

A R E S O R T C E N T E R

F O R M Y R T L E B E A C H

S O U T H C A R O L I N A

M A S T E R

O F A R C H I T E C T U R E

T H E S I S

M . I . T .

W E S L E Y C K I N D E R

The Graduate House
Mass. Institute of Technology
Cambridge 39, Mass.

13 May, 1948

William W Wurster, Dean
School of Architecture and Planning
Massachusetts Institute of Technology
Cambridge 39, Massachusetts

Dear Dean Wurster:

In partial fulfillment of the requirements for the
degree of Master of Architecture, I submit my thesis,
"A Resort Center for Myrtle Beach, South Carolina."

Very truly yours,

Wesley C Kinder

A C K N O W L E D G E M E N T

I would like to express my appreciation to the following persons or groups for aid given to me in the research and development of this thesis.

Mr Kenneth C Ellsworth, developer of the project, Myrtle Beach, South Carolina.

Mr R D Tillson, landscape architect and engineer, High Point, North Carolina.

The Chamber of Commerce, Myrtle Beach, South Carolina.

The South Carolina State Planning Board, Columbia, South Carolina.

The Charleston Division of the Coast and Geodetic Survey, Customhouse, Charleston, South Carolina.

The staff and faculty of the Massachusetts Institute of Technology.

C O N T E N T S

The Introduction

Part 1. The Region

Part 2. The Site

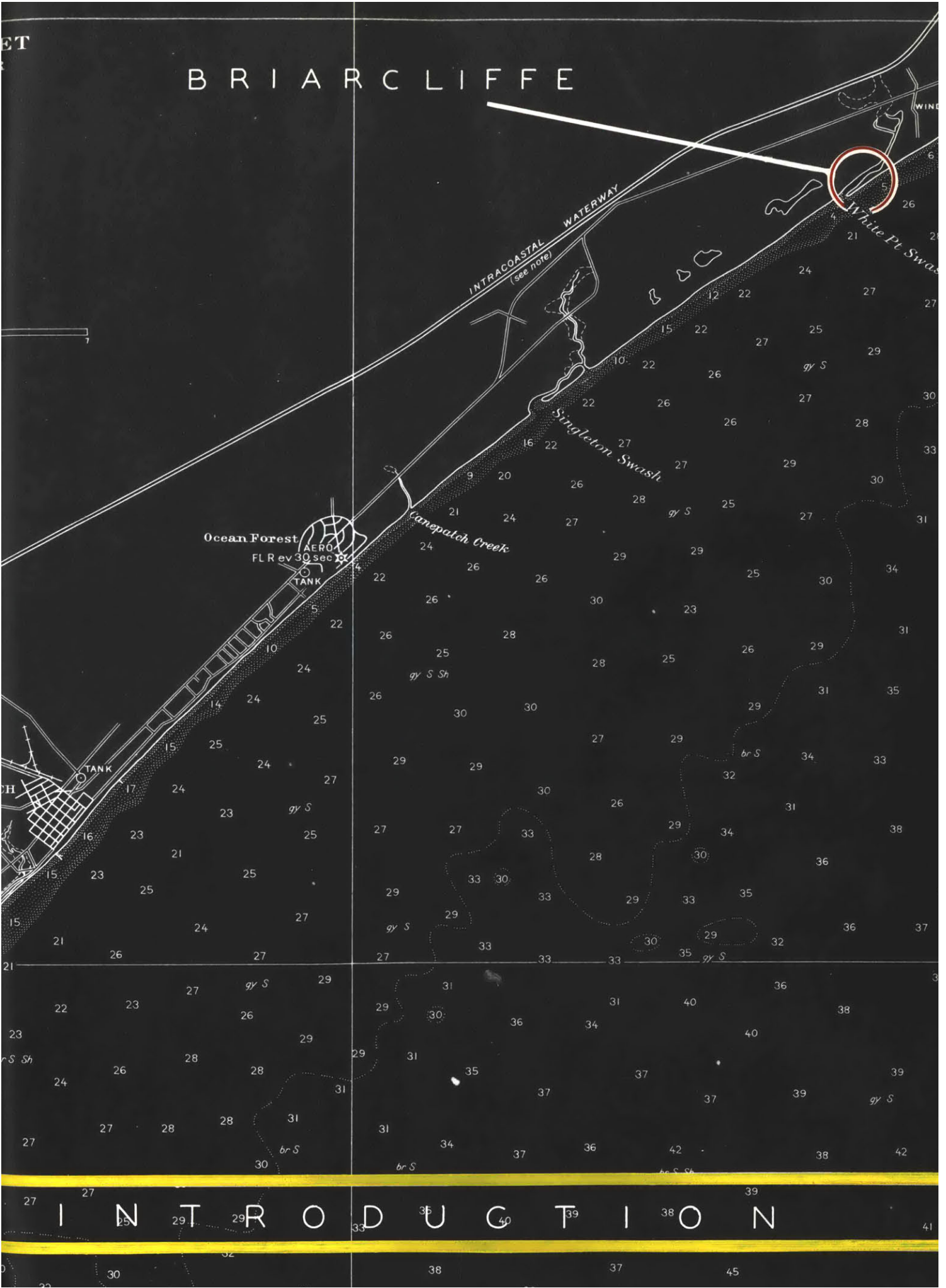
Part 3. The Recreational Study

Part 4. The Site Development and Architectural
Construction

The Bibliography

ET

BRIARCLIFFE



INTRODUCTION

In every man there is a demand for recreation. In satisfying this demand he makes many adaptations of nature in ~~for~~ form of golf courses or seaside resorts, swimming pools or mountain lakes.

In satisfying this demand in 1946 he expended \$16,845,000,000 - an amount equivalent to nearly $9\frac{1}{2}$ percent of our total national income.

The war and the multitude of restrictions incident thereto put an abrupt stop to practically all forms of recreational travel and construction. However, the post-war period is experiencing a tremendous rebound of the recreation industry to fill the demand created by the war years.

Because of this demand, many new projects are being considered all over the country. This allows the planners and architects an opportunity to consider the recreational possibilities of the communities and plan them accordingly. In the past very few resort communities were ever planned as such; they usually were made over from former fishing or agricultural villages, or manufacturing towns - all freaks of accidents rather than design. They usually had complex social and economic problems, such as the municipal government and public services.

The experience of these established resorts show that factors must be taken into consideration that seldom were before. What do people prefer? Why do they prefer it? How? Why?

Briarcliffe Acres is a project undertaken by Mr Kenneth C Ellsworth of Myrtle Beach, South Carolina, to make an all year around resort in South Carolina, mostly for northern people who like the climate and are financially able to retire. At the present time, there are several elements in the general development scheme that have not been studied in detail - mainly the business section and a beach club designed to accommodate the property owners and their guests.

The general development plan was designed by R D Tillson, of High Point, North Carolina, who is a landscape architect and engineer.

A GENERAL DEVELOPMENT PLAN FOR

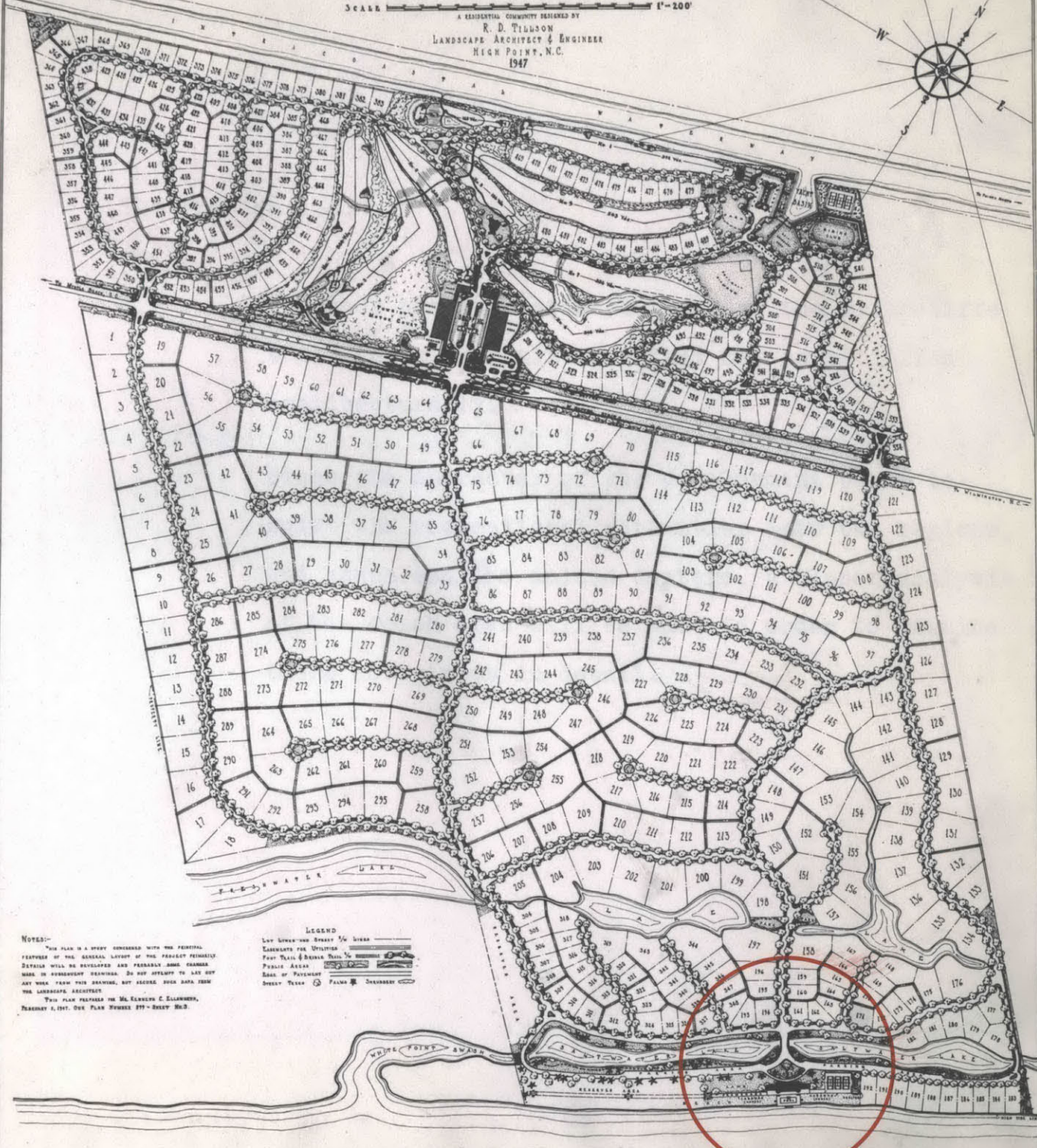
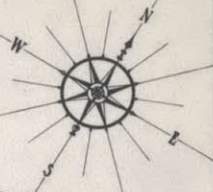
BRIARCLIFFE ACRES

YAUPON ACRES INC. - OWNERS & DEVELOPERS

HORRY COUNTY, S. C.

SCALE 1"=200'

A RESIDENTIAL COMMUNITY DESIGNED BY
R. D. TILSON
LANDSCAPE ARCHITECT & ENGINEER
HIGH POINT, N. C.
1947



NOTES:

This plan is a survey conducted with the highest accuracy of the general layout of the project. Details will be developed and possibly some changes made in subsequent drawings. Do not attempt to lay out any work from this drawing, but check with the landscape architect.

This plan prepared for Mr. ELLIOTT C. ELLIOTT, Manager, 1, 1st. Ave. Pine Bluff, Ark. 71601.

LEGEND

- Lot Lines and Street 1/4" Lines
- Contours for Utilities
- Foot Paths & Bicycle Paths 1/4"
- Public Areas
- Base of Pavement
- Street Trees
- Fence
- Shaded Area

A T L A N T I C O C E A N

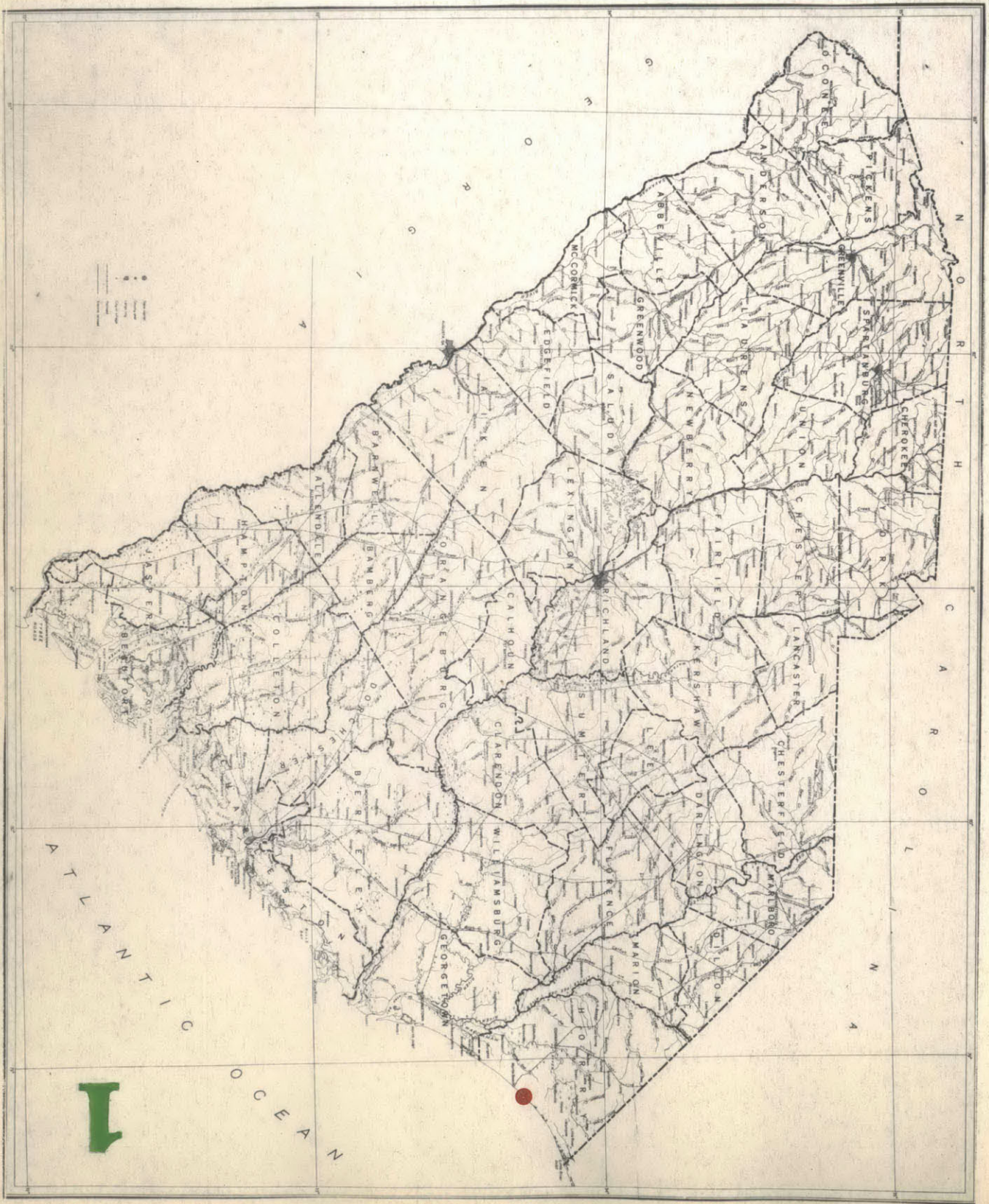
The Problem.....

To study the recreational needs of the Briarcliffe area and to determine how they may be satisfied architecturally.

Since the character of the development tends to split the recreational activities into two regions, the beach and the inland centers, a closer analysis of the beach area will be made in order to examine these activities in detail.

REIGN

THE



1

South Carolina extends from the Blue Ridge Mountains to the Atlantic Ocean, an area of 30,989 square miles.

The State is divided into three distinct topographic provinces: The Blue Ridge Province, the Piedmont Plateau, and the Coastal Region. The region in which Briarcliffe Acres is being developed is the Coastal Terraces, a part of the Coastal Region. This area is known colloquially as the "low Country". In this area the great swamps and marshes of the State are located.

Generally the population is strictly rural with only 9.8% being urban. About one half of the population is white and the other half Negro. Agriculture forms the major occupation with forestry being next in importance. Very little industry is located in this region except around Charleston further down the coast.

In the narrow strip along the Carolina coast is a subtropical growth in which are found such plants as the large palmettos, several dwarf palmettos, the American olive, several species of yucca, the evergreen holly, and the groundsel bush. The native grasses along the coast are panicum, water millet and sea oats.

Just behind this coastal strip are low sandy plains or damp flat woodlands, where tremendous live oaks,

pinces, great magnolias, gums, and evergreen laurel make up the most abundant growth. Long, gray Spanish moss usually attaches itself to the oaks and pines. However, this type of aerial plant is not a moss, but is a plant belonging to the pineapple family.

In the lowest areas, or swamplands, cypress and cedars are most common. The dense vegetation of the Low Country is prevailingly evergreen, largely due to the tangled growth of smilax, yellow jessamine, and the bay trees.

Most common among the cultivated shrubbery which often is found along the roadside are magnolias, azaleas, and wisteria. Gardenias and camellias are common garden shrubs.



THE SITE

Location and Accessibility

The Briarcliffe Acres estates are located in South Carolina, on the Atlantic coast, eight miles north of Myrtle Beach.

Myrtle Beach has already been established as a popular resort center with vacationers ranging from the picnic crowds at the State Park reservation to the seasonal guests and residents in the more fashionable section of the resort in the vicinity of Ocean Forest developments.

.....ACCESSIBILITY

by air.

An air strip providing 6500-foot runways adjoins the development to the north. Both instruction and servicing of aircraft is offered at this field. This opens wide the opportunity for prospective landowners to utilize these adjacent facilities and to extend the radius of their activity. In addition charter service is available at all times.

Provision has been made for the use of the Briarcliffe Yacht Basin for the landing, take-off, and service facilities for sea planes. The possibility of any sizable percentage of residents arriving by this method is rather low due to the limitations of this type of flight at the embarkation point.

The use of the commercial airlines as a method of air travel from the northern states to Briarcliffe is fairly convenient. The National Airlines stop at Wilmington, N. C., a 3-hour flight from New York. From the airport in Wilmington to the resort is about a forty-five minute drive in an automobile.

by rail.

Both the Atlantic Coastline and the Seaboard Airline railroads service the vicinity. The most accessible rail station would be that at Myrtle Beach, eight miles to the south.

by motor.

The Ocean Highway, U S Route 17, cuts through the center of the property. This highway is mostly used by tourists and sightseers because of the scenic beauty along the route. Route 17 is almost entirely straight throughout the Carolinas, but it is reduced in its visual length due to the dense growth along the sides which overhang the road. Very little commercial and truck traffic is found along this route since the main arterial road is U S Route 1 running between the inland cities.

It is an estimated six-hour drive from Norfolk, Virginia, where ferries can be obtained for Washington, Baltimore, and New York.

by water.

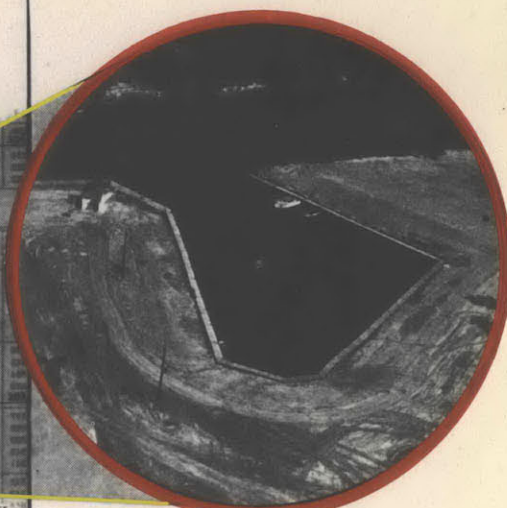
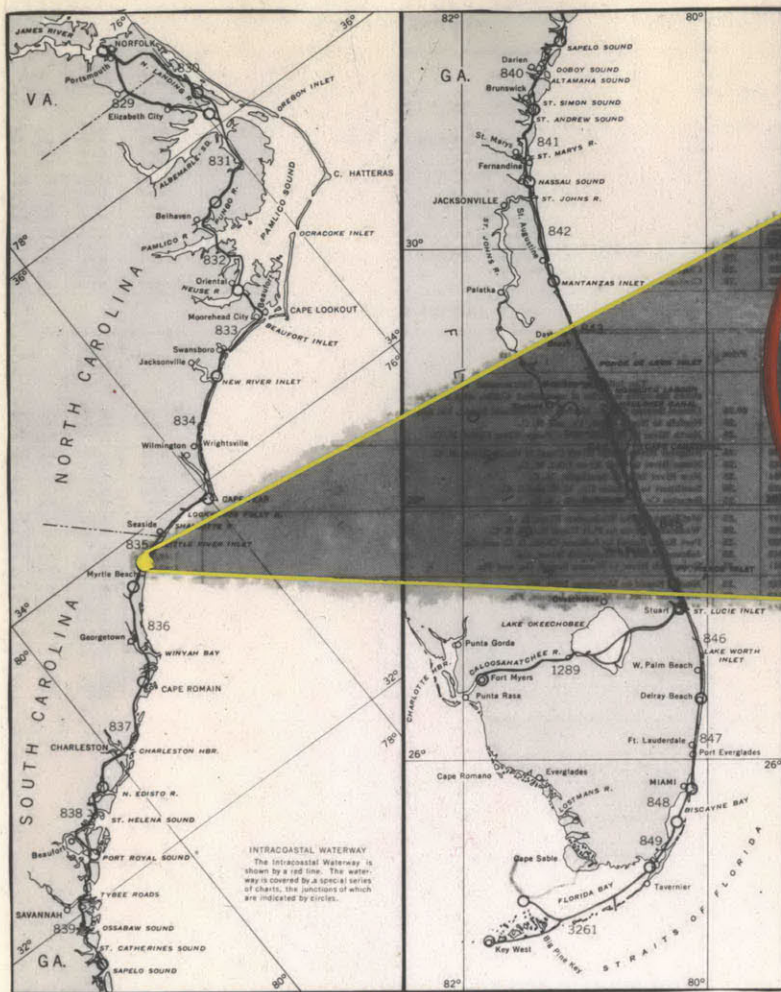
Facilities for forty yachts with practically every marine service is available in the Briarcliffe Yacht Basin.

This Yacht Basin is located on the Intracoastal Waterway Canal. The Intracoastal Waterway is the official name for the connecting series of water routes along the Atlantic and Gulf coasts of the United States between Boston, Mass., and Rio Grande, Texas, that have been dredged and improved to provide a nearly completely protected passage for boats for about 3,000 miles.

Most of the Intracoastal Waterway through South Carolina is a sheltered route, passing through marshes, and between highlands and barrier islands. It consists of a blueish-green salt water alternating with dark peat-colored water of the lowland rivers. In a few places the water is muddied by the streams from the Piedmont section of the state.

Vegetation along the bank is varied. This provides a considerable portion of the scenic value of these water lanes. There are tall pines lined along the banks; marsh grasses in the open spaces, which are green in the spring and golden in the fall. Live oaks spread sometimes as much as 100 feet across the Canal, with gray mosses hanging from the limbs. Along the route are also cypress trees with their conical knees. However, in the Canal route itself, all such obstructions have been removed. Further south, the Palmettos become dominant with the soil becoming more sandy.

The inland section of the Intracoastal Waterway between Little River, N. C., and Winyah Bay, S. C., opposite the Briarcliffe development, was completed in April, 1936. Previous to that time it was necessary for boats to turn from the Waterway at Little River into the Atlantic Ocean, entering again at Georgetown, S. C. From Little River to Socastee Creek the new canal, 90 feet wide and 8 feet deep, was cut through a highland that is rather rare in this flat, swampy country.



THE NEW YORK TIMES, SUNDAY, DECEMBER 29, 1946

Good news for southbound yachtsmen was the opening last week of Briarcliffe Acres Yacht Basin, eight miles from the resort of Myrtle Beach, S. C.

BRIARCLIFFE YACHT BASIN

ON THE INTRACOASTAL WATERWAY



East bank of Intercoastal Canal 8 1/2 miles northeast of Myrtle Beach showing the Penede formation cropping out at water level overlain by the Pliocene and Pleistocene formations. Photograph by W. S. Pike.

CAPACITY 40

.....TRAVEL METHODS

Since the resort center is fairly well accessible by air, water, motor, and rail, it is then necessary to further analyze the potential value of these forms of transportation as the method of travel adopted by the residents of the area.

Under a survey conducted by the American Magazine, the Woman's Home Companion, and Collier's Magazine, it was found that considerable variations in preference, both by age group and by income group, existed among their readers. Their tabulations averaged as follows:

| TRAVEL METHODS | PREFERRED | BY | AGE | GROUP |
|-------------------|-----------------|--------------|--------------|----------------|
| <u>Conveyance</u> | <u>Under 25</u> | <u>26-35</u> | <u>36-45</u> | <u>Over 45</u> |
| Automobile | 63 | 76 | 77 | 73 |
| Rail | 31 | 18 | 18 | 23 |
| Plane | 7 | 6 | 6 | 5 |
| Bus | 6 | 4 | 4 | 4 |
| Boat | 2 | 2 | 2 | 3 |
| Trailer Coach | 1 | 2 | 3 | 1 |

% add to more than 100% due to preference of more than one type of conveyance.

| TRAVEL METHODS | PREFERRED | BY | INCOME GROUP |
|-------------------|---------------------|--------------------|---|
| <u>Conveyance</u> | <u>Under \$2000</u> | <u>\$2000-2999</u> | <u>\$3000-4999</u> <u>\$5000 and over</u> |
| Automobile | 60 | 73 | 77 71 |
| Rail | 34 | 20 | 16 23 |
| Plane | 4 | 5 | 5 15 |
| Bus | 8 | 3 | 2 1 |
| Boat | - | 1 | 2 4 |
| Trailer Coach | 4 | 5 | 3 1 |

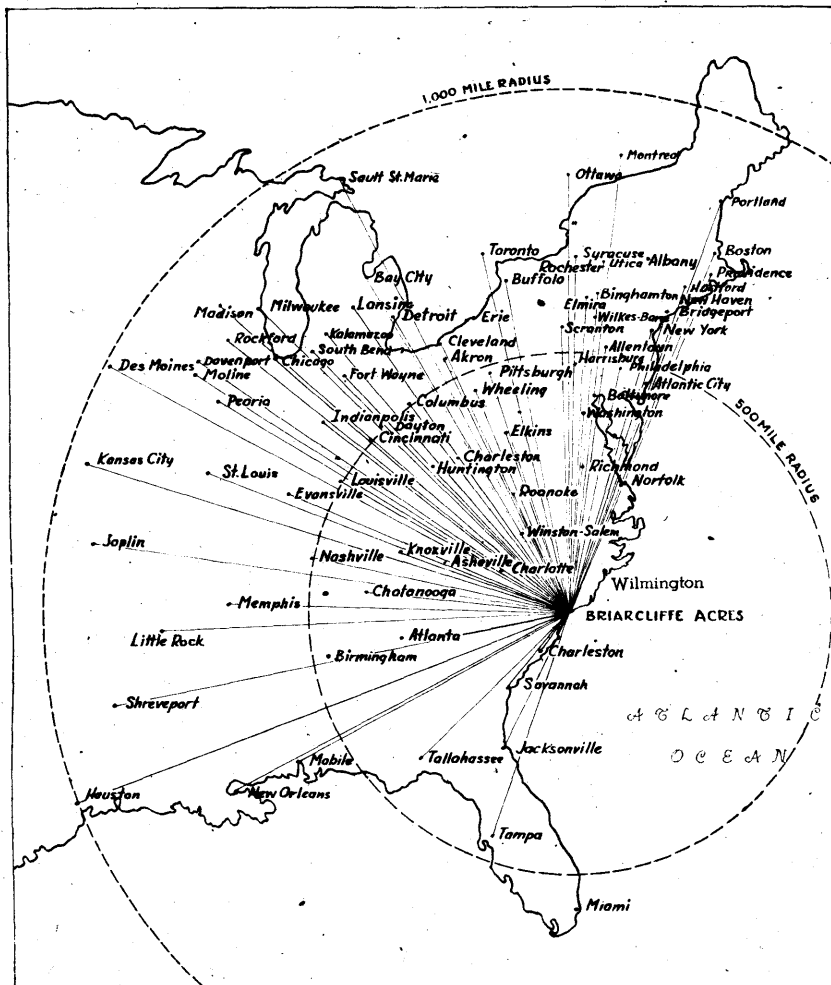
The general policy of the developer and promoter of the resort community has been to cater to that portion of the northern population which is financially able to retire and which likes the mild climate of the region. Therefore, this policy would lead to the conclusion that the preferences of the age group over 45 and of the income group over \$5000 would tend to determine the means of access to the community. In this perspective the averages of their preferences would become as follows:

| | |
|---------------|--------|
| Automobile | -- 72% |
| Rail | -- 23 |
| Plane | -- 10 |
| Bus | -- 2 |
| Boat | -- 4 |
| Trailer Coach | -- 1 |

It is highly probable that, due to the extensive and convenient access by boat and by plane which is

available at Briarcliffe, the percentages of the arrivals and departures by these conveyances will be greater and that bus and trailer coach methods would become negligible.





TO ORIENT you briefly, the Briarcliffe Club and Briarcliffe Acres estates are located in South Carolina, on the Atlantic Coast, eight miles north of the resort of Myrtle Beach, S. C. A brief glance at the map indicates Briarcliffe's location in relation to the principal cities in the eastern half of the United States and Canada. Briarcliffe is the nearest Atlantic coast resort to the great cities of the Midwest. (The distance from Boston, New York and Philadelphia to Briarcliffe is less than half that to Miami.) Excellent accessibility is a feature of primary note.

CLIMATE is a vital statistic to prospective builders at Briarcliffe. Lest our introduction to you smack of questionable superlatives, we will guide you with the report of the Army Air Forces. The Myrtle Beach Air Field, one of the most important training bases during the war and permanently established for maneuvers, was built ten miles from here because more flying days per year were recorded here than at any other place in the United States. And at Briarcliffe, that consistent sunshine is tempered in summer by the Atlantic breeze that brings fifty thousand inland southerners to the Myrtle Beach resort, and in winter is fortified by the inland swing of the Gulf Stream, only 30 miles off the Carolina Shore. The Army Air Forces report an average high temperature of 88° and an average low of 41° over the last 50-year period.





V I E W O F
L O N G P O N D



V I E W T O W A R D S
T H E O C E A N



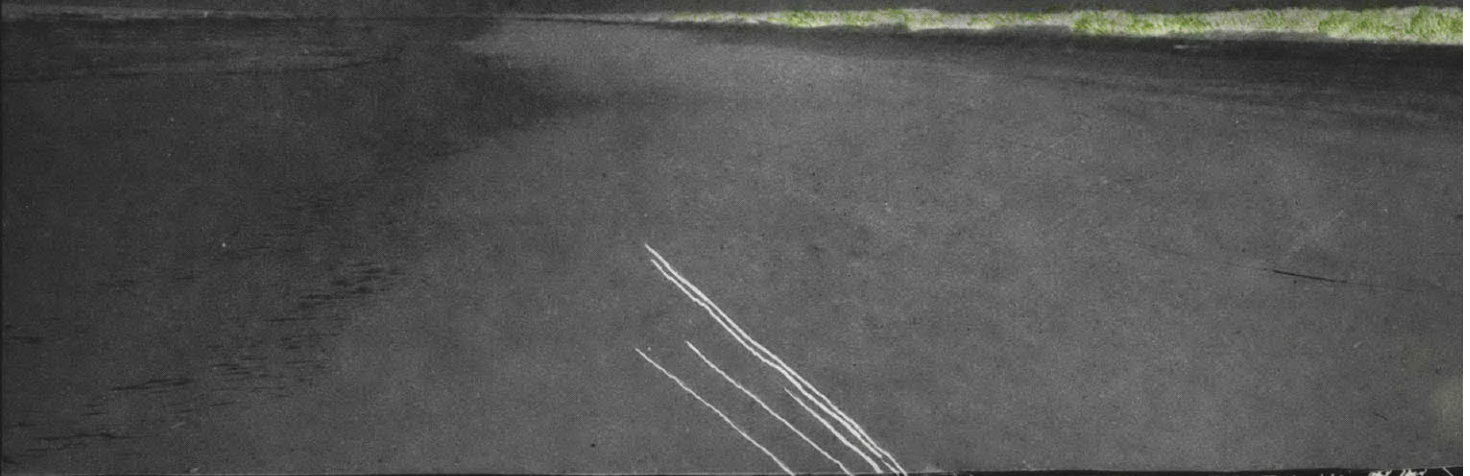
T Y P I C A L P L A N T
G R O W T H I N T H E
I N L A N D A R E A

Generally the Coastal Plain of South Carolina is flat and marshy. The vegetation and foliage is dense with many wild animals native to the area. Along the coast, the winters are mild with reasonably cool summers, but further inland the humid atmosphere of the swampland makes the summer season unbearably hot and uncomfortable.

.....GEOLOGY

As for its history, the movements that closed the Miocene, third epoch of the Cenozoic era, gave the Atlantic Coast its present outline. Minor changes have occurred through meteoric showers, wind and tide erosion.

The fresh water lakes in the Briarcliffe vicinity have inspired considerable comment and scientific research by geologists. These lakes are more commonly known among the scientists as the "Carolina Bays". The theories of their origin fall into two categories: (1) The wind current theory, and (2) The meteoric theory. According to the wind current theory, it is assumed that the currents were induced by strong winds, probably during a late glacial epoch. The other, and more strongly supported theory, is that the shallow, elliptical sand-rimmed depressions were formed by the violent atmospheric movements accompanying the fall of one or several comparatively small meteoritic masses in each of these bays.



OCEAN

VIEW ALONG THE BEACH



200 YARDS FROM WATER'S EDGE
TO SAND DUNES

Along the beach, the sand is light in color, and many of those richest in quartz are almost white. Those grains of sand containing shell fragments are commonly light yellow to light orange. The sands with large amounts of both quartz and heavy minerals have a "pepper and salt" appearance. The nearly pure heavy concentrates appear almost black, but, upon a closer inspection, the yellowish green of epidote and the brown of staurolite are generally apparent.

Even in the coarsest sand there are few quartz grains as large as $1\frac{1}{2}$ millimeters. No pebbles of any kind except shell and coquina occur on the beach at Briarcliffe. With the exception of the collophane and shell, all of the minerals found in the beach sands occur in the rocks of the Piedmont region, and most of them are common and widely distributed.

The mineralogy of the sand consists of calcite, epidote, feldspar, hornblende, quartz and zircon. Quartz is the most abundant mineral with some of the grains limonite-stained and with some having coatings of cloudy white material.

The soil conditions within the area were studied carefully by geologists during the excavations for the Intra-coastal Waterway. There have been exposed deposits composed of the following layers:

Recent - mud, muck, or peat and in places contain oyster and other shells.

Pleistocene - soft sand, clay, and lignite.

Marine invertebrates and pebbles are common. The formation is 15 to 40 feet thick.

Pliocene - shell marl indurated in places to a porous gray coquina or a hard blue limestone. Only a few feet are exposed, but in places it extends to the bottom of the canal.

Cretaceous - an indurated leaden-colored sandy siltstone. 3 to 5 feet were exposed.

.....CLIMATE

The shoreline at the site is tempered in the summer by the Atlantic Ocean, and in the winter it is fortified by the inland swing of the Gulf Stream, which is 30 miles off the Carolina shore.

According to the weather bureau, a degree day is made up of the number of degrees below 65 for each day and for the total days of the year. This can be used as a measure for comparison of the average S. C. Coastal Plain city with 2061 degree days with those of other cities:

New England - 6551

New York and Pennsylvania - 5734

Statistical data for climatic conditions -- Myrtle Beach
Weather Station, U S Department of Commerce.

| | <u>Mean Temperatures</u> | <u>Precipitation</u> |
|-----------|--------------------------|----------------------|
| January | 46.1 | 1.79 |
| February | 48.0 | 3.91 |
| March | 56.5 | 1.38 |
| April | 62.2 | 2.36 |
| May | 70.1 | 2.04 |
| June | 78.8 | 9.39 |
| July | 79.8 | 9.82 |
| August | 78.0 | 10.62 |
| September | 75.0 | 9.25 |
| October | 63.0 | 1.18 |
| November | 53.5 | 1.44 |
| December | 44.0 | 5.75 |
| Annual | 63.0 | 58.93 |

Total snowfall - 0

Average number of entirely clear days - 129

Average number of partly cloudy days - 139

Average number of cloudy days - 98

Average number of rainy days - 103

Prevailing direction of the wind - north

Growing season: 9 Feb. - 5 Nov.

236 days

From the climatological data it can be reasonably stated that outdoor activities within the beach area would more or less be limited from the first weeks in November to the middle of March. This does not mean that activity would be curtailed entirely during this period. There would be many good days for tennis, etc, but there would be a cessation of swimming and sun bathing.

The height of beach activity would inevitably occur during the warmer months of June, July, August and September. However, it may be noted that the highest precipitation also occurs during this period. The type of precipitation during this time is heavy and of short duration. Precipitation in December may be light and prolonged. Since the heaviest rainfall and the highest beach participation coincide, it must be concluded that sheltered access between units must be provided without the sacrifice of open space.

.....TIDES AND SHORTLINE EROSION

It is an accepted fact that, on the southern coast of the United States from Cape Hatteras to Cape Florida, the sands are journeying south under the influence of the prevailing current, which sets in that direction on the landward side of the Gulf Stream.

With this fact in mind it becomes necessary to carefully consider its effect before constructing any building along the present shoreline. Either erosion or accretion could become a dangerous proposition for a resort community. Erosion is particularly objectionable because it may result in the destruction of buildings, roads, and other improvements near the beach; and, also, because it decreases the area of the open land.

Two important considerations to be made in regard to the protection of the beaches are:

- (1) The stabilization of the shoreline by the prevention of erosion and accretion.
- (2) The preservation of the natural scenery, especially the native vegetation near the beach.

The two problems are closely related because the removal of the native vegetation can hasten the erosion by both the wind and the waves.

A large portion of the Briarcliffe beach frontage is low and flat so that native vegetation is one of the main scenic features; and when that is destroyed, what remains may be little better than a sandy desert. In addition the beach is composed of material which can be used as concrete aggregate



and other building purposes; but, although this may be the cheapest product available, no large amounts of material should be removed. Since the tendency is always to straighten the irregularities and fill up indentations in the shore, erosion may be started at some place not far away.

Assuming that the native vegetation is to be preserved, the other important consideration in protecting the beach is the stabilization of the shoreline. There are several methods of installing protective works that should be analyzed for their relative value to the particular situation at Briarcliffe.

- a. Sea Walls - They are used primarily to protect areas in rear of a beach against heavy storm wave action. They are necessarily massive and expensive. They could only be justified where the property in the rear is highly developed. This could apply to the situation of terrace planting and service buildings around the beach club.
- b. Bulkheads - They are used to retain a backfill in place along the shore and to prevent flanking

of groins in a system. They are less expensive than sea walls and could be used advantageously to retain the sand and native vegetation around the accommodations group and the parking areas.

c. Groins - - Properly designed groin systems have proven the most effective method of stabilizing beaches. Such a system should be designed to retain that amount of littoral drift which will result in a satisfactory beach and allow the surplus to pass over the groin to feed the beach to the leeward. Although groin systems are the most effective for stabilizing a beach, they are unsightly and may be dangerous to the bathers. They should not be placed within the vicinity of the beach club.

d. Jetties -- They are structures projecting from the shoreline, larger and

more massive than groins. Such a structure would prove unsatisfactory along the straight Carolina coast and complicated to construct.

e. Offshore Breakwaters - They have two entirely different functions. One is to provide a sheltered area for shipping. The other is to prevent destructive wave action from reaching the shore. Neither would be required for the resort community.

f. Artificial Deposit of Sand on Beaches - This is used to replenish denuded beaches, to create new beaches, or to extend beaches seaward to provide greater capacity on the strand. None of this is necessary for the development of the beach.

History of the Site

The Briarcliffe acreage is historically significant.

Within thirty years after Columbus discovered America, the Spaniards were exploring the coast of what was later to become South Carolina. It was known then as Chicora, the native name for part of the present coastal North and South Carolina.

Among these Spanish explorers in 1521 was Cordillo and Quexos from Espanola, or San Domingo, who captured over a hundred slaves and took them back to San Domingo. There Don Diego, the son of Columbus, ordered them released. One of these slaves was Francisco de Ayllon, a superior judge of the island.

Francisco's fabulous accounts of his homeland, with its strange races of men who wore tails, with its wealth and easy life, so intrigued de Ayllon that he decided to attempt a settlement. In 1526 de Ayllon gathered about 500 persons, including women, children, Dominican priests, physicians and Negro slaves, with domestic animals and equipment necessary to successful colonization.

De Ayllon named his settlement San Miguel de Gualdape. This settlement extended across the area, later known as the Vereen plantation, and now called Briarcliffe Acres. Disease took hold of the colonists, slaves revolted, Indians attacked, and de Ayllon died. Only a few months

after their arrival the Spaniards, depleted by two thirds of their number, abandoned the first white settlement in this country and returned to San Domingo.

In 1718 the Carolinas began to suffer sharply from the pirates who infested the coast. Edward Teach (Blackbeard), Major Stede Bonnet, and Richard Worley flew the Skull and Crossbones and used the coves and inlets between Charleston and Wilmington to beach their craft and bury their treasure.

After the English acquisition of South Carolina in 1729, Briarcliffe became the property of the Vereen family. The old Indian trail through the property became part of the "King's Highway", leading south to Georgetown and Charleston.

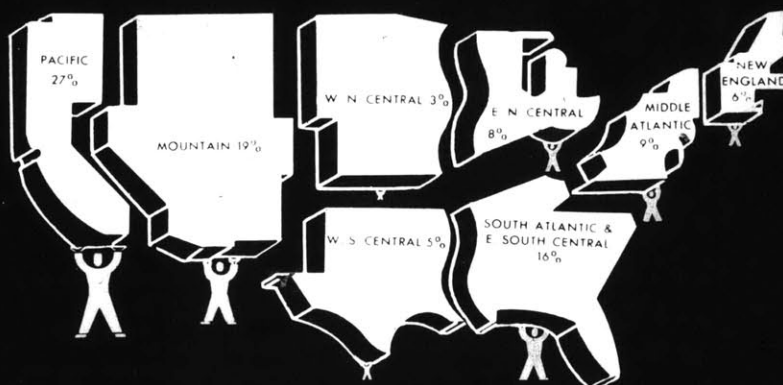
On his tour South, President George Washington spent the night of April 27, 1791, on the site in the home of Jeremiah Vereen, Revolutionary patriot, where he was "entertained (and very kindly) without being able to make compensation". The next morning Mr Vereen piloted the President, en route to Georgetown, across Withers' Swash on the strand now called Myrtle Beach.



WHERE DID THEY GO?
(on that last unrestricted vacation)



FUTURE TRAVEL PLANS
(Where they will go)



In order to properly plan a resort community it becomes necessary to establish some sort of resort pattern. This pattern evolves from three basic considerations which might be classified as follows:

1. The predominant type of people occupying the recreational area.
2. The use to which the land is put.
3. The character of the natural environment.

The first consideration has been determined by the promoter of the development. It will consist of financially able people from the northern states. Largely this group will be composed of elderly persons who desire to retire. It would be a restricted group of people with very similar tastes.

The third consideration has been also determined by the selection of Briarcliffe Acres as the site for the development.

The second consideration, land use, is very dependent upon the other two for its solution. The first element to consider is the type of recreation which may be adapted both to the type of people and to the natural environmental complex.

The Crowell-Collier Research Report on Recreational Participation by age-group indicates the following preferences:

PARTICIPATION (percentage)

| <u>Activity</u> | <u>All</u> | <u>Under 25</u> | <u>26-35</u> | <u>36-45</u> | <u>46 and over</u> |
|-----------------------|------------|-----------------|--------------|--------------|--------------------|
| 1. Sightseeing | 70 | 72 | 74 | 69 | 66 |
| 2. Swimming | 50 | 63 | 52 | 40 | 27 |
| 3. Just Resting | 39 | 34 | 41 | 40 | 41 |
| 4. Fishing | 37 | 35 | 42 | 37 | 30 |
| 5. Motoring | 34 | 31 | 37 | 33 | 33 |
| 6. Boating | 23 | 38 | 29 | 21 | 13 |
| 7. Hiking | 18 | 29 | 21 | 15 | 14 |
| 8. Golf | 10 | 7 | 13 | 10 | 8 |
| 9. Hunting | 8 | 8 | 10 | 8 | 6 |
| 10. Horseback Riding | 8 | 20 | 10 | 6 | 3 |
| 11. Mountain Climbing | 9 | 8 | 11 | 9 | 8 |
| 12. Tennis | 5 | 13 | 6 | 3 | 2 |
| 13. Canoeing | 6 | 13 | 8 | 4 | 3 |
| 14. Winter Sports | 2 | 5 | 2 | 2 | 1 |
| 15. Visiting | 6 | 6 | 6 | 6 | 6 |
| 16. All Others | 6 | 10 | 7 | 5 | 3 |

Of the activities listed as preferred, the consideration of the natural environment immediately eliminates Mountain Climbing and Winter Sports.

The remaining activities may be considered and interpreted for their value under the conditions which exist in the Carolina Coastal area.

1. Sightseeing - Resort location provides
access to historic and scenic

areas along the Carolina coast, including Charleston. Public gardens blooming in the early Spring in the vicinity include Magnolia Gardens, Middleton Gardens, Belle Isle Gardens, Cypress Gardens, Brookgreen Gardens. This activity involves no construction on the site.

2. Swimming - Surf bathing is practical for at least nine months of the year. Bathing in the inland lakes should not be encouraged in order to preserve their scenic beauty. In addition to surf bathing, pool bathing for both children and adults is desirable in the area of the beach. By the addition of a swimming pool, the surf bathing could be supplemented by diving facilities, racing, and water sports.

3. Just Resting--This form of relaxation can consist of resting at home or of lounging in an area with some attraction such as a view or an activity. It can assume a position architecturally in the beach area, the yacht basin, or within the vicinity of active outdoor exercise. Outside lounging areas in view of the ocean are highly desirable for sunning and for absorbing the fresh salt air.

4. Fishing - - The fresh water lakes provide trout and bass, and the Waccamaw River, close by, offers sturgeon and shad. Seine fishing is still practiced from the beach on huge runs of Mullet and Spot. Crabbing and shrimping are available all along the coast. For deep sea fishing, yachts leave daily for the Gulf Stream waters for tuna, marlin and sail.

Other game fish that may be caught are pickerel, pike, black bass, striped bass, red-belly bream, ball-faced bream, yellow-belly perch, sun perch, red-fin trout, and white perch. No construction would be necessary on the site except possibly a Marine library located preferably near the Yacht Basin and the Intracoastal Waterway.

5. Motoring -- The Ocean Highway runs through the site leading to all points of the U. S. No construction necessary on the site. No motoring should be allowed along the strand because of the danger to the bathers.

6. Boating -- Facilities for yachts have been provided in the Yacht Basin along the Intracoastal Waterway. Accommodations for 40 yachts have been planned.

Additional construction and planning of the site would be necessary.

7. Hiking - - This may be accomplished on the trails through the adjacent swamps and along the beach.
8. Golf - - Natural drainage and the character of the land inland make golfing easily adaptable to the area. Climatic conditions permit year-round activity.
9. Hunting - - There is a 200 acre hunting preserve bordering the Briarcliffe Yacht Basin.

Season: Open season for domestic game birds and animals - Thanksgiving to March 1, inclusive, except that deer (buck only) may be hunted from August 15 to January 1, and raccoons and opossums may be hunted from September 1 to March 1.

Game animals: deer, fox, mink, muskrat, oppossum, otter, rabbit, raccoon, skunk and squirrel.

Game Birds: blackbird, dove, pheasant, partridge, wild turkey, and wild goose.

No construction on the site would be necessary.

10. Horseback Riding - The area generally is well adaptable to the installation of bridle paths. The scenic value of the adjacent wooded areas is inestimable. Construction and planning would be needed.

11. - -

12. Tennis -- Tennis courts should be provided. Their location would be determined by the centralization of activities, either in the beach area or in the inland.

Upon close examination of the preferred types of recreation it can be concluded that all of the most popular ones are suitable to the site except the more obviously impossible, mountain climbing and winter sports. In order to further study these methods of recreation and to mold them into an architectural form, it will be obligatory to separate and group the activities into the areas into which they fall naturally.

Beach area - Swimming

Lounging

Fishing

Tennis

Inland area--Fishing

Boating

Hiking

Golf

Horseback Riding

Tennis

Areas tributary to the site - Sightseeing

Motoring

Hunting

Fishing

Site Development and Architectural
Construction

An expansion of the recreational analysis should be made to include a detailed study of the beach area. Assuming that the logical grouping of activity on the beach would require a focal point for control, this control point would inevitably take the form of a club.

.....MEMBERSHIP

At present there are 350 home estates which would possibly be sold. There may be many couples who desire to buy more than one lot in order to provide more space around their proposed homes. This could be approximately one-third of the total residents, thereby leaving about 250 to 300 lots for actual homesteads.

Club membership could be sponsored on an individual basis or on a family basis. If memberships were established on an individual basis, there would be 600 to 700 members including prominent guests of the property owners. An initiation fee could be imposed based on the probable capital investment involved.

If, on the other hand, memberships were established on a family basis, initiation fees could be raised higher since memberships would range about 300. This is a more desirable form of membership since it would provide a greater latitude of flexibility.

Dues could be adjusted to operating and maintenance costs.

Investment in any form of accommodations provided could be an incorporated project with stockholders admitted on a selective basis. The corporation would in turn pay an initiation fee to the Club since there would be utilization of Club facilities for the enterprise. All Club concessions should be owned and operated under the control of the corporation.

.....THE BEACH CLUB

In the light of the various activities which tend to group themselves around the beach, it becomes important to determine the functions which the club must have included in its design.

Functions:

1. To provide a lounge area for members with an unobstructed view of the ocean.
2. To provide a dining space for use of the members and their guests.
3. To provide swimming pool facilities and surf bathing accommodations.
4. To provide areas for dancing.
5. To include such services and concessions as might be desirable in conjunction with the recreational activities.

6. To serve as a nucleus for outdoor sports as may be considered in the ocean area.
7. To furnish adequate accommodations for friends of the property owners as a supplement to guest facilities on the home estates.

The development of function:

1. The Lounge area.

The lounge area should be of a nature so that leisure hours may be spent quietly in a cool spot with as good a view as possible. Activities, if any, would include cards, chess, and reading. A sunning terrace should be easily accessible and with as good a view as possible. A service bar should be handy with dining service immediately available.

Some provision should be made so that the lounge may be aware of the outdoor activity without becoming annoyed by it or becoming an integral part of the sports. Due to the necessity for natural ventilation and due to the prevalence of blowing sand, the location of this unit would be preferable on a higher level than the active forms of recreation.

Since the primary purpose of the club is to coordinate the various elements of recreation on the strand, the character of the beach must not be altered. As much of the strand itself should come as close as practicable to the lounge without bringing discomfort in the form of glare, heat reflection, etc.

Size: 1500 sq. ft.

Sattellite facilities:

- a. Small toilets
- b. Service Bar
- c. Storage (card tables, etc.)

2. The Dining area.

Dining would be more pleasant with a view of the ocean and open to the sea breezes. Access from the lounge area should be immediate. Utilization of terraces for dining in fair weather is desirable; however, sea breezes would render disagreeable sand and cold food. Protection from this should be included without losing the sense of outdoor dining. Provision should be made for approximately 120 diners. This figure includes the guests who are quartered in the accommodations

of the Club. For maximum occasions both the dining room and terrace should accommodate 250 diners, which is one-third of the members.

Size: Dining room - 1800 sq. ft.

Terrace - 2000 sq. ft.

Sattellite facilities:

a. Kitchen; service to the kitchen will of necessity come from the landward side of the Club. This must be done without disturbance of the main entrance feature of the Club. Size: 2000-2500 sq. ft.

b. Storage.

(1) Food Storage

(2) Linen Storage

(3) Garbage

3. The Swimming Area

The swimming pool could be of two types: the rectangular type, used for water sports, and the more economical, and the irregular type, used for swimming and diving only.

The clientele of the resort would probably consist of persons more interested in swimming as recreation than as an athletic event. Also to many residents

the pool would be a pleasure solely as a decorative element.

In order to satisfy the probable needs of this type, study must be made of the possibilities of abandoning the standard shape of pool and of considering shapes which would conform to the basic requirements of the club.

The following methods of sanitary operation could be used in connection with the pool:

1. Fill and draw - disinfectant is usually omitted, and it tends to become unsanitary. This method should not be used.
2. Recirculation - The pool water is circulated through filters, disinfected, and returned to the pool. This method could be used but involves filtering equipment.
3. Continuous flow - usually employs disinfectant. Cheap water is available through artesian wells; therefore, this system should be

adopted. Also due to the proximity to salt water, the water contains high quantities of chloride. Wells have already been dug in the site producing as much as 650 gallons per minute.

Any racing lanes included in the design of the pool should be at least 75 feet in length.

Facilities in the pool should be designed to accommodate 200 bathers, allowing 30 square feet per person. Therefore the minimum size of the pool should be 6000 sq. ft.

Three levels of diving should be included; the height of the board being three feet, ten feet and five meters. This would require a depth of twelve feet of water. All boards must clear the edge of the pool by three and a half feet for safety.

Sattellite facilities:

- a. Cabanas - cabanas will be furnished to member families only. Each

cabana should include a shower, dressing area, and a small lounging space. Each unit will be assigned a color so that all umbrellas, furniture, etc, can be identified with its proper cabana. Keys will be supplied to each unit.

- b. Lockers and Toilets - locker and linen service will be provided to members and their guests who do not possess cabanas. At least 100 lockers are necessary for the men and 25 for the women. The women's lockers must contain semi-private showers.

No cabanas or lockers are to be built underneath terraces or porches because they do not receive enough sunlight to insure dryness and cleanliness in the units. An ocean view is relished by all occupants of the Club whether they are in the lounge or cabana.

- c. Shower rinse for Surf Bathers -
At pools operated in conjunction

with surf bathing, it has been found advisable to make a wading pool of the entrance passage with automatic or continuous flow showers overhead. Through this all bathers must pass before returning to the pool.

- d. Wading Pool - a wading pool for children must be included in the swimming area. It would be from 8 inches to one foot in depth. All inlets should be above water level. Supervision by clothed adults is often required; therefore, provision must be made nearby for a terrace or watching area for clothed people. Sculptured animal forms with water fountains add to the pleasure of children playing in the pool.
- e. Stations for chairs and umbrellas - These stations should be provided at convenient intervals near the pool.
- f. Beach towers for Life Guards - At least two towers should be installed, one for surf bathers and one for the swimming pool.

4. The Dancing Area.

Planning should be such that the lounge and dining space may be converted into an interior dancing pavillion upon occasion. Since dancing is preferable on an exterior or outdoor platform during the summer months, or the peak of the beach season, provision for a separate ballroom would be elaborate and wasteful. Interior dancing would be done only in case of inclement weather.

5. Services and Concessions.

Concessions should provide only the immediate needs of the patrons of the beach club. These include:

- a. Bar - It should be designed to service both the bathers and the clothed members of the club. Access should be immediate from the pool. Stool accommodation should be at least twelve. Additional room for wet standees could be convenient and add to the informality of the club. No food is to be served in the bar or around the pool. Since alcoholic beverages cannot be sold in S. C.

except in package stores, a system would be necessary at the club for the installation of club drinks.
Size: 1200 sq. ft.

- b. Snack bar - Stool and table service is to be included. A pantry or direct access to the kitchen must be provided.

Size: 800-1000 sq. ft.

- c. Barber - a barber shop with two chairs is needed for the convenience of the guests of the club and of the members who prefer shaves, haircuts, etc., near the center of their activity rather than located in a shopping center or further isolated.

Size: 240 sq. ft.

Sattellite facilities:

Storage space for supplies.

- d. Newstand - tobacco, candy and newsstand located centrally for the convenience of the club members.

- e. Administrative - Space is required for administration of the club

and accommodations group. This consists of a director and secretary, who would also manage the reception desk.

Control is necessary at the bridge crossing the salt water lakes. A station House or shelter would be constructed at this point.

Employees' lockers and toilets are needed. The greater proportion of employees would be Negroes from the neighborhood. No housing^{of} site would be necessary for them.

6. The Outdoor Sports.

Most of the outdoor sports which will be centered around the beach are:

Tennis - Located conveniently to the locker areas. Three courts oriented north and south should be provided.

Beach Games - This will consist of volleyball, etc., with the only construction necessary being storage space.

7. The Accommodations Group.

There should be a group of rooms and suites on the site of the resort for the accommodation of guests of the landowners. In the layout of Briarcliffe Acres it becomes important to consider the areas where these rooms are needed and what type of guest they will be.

A considerable number of guests will be either passing through the area or coming to it that will use the facilities of the Intracoastal Waterway. In addition there will be guests who come intentionally to enjoy the ocean and its shoreline. It seems logical that, since there will consist two types of guests as well as two types of club facilities, there should be a division of accommodation. If ten percent of the residents have guests at one time, there would be approximately sixty to seventy-five guests on the premises. Then about thirty-five guests would be furnished quarters down by the ocean.

It next becomes necessary to study the types of guests as to their length of

stay. According to resort managers, there are three groups:

- (1) The "Regulars" - long periods each year.
- (2) One and two week Vacationists.
- (3) Weekenders or transients.

It becomes reasonable to assume that the majority of guests within the beach area will be one and two week Vacationists with a few, if any, Regulars or Weekenders.

There is the possibility of locating these guest rooms on a higher floor level of the beach club, but opinion of most resort experts now is that people do not like to travel for miles to a resort and land up on a high floor of a citified hotel. Preference seems to run to the horizontal type of accommodation which has direct access to the ground. This type of hotel tends to demand a larger staff of employees with about one employee per three or four guests.

Design Considerations:

- a. Rooms - all rooms should be larger than the average transient hotel.

This means that a room 12 feet by 16 feet is the more desirable size. The single and double rooms must be convertible into living rooms by day. Cross ventilation is compulsory for all sleeping rooms. Ample dressing areas with direct access to the beach without crossing the living area are convenient for surf bathers and sun bathers. Sheltered terraces should be included for sunning and lounging in the open air. Dressing tables should take advantage of the view and natural light.

- b. Corridors - All corridors need not be enclosed but exposed to the weather except that they must be covered for protection from rain. Stairways also need not be enclosed from the weather.
- c. Services - Linen and maid service rooms must be located conveniently on every floor.

Parking - Parking for 100 cars will be the maximum parking requirement for the club. Parking for the accommodations group should be connected directly to the rooms with 100% parking provided. All access by road to the club should be limited and obscure. Large numbers will arrive on foot to use the club facilities and should not be aware of a high degree of motorization.

B I B L I O G R A P H Y

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The Research Department, Curtis
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for The New York Times (X)

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Geological Society of America - Bulletin #46
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The Origin of the Carolina Bays

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Manual of Procedure in Beach Erosion Studies

U. S. War Dept., Corps of Engineers
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Yearbook of Agriculture - 1941

The Natural Resources of South Carolina
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Falmouth, Mass. - Problems of a Resort Community
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Architectural Forum, Dec, 1946 (R)

Summer Resorts (R)

Architectural Forum, March, 1948

A Beach Club (R)

Beaux-Arts Institute of Design, 1945-46

Explanation of Symbols:

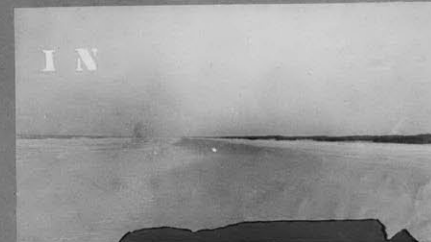
(R) Rotch Library

(L) Lindgren Library

(D) Dewey Library

(X) Special Publication not in M.I.T.
Libraries

A RESORT CENTER



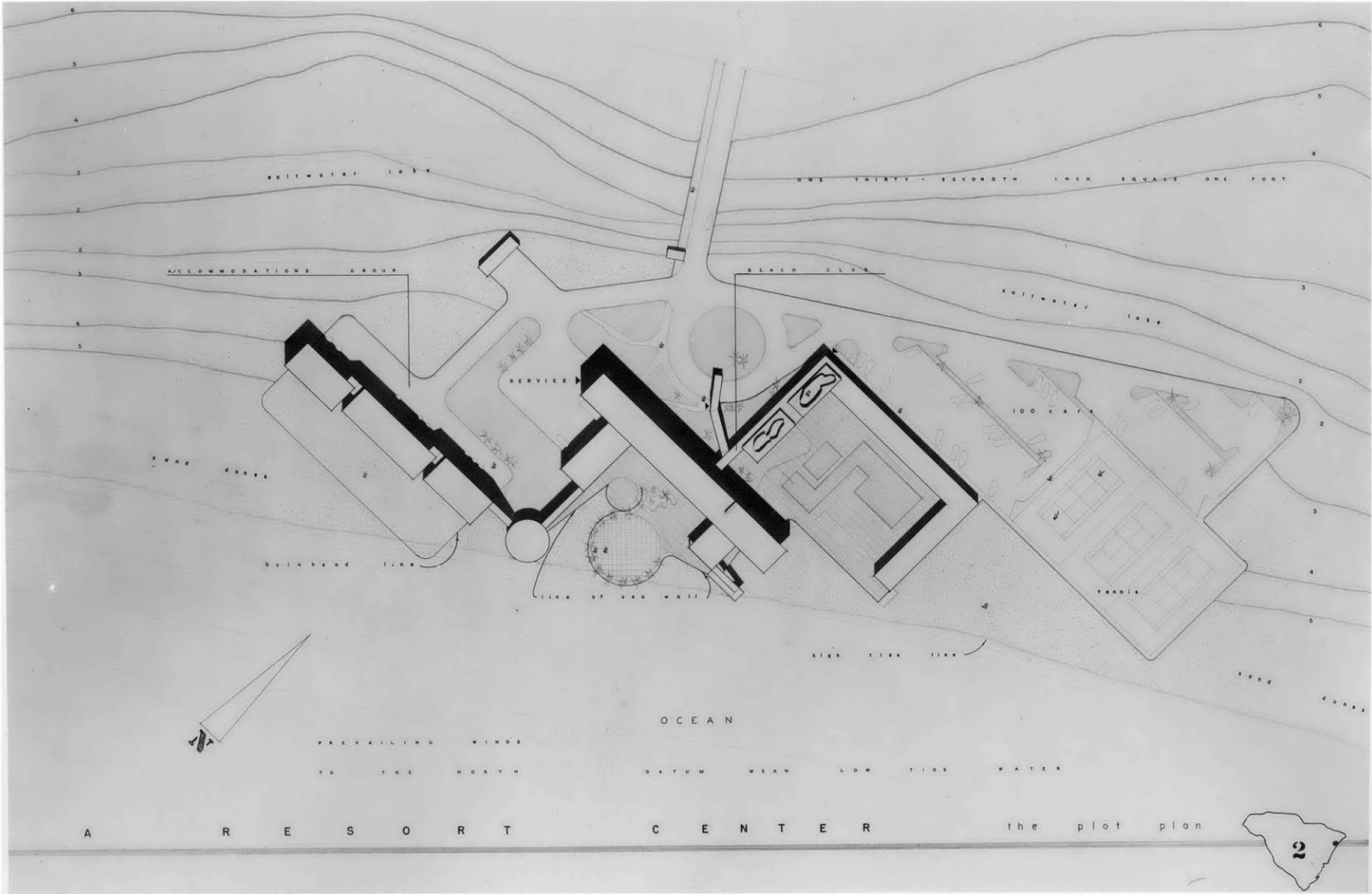
SUBMITTED IN PARTIAL
 FULFILLMENT OF THE
 REQUIREMENTS FOR THE
 DEGREE OF
 master in architecture

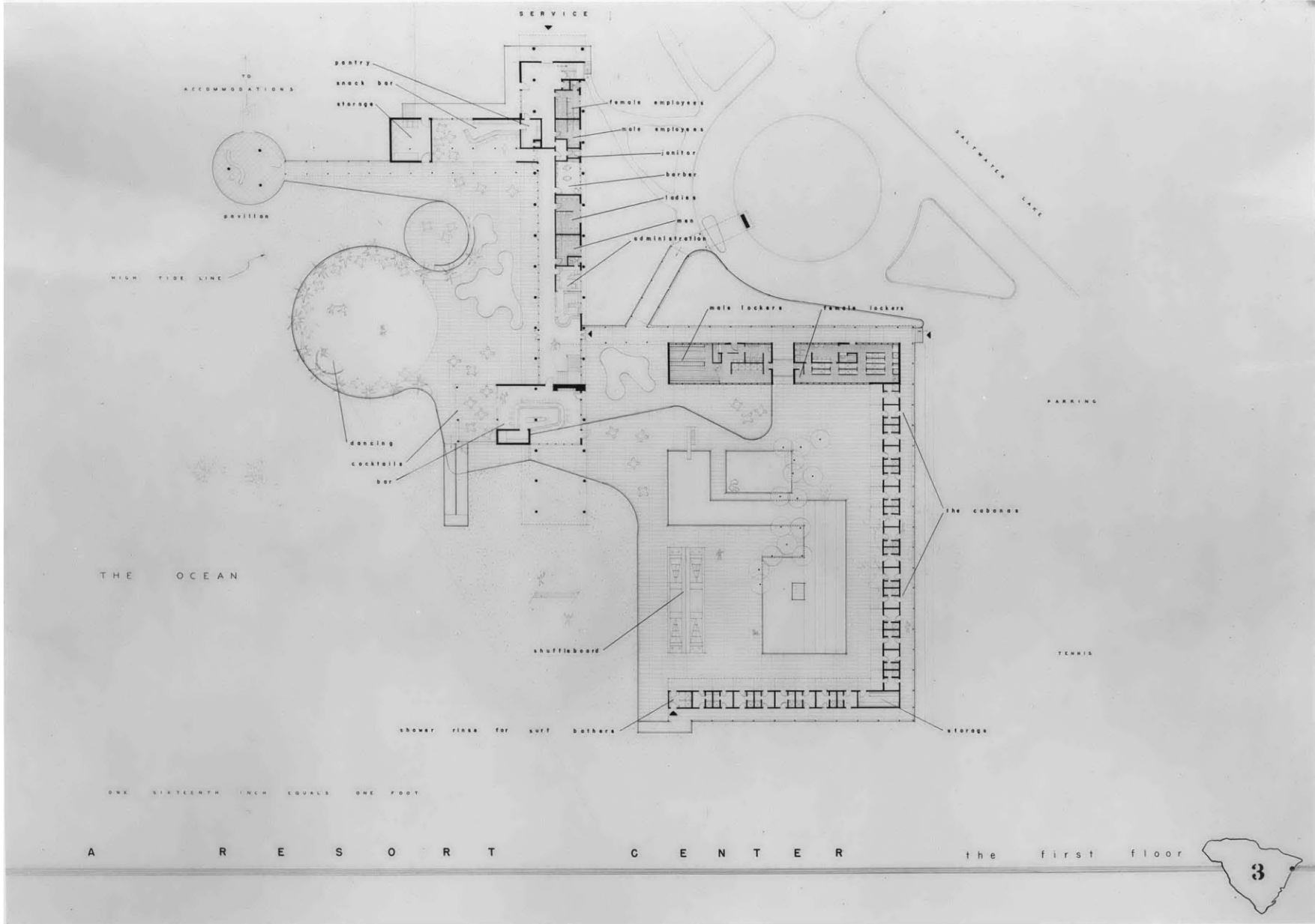
20 MAY, 1948

Wesley C. Kinder
 WESLEY C. KINDER



t h e s i t e





SERVICE

TO ACCOMMODATIONS

snack bar
storage

female employees
male employees
janitor
barber
ladies
men
administration

SALT WATER LAKE

HIGH TIDE LINE

pavilion

male lockers female lockers

PARKING

dancing
cocktails
bar

The cabanas

THE OCEAN

shuffleshoe

TENNIS

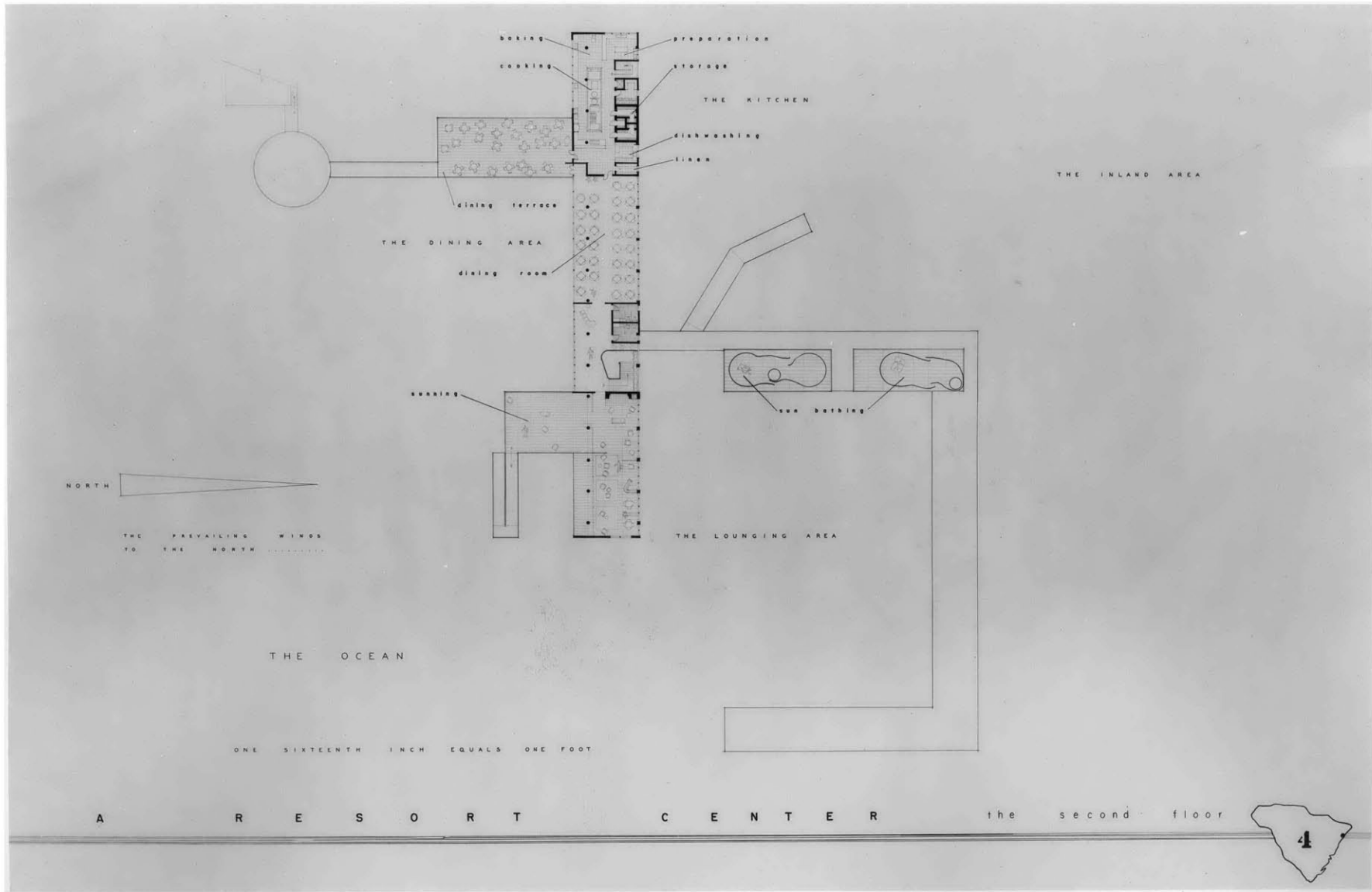
shower rinse for surf bathers

storage

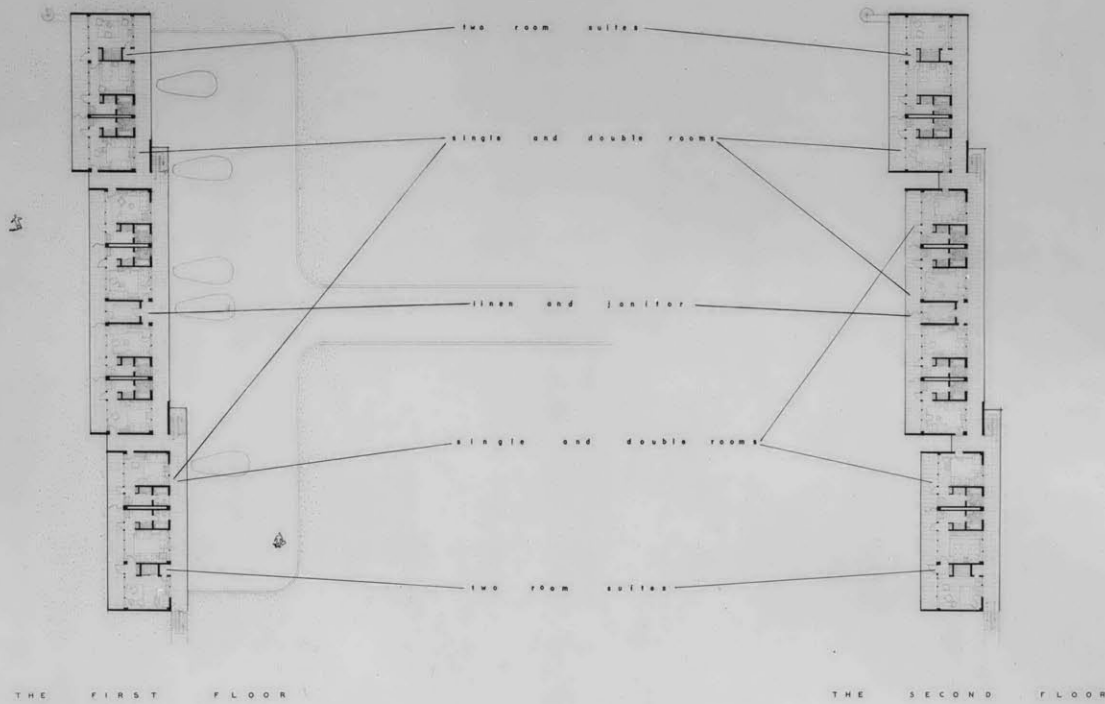
ONE SIXTEENTH INCH EQUALS ONE FOOT

A RESORT CENTER the first floor





NORTH
PREVAILING WINDS
TO THE ... NORTH

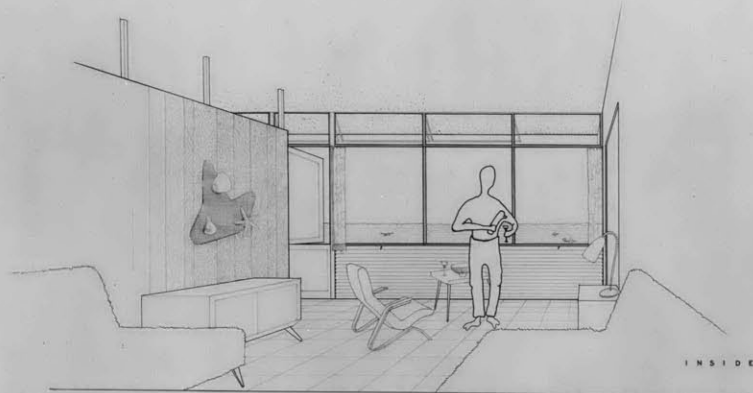


ONE SIXTEENTH INCH EQUALS ONE FOOT

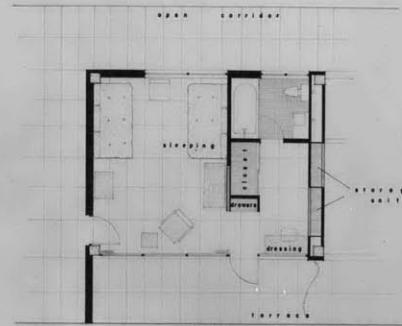
A R E S O R T C E N T E R the accommodations



ONE QUARTER INCH EQUALS ONE FOOT

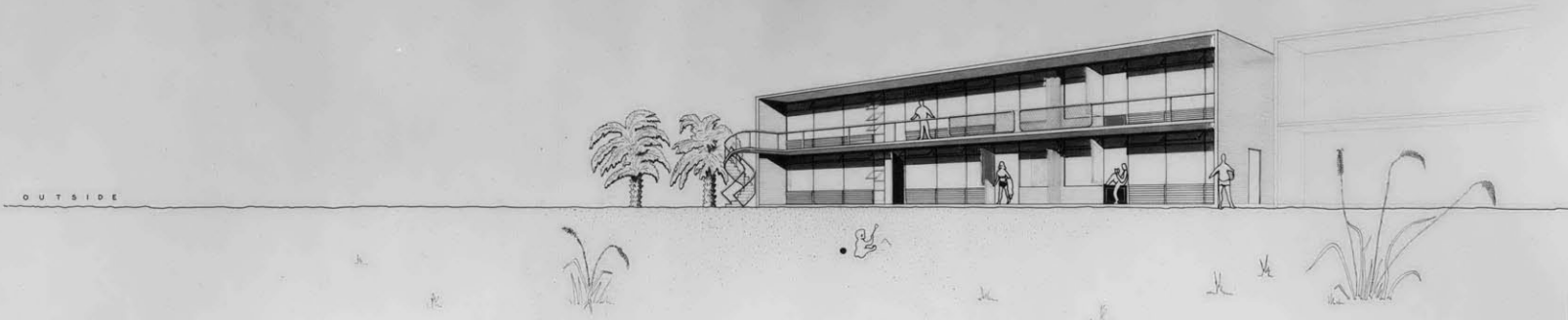


INSIDE



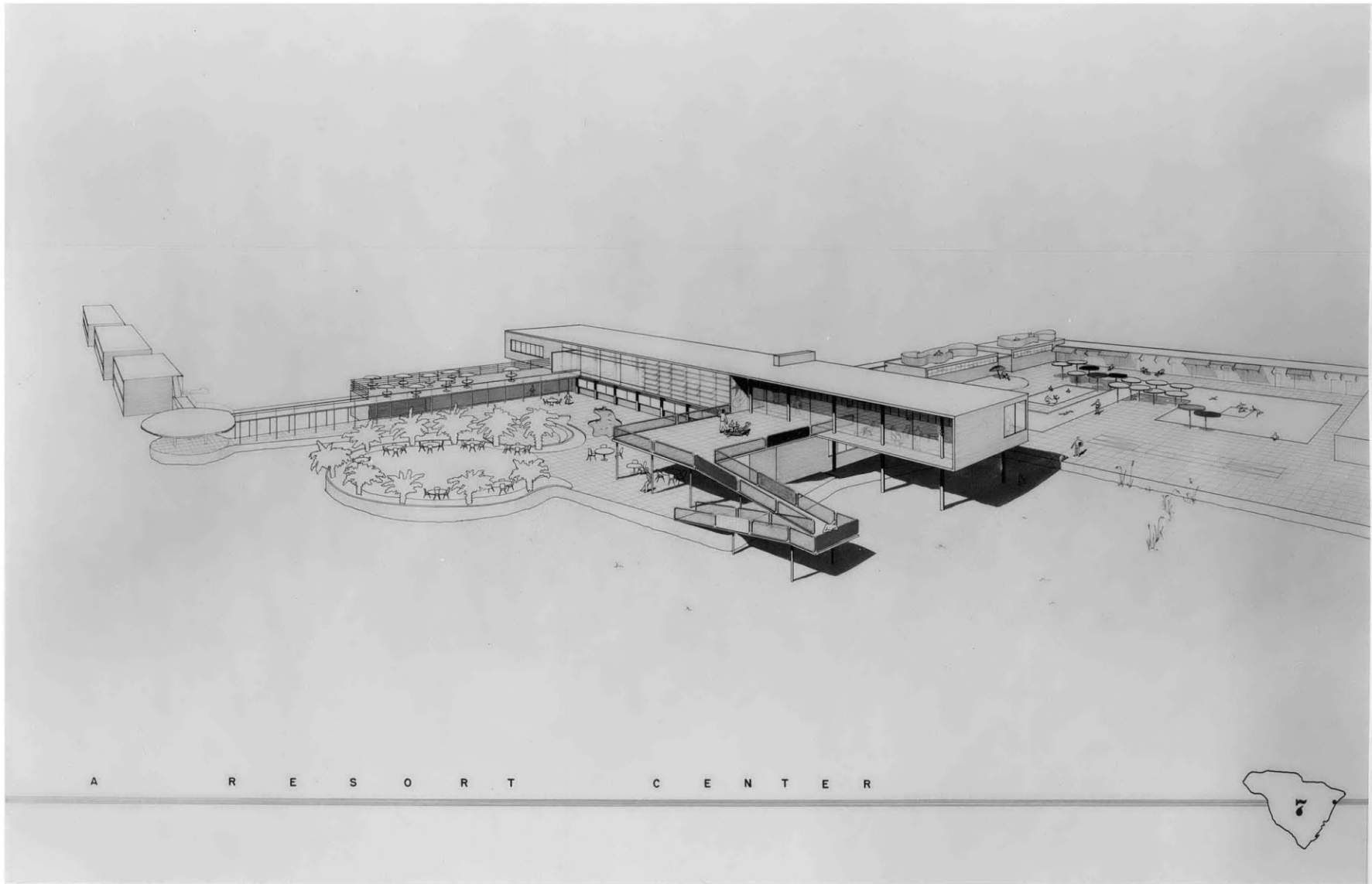
A TYPICAL ROOM

OUTSIDE



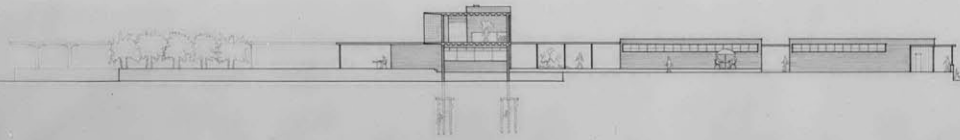
A R E S O R T C E N T E R the accommodations





A R E S O R T C E N T E R

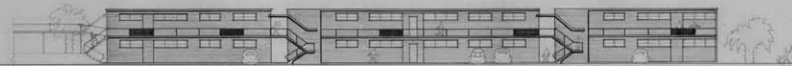




EAST ELEVATION OF BEACH CLUB
AND SECTION THRU THE LOUNGE



SOUTH ELEVATION OF BEACH CLUB
AND SECTION THRU THE SNACK BAR



NOATH ELEVATION OF THE
ACCOMMODATIONS GROUP



SOUTH ELEVATION OF THE
ACCOMMODATIONS GROUP

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the elevations

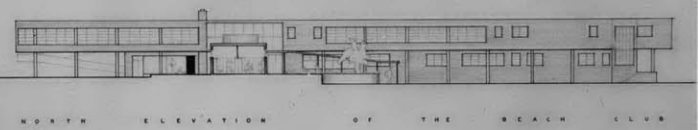


BUILT UP ROOFING - 4 PLY GRAVEL SURFACE
 MAXIMUM INCLINE - 2 IN PER FT

HANGER WIRE
 1 1/2" CHANNEL
 3/4" CHANNEL
 METAL LATH WIAED TO FURRING CHANNEL
 RESILIENT CLIP

3/4" QUARRY TILE
 WEATHERSTAIRING
 COLORED TERRA COTTA TILE
 DAMPROOFING

SLATS IN OPEN POSITION
 SLATS IN CLOSED POSITION
 1/2" OVERLAP
 FORMICA
 JALOUSIE OPERATOR
 OPERATING HANDLE
 WOOD SLATS
 1 1/2" OPENING



NORTH ELEVATION OF THE BEACH CLUB

SCALE 1" = 1'-0" WALL SECTION - ACCOMMODATIONS GROUP

