Address</u>		<u>Shelter Area, ft²</u>
Blue Jay Motel	Total	4,590
186 Ashworth Avenue	Basement	(290)
	Wood-frame	(4,300)
Pappy's Pizza & Subs		4,580
9 F Street		
Community Church		4,540
49 Ashworth Avenue		
Brass Lantern Motel		4,450
91 Ashworth Avenue		
Grayhurst		4,340
11 F Street		
Moulton Jr. Apartments		3,180
11 A Street		
Fry Doe Restaurant	Total	4,240
115 Ocean Boulevard	Basement	(1,140)
	Wood-frame	(3,100)
Laurentian Apts.		4,220
15 Island Path		
Backstage/Suzy's Sportswear	Total	4,210
235 Ocean Boulevard	Basement	(210)
	Masonry	(4,000)
Pelham Motel		4,200
5 G Street		
O'Neill Cottages		4,200
2-14 Gookin Court		
Dave's Garage		4,200
321 Ocean Boulevard		
Rapuano Apartments	Total	4,130
13 G Street	Basement	(730)
	Wood-frame	(3,400)
N.H. Lobster		4,110
23 Harbor Road		

TABLE 4 (Continued)

HAMPTON - CHARACTERISTICS OF POTENTIAL PUBLIC SHELTERS

<u>Name/Address</u>		<u>Shelter Area, ft²</u>
Windsor Motel		4,070
14 G Street		
Atlantic Motel	Total	4,060
34 Brown Street	Basement	(1,360)
	Wood-frame	(2,700)
Seabury Apt.		4,030
24 B Street		
Joanne's Restaurant	Total	4,020
5 J Street	Basement	(1,620)
	Wood-frame	(2,400)
Kevin's	Total	3,970
119 Ocean Boulevard	Wood-frame	(2,830)
	Basement	(1,590)
Surf View	Total	3,940
487 Ocean Boulevard	Wood-frame	(1,280)
	Basement	(2,660)
Bromfield Motel	Total	3,880
7 G Street	Basement	(580)
	Wood-frame	(3,300)
Sea Mist Motel	Total	3,840
9 G Street	Basement	(940)
	Wood-frame	(2,900)
Preston Real Estate/ Yankee Lady	Total	3,760
63 Ocean Boulevard	Masonry	(1,240)
	Wood-frame	(2,520)
Blue Haven Motel	Total	3,730
497 Ocean Boulevard	Wood-frame	(2,200)
	Basement	(1,530)
Green Mountain Creamery		3,720
373 Ocean Boulevard		
Little Jack's		3,690
537 Ocean Boulevard		
Betty LaBranche Realty/etc. (rear portion)		3,660
931 Ocean Boulevard		

TABLE 4 (Continued)

HAMPTON - CHARACTERISTICS OF POTENTIAL PUBLIC SHELTERS

<u>Name/Address</u>		<u>Shelter Area, ft²</u>
Highland Inn 9 Highland Avenue	Total Wood-frame Basement	3,660 (2,660) (1,000)
Gleason Rooming House 1 Nudd Avenue	Total Basement Wood-frame	3,630 (1,330) (2,300)
Window Box Gifts 489 Ocean Boulevard	Total Wood-frame Basement	3,620 (2,540) (1,080)
Grand Maison 897 Ocean Boulevard		3,600
Patriot's Corner 27-29 Ocean Boulevard		3,560
Pasternak's Seahorse Apartments 18 C Street		3,360
Miramar Real Estate 9 Nudd Avenue	Total Basement Wood-frame	3,310 (810) (2,500)
Kristy's Corner 199 Ocean Boulevard		3,300
Houle Cottages 8-10 Auburn Street		3,300
Shoals View Motel 857 Ocean Boulevard	Total Nonbasement Basement Wood-frame	3,280 (720) (860) (1,700)
Debonair Motel 18 Ashworth Avenue	Total Masonry Wood-frame	3,260 (1,360) (1,900)
Silver Wave Motel 9 A Street		3,200
McDonald's 187 Ocean Boulevard	Total Masonry Basement	3,160 (1,580) (1,580)

TABLE 4 (Continued)

HAMPTON - CHARACTERISTICS OF POTENTIAL PUBLIC SHELTERS

<u>Name/Address</u>		<u>Shelter Area, ft²</u>
Salty Dog 11 J Street		3,100
Motel (Hollingworth) 15 A Street		3,100
Ocean Air Apartments 429 Ocean Boulevard		3,000
Rocky's Real Estate 597 Ocean Boulevard	Total Wood-Frame Basement	3,000 (2,000) (1,000)
Rest Rooms (State Beach) Ocean Boulevard (across from Casino)		3,000
Bon Air Guests 13 Highland Avenue		2,980
Rcn's Beach House Restaurant 965 Ocean Boulevard	Total Basement Wood-frame	2,950 (750) (2,200)
Lighthouse Convenience Store 369 Ocean Boulevard		2,950
Hyde Park 8 Nudd Avenue	Total Basement Wood-frame	2,910 (810) (2,100)
Sunset Chalet Motel 93 Ashworth Avenue		2,880
Broadview Apartments 4 Haverhill Avenue	Total Basement Wood-frame	2,820 (820) (2,000)
Hogg's Convenience Store 7 Ashworth Avenue		2,790
Clew's Hardware 166 Ashworth Avenue		2,720
Sea Ketch Restaurant & Pub 127 Ocean Boulevard	Total Nonbasement Basement	2,690 (1,610) (1,080)

TABLE 4 (Continued)

HAMPTON - CHARACTERISTICS OF POTENTIAL PUBLIC SHELTERS

<u>Name/Address</u>	<u>Shelter Area, ft²</u>
Hollywood Motel 465 Ocean Boulevard	2,650
Hampton House 335-337 Ocean Boulevard	2,600
Speed Queen Laundromat 143 Ashworth Avenue	Total 2,570 Basement (670) Wood-frame (1,900)
Americana Apartments 61 Ocean Boulevard	Total 2,570 Basement (1,010) Wood-Frame (1,560)
LaRocca's Market 12 Ashworth Avenue	2,500
Junkin's 193 Ocean Boulevard	2,500
Seaside Villages 1098 Ocean Boulevard	2,470
Bell Buoy Apartments 19 F Street	Total 2,450 Basement (910) Wood-Frame (1,540)
The Deerfield 9 J Street	2,420
Hollingworth Motor Court 31 Ashworth Avenue	2,350
Lorenz's Clam Stand 9B Ocean Boulevard	Total 2,290 Basement (790) Wood-frame (1,500)
Seaside Grille 9A Ocean Boulevard	2,250
True's Clothing 191 Ocean Boulevard	2,250
American Spirit/CITGO 503 Ocean Boulevard	2,160

TABLE 4 (Continued)

HAMPTON - CHARACTERISTICS OF POTENTIAL PUBLIC SHELTERS

<u>Name/Address</u>	<u>Shelter Area, ft²</u>
Barlee's Surfside 72 King's Highway	2,140
State Park Bath Houses (7/87, new) Ocean Boulevard	2,000
Fried Dough Place 7 Island Path	2,000
Buoys and Bells Motel 11 Tilton Street	2,000
Kitty-Lou Motel 200 Ashworth Avenue	1,980
Tom Thumb Dairy Bar 375 Ocean Boulevard	1,980
Ocean Edge Motel 915 Ocean Boulevard	1,920
Bea's Cottages and Apartments 104 Ashworth Avenue	1,920
The Dorna 7 Nudd Avenue	1,900
Garland Restaurant/ Sparky's Sports 10-12 C Street	1,870
Holiday House 17 Highland Avenue	Total 1,820 Basement (920) Wood-frame (900)
Rainbow Village Motel 4 P Street	Total 1,740 Basement (440) Wood-frame (1,300)
Beachcomber Motel 419 Ocean Boulevard	1,680
Clew's Furniture 164 Ashworth Avenue	1,620

TABLE 4 (Continued)

HAMPTON - CHARACTERISTICS OF POTENTIAL PUBLIC SHELTERS

<u>Name/Address</u>		<u>Shelter Area, ft²</u>
Shorwind Motel 15 F Street	Total Masonry Wood-frame	1,610 (890) (720)
Harris Cottages 33 Ocean Boulevard		1,600
Midge Real Estate 327 Ocean Boulevard		1,500
Olde McDonald's 395 Ocean Boulevard	Total Masonry Wood-frame	1,360 (860) (500)
Carroll Cottages 8 Page Lane		1,360
Titone's Ashworth Market 20 L Street		1,250
High'n'Dry Restaurant 595 Ocean Boulevard		1,240
Oceanside Mall 367 Ocean Boulevard		1,240
Danny's 154 Ashworth Avenue		1,240
Market/Laundry/Restaurant (2-Story Annex) 703 Ocean Boulevard		1,200
Windchimes Food & Spirits 7 Ocean Boulevard	Total Masonry Wood-frame	1,200 (400) (800)
Scrub-Dub Laundry/Salon 536 High Street		1,200
Farr's Famous Chicken 43 Ashworth Avenue		900
Boston Bob's Eatery 41 Ashworth Avenue		900

TABLE 4 (Continued)

HAMPTON - CHARACTERISTICS OF POTENTIAL PUBLIC SHELTERS

<u>Name/Address</u>	<u>Shelter Area, ft²</u>
T. J. Rapp's 71 Ocean Boulevard	820
Studio Grocery 142 Ashworth Avenue	750
Purple Pickle Deli 26 H Street	750
Go-Go Putt 59 Ocean Boulevard	720
Blink's Fry Doe 134 Ashworth Avenue	600
Grand Total	<u>1,375,910 ft²</u> in 205 shelters

TABLE 5:

SEABROOK - CHARACTERISTICS OF POTENTIAL PUBLIC SHELTERS

<u>Name/Address</u>		<u>Shelter Area, ft²</u>
Beach Shoppe/Laundromat Rt. 1A	Total Laundromat Basement Wood-frame	13,650 (1,000) (4,750) (7,900)
O'Keefe's Store & Restaurant 23 Rt. 1A		5,970
Hogg's Convenience Store 419 Rt. 286	Total Basement Wood-frame	5,600 (1,600) (4,000)
Preston's Country Store Rt. 1A		4,860
Cristaldi's 443 Rt. 286		4,700
St. Elizabeth's Catholic Church Chelmsford St.		4,690
DiBurro's Market Rt. 1A at River Street	Total Basement Wood-frame	4,540 (720) (3,820)
Mac's Clam Bar Rt. 1A	Total Basement Wood-frame	4,440 (820) (3,620)
Dairy Queen 418 Rt. 286	Total Nonbasement Basement	4,080 (2,720) (1,360)
Markey's Lobster Pool/Restaurant 410 Rt. 286		4,050
Captain Don's Fish Market River Street	Total Masonry Wood-frame	3,430 (400) (3,030)
Police Station/Beach Precinct Rt. 1A		2,800
Poore Steve's Ice Cream 40 Rt. 1A	Total Basement Wood-frame	2,340 (1,170) (1,170)

TABLE 5 (Continued)

SEABROOK - CHARACTERISTICS OF POTENTIAL PUBLIC SHELTERS

<u>Name/Address</u>	<u>Shelter Area, ft²</u>
Brown's Lobster Pound 407 Rt. 286	2,230
Adams Real Estate Rt. 1A	2,110
Ceal's Clam Stand/Jewelry Rt. 1A (corner River St.)	880
Seabrook Bank & Trust Rt. 286 (corner 1A)	500
Grand Total	<u>70,870</u> ft ² in 17 Shelters

TABLE 6

SALISBURY - CHARACTERISTICS OF POTENTIAL PUBLIC SHELTERS

<u>Name/Address</u>	<u>Shelter Area, ft²</u>
Carefree Arcade/Fleamarket/Kabob Hut/ Carousel Lounge/Primaricare 23 South Ocean Front	31,150
Funland Arcade South Ocean Front	26,840
Frolics South Ocean Front	23,640
Normandy Lounge Bldg Broadway and Ocean	15,690
Pavillion and Beach Club Ocean Front	13,000
Midway Arcade Broadway	12,580
Sidewalk Cafe and Shops South Ocean Front	11,000
Club Edwards Atlantic and Ocean	9,400
State Reservation/Beach Pavillion Maintenance Garage Rest Rooms of Campground	Total 8,840 (5,250) (2,630) (960)
McDonald's/Arcade 24F Central Avenue	8,500
Joe's Playland 37-39 Broadway	8,010
Bowery Playboy Lounge 11 North End Boulevard	7,590
Salisbury Building Supply 591 North End Boulevard	7,230
Willey's Candy Shop 12 Broadway	Total 6,900 Wood-frame (830) Masonry (6,070)

TABLE 6 (Continued)

SALISBURY - CHARACTERISTICS OF POTENTIAL PUBLIC SHELTERS

<u>Name/Address</u>	<u>Shelter Area, ft²</u>
Police/Fire Station/Rest Rooms Railroad Avenue	6,710
Driftwood Motel 559A Beach Road	6,380
Beach Front Motel 46F Central Avenue	Total 5,900 Masonry (3,520) Basement (2,380)
Tripoli Pizza 47 Broadway	5,260
Dodie's 150 Atlantic Avenue	Total 5,190 Wood-frame (3,460) Basement (1,730)
Ocean Gate Motel 367 Beach Road	5,110
El Rancho Motel Broadway	5,000
Supreme Tees South Ocean Front	4,590
Star of the Sea Catholic Church North End Boulevard	4,410
Sand's Bar 11 Central Avenue	4,170
Shaheen Enterprises, Inc. 5 Railroad St.	4,000
Plaza (4D+1) North End Boulevard	3,890
Colonial Arms Motel 40 Brissette Avenue	3,780
Sea Galley Restaurant 464F North End Boulevard	Total 3,740 Wood-frame (1,870) Basement (1,870)
Tic Toc Lounge 7 Broadway	3,690
Mr. K's Lounge 243 North End Boulevard	3,500

TABLE 6 (Continued)

SALISBURY - CHARACTERISTICS OF POTENTIAL PUBLIC SHELTERS

<u>Name/Address</u>		<u>Shelter Area, ft²</u>
Broadway Arcade Broadway and Central Avenue		3,000
Butch's North End Boulevard at Central Avenue	Total Masonry Wood-frame	2,940 (1,470) (1,470)
Napoli's Pizza Broadway		2,880
Salisbury Discount House South Ocean Front		2,800
Anne's Specialty House South Ocean Front		2,670
Driftway Fun Park Driftway and Central	Total Masonry Wood-frame	2,640 (800) (1,845)
Mark's General Store 26 North End Boulevard	Total Basement Wood-frame	2,580 (1,290) (1,290)
Seacrest Motel 412, 412F, 414 North End Boulevard		1,900
Dream Machine Arcade Broadway		1,780
Mr. Mike's Ocean Front		1,720
Shaffee's Lounge 9 Driftway		1,550
Star of the Sea Church Parsonage North End Boulevard	Total Wood-frame Front Basement Rear Basement	1,470 (670) (120) (680)
Shaheen's Bottled Liquors 1 Broadway		1,390
Mr. Mike's Potato Stand		1,380
Donut Depot 415 North End Boulevard		1,300

TABLE 6 (Continued)

SALISBURY - CHARACTERISTICS OF POTENTIAL PUBLIC SHELTERS

<u>Name/Address</u>	<u>Shelter Area, ft²</u>
5 O'Clock Club Ocean Front	1,290
Sandpiper Restaurant 7-9 North End Boulevard	1,230
Ripple's 105 North End Boulevard	1,100
Lena's Subs 18 North End Boulevard	630
Speedway Area Railroad Avenue	160
Grand Total	<u>302,100</u> ft ² in 50 Shel

TABLE 7

PLUM ISLAND - CHARACTERISTICS OF POTENTIAL PUBLIC SHELTERS

<u>Name/Address</u>		<u>Shelter Area, ft²</u>
St. James Chapel Northern Boulevard between 38th and 40th Streets		4,000
Shellfish Purification Plant North end of island		3,950
Island Sub Shop 51 Northern Boulevard	Total Wood-frame Basement	2,750 (1,650) (1,100)
Surfland Bait and Tackle 28 Plum Island Boulevard	Total Basement Wood-frame	2,100 (1,050) (1,050)
Mr. Moe's Package Store Plum Island Boulevard & Columbia Way	Total Wood-frame Basement	1,990 (1,190) (800)
US Government Reservation North end of P.I.	Total Office Area House basement	1,910 (1,160) (750)
Citgo Service Station 4 Old Point Road		1,560
Plum Island Volunteer Fire Station Northeast end of island		1,560
Snack Bar/Parking Office South End of Southern Boulevard	Total Wood-frame Masonry	1,520 (760) (760)
The Lighthouse Northern Boulevard (North End)		1,440
Dick's Variety 27 Plum Island Boulevard		1,330
4 C's Dairy Bar 2 Plum Island Boulevard		1,320
Ocean Front Deck 2 Northern Boulevard		1,270

TABLE 7 (Continued)

PLUM ISLAND - CHARACTERISTICS OF POTENTIAL SHELTERS

<u>Name/Address</u>	<u>Shelter Area, ft²</u>
Captain C's Northern Boulevard and 73rd Street	1,200
Plum Island Town Hall Plum Island Boulevard at Northern Boulevard	1,160
Paul & Patt's Beachcomber Rest./Lounge Plum Island Boulevard	1,140
PJ's Variety 134 Northern Boulevard	1,100
Plum Island Comfort Station North end of P.I.	230
Grand Total	<u>31,530</u> ft ² in 18 Shelters

TABLE 8
RESIDENCE SHELTER CHARACTERISTICS

<u>Community</u>	<u>Total Residences*</u> <u>in</u> <u>Beach Area</u>	<u>Number of Residences</u> <u>Surveyed</u>	<u>Estimated</u> <u>Percent</u> <u>w/Basement</u> <u>or Masonry</u> <u>Structure</u>
Rye, NH	679	249	78
North Hampton, NH	259	223	75
Hampton, NH	3,036	3,036	34
Seabrook, NH**	758	758	51
Salisbury, MA	1,440	1,440	48
Plum Island, MA	865	280	48

*Condominiums included as one residence per condo unit.

**Includes small section of Hampton, south of Hampton River inlet (Beckman's Point).

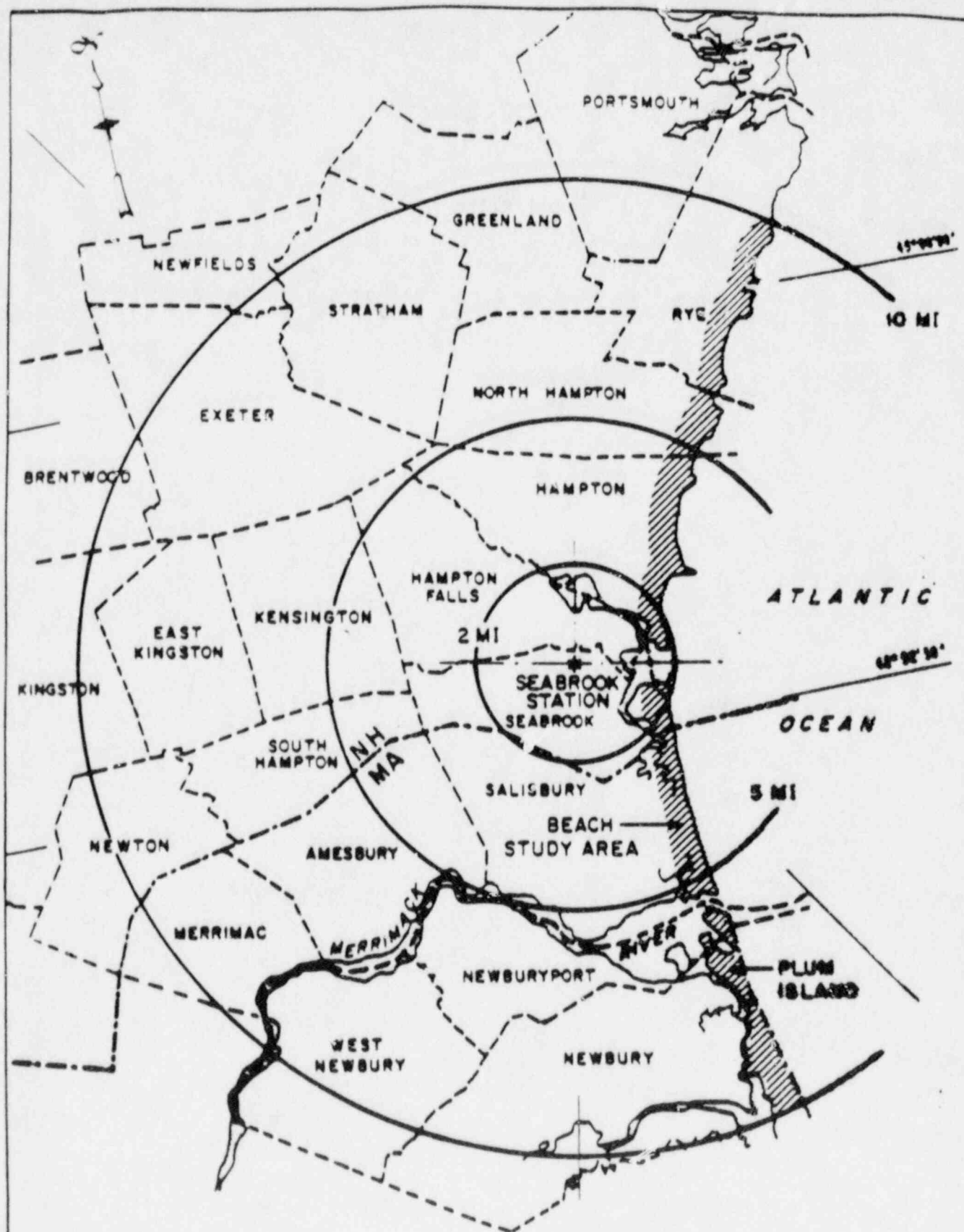
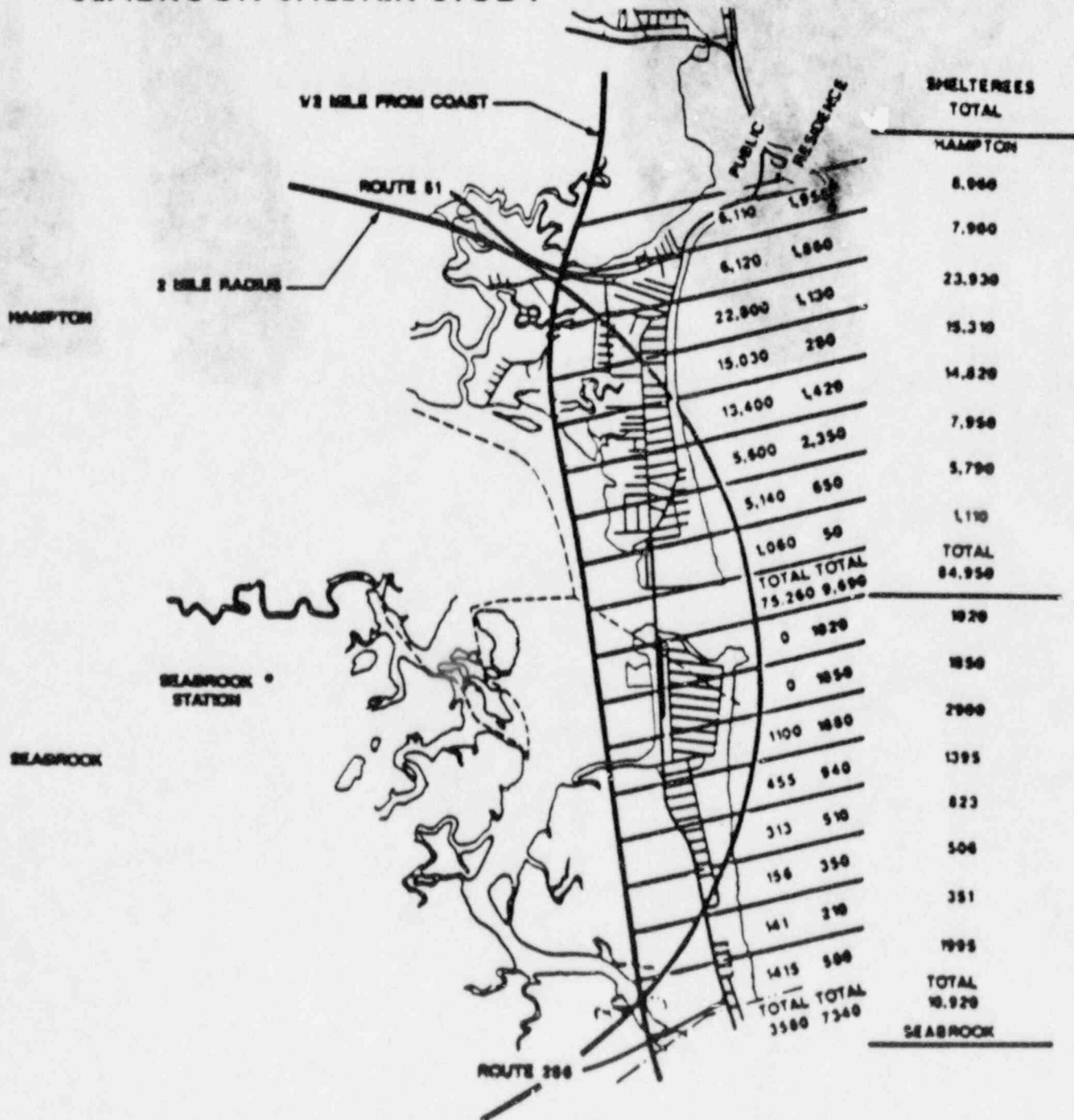


FIGURE 1
MAP OF SEABROOK STATION
BEACH AREA

SEABROOK SHELTER STUDY



EXHIBITS:

NUCLEAR REGULATORY COMMISSION

EXHIBITS OF THE APPLICANT

IN THE MATTER OF:

PUBLIC SERVICE COMPANY OF NEW
HAMPSHIRE, et al.

(SEABROOK STATION, UNITS 1 and 2)

EVIDENTIARY HEARING

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Docket Nos.
50-443-OL
50-444-OL

LOCATION: Concord, New Hampshire

DATES: May 2, 1988 through May 6, 1988

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