

REPORT FOR  
SOUTH CAROLINA STATE HOSPITAL  
COLUMBIA, S. C.

APRIL 12, 1949



THE MCPHERSON COMPANY  
ENGINEERS • ARCHITECTS  
GREENVILLE, SOUTH CAROLINA



Building: Taylor

Because of a generally unsatisfactory condition, this building is analyzed in more detail than others at this location.

TAYLOR BUILDING

General Description: Three story, with basement partially used and dining space on fourth floor. Brick walls; wood floor system; plastered interior walls; tin roof; two toilet towers, one not used. Floor areas, approximate square feet:

	<u>Dining Space</u>	<u>Living Space</u>	<u>Toilet Towers &amp; Access. Corr.</u>	<u>Porches</u>
Basement	800			
First Floor	900	8800	530	700
Second Floor		9000	530	700
Third Floor		900	530	700
Fourth Floor	900			

Exterior Walls: Load bearing brick, cavity type, lime mortar. Walls of basement 23" thick, with foundation corbelled out 5" each side. Foundation rests on good sand clay. There are two sets of major wall cracks:

- (a) Both joining walls at the Northwest corner of the building are cracked from the third story through the foundation. These cracks have permitted the masonry at the eave to lean 2" in a northerly direction and 2 3/4" in a westerly direction in a vertical distance of 38'.



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(b) There are cracks on both north and south walls of the north toilet tower. The northeast corner of this tower leans  $1 \frac{3}{4}$ " east and  $1 \frac{1}{4}$ " north in a vertical distance of about 40'.

There are nine other wall cracks and numbers of areas where mortar has leached out of the brick work. This is particularly true under the windows where water has entered the wall at the window sill. Window sills are also broken in many instances.

Interior Floor System: The interior floors are quarry tile on cinder concrete, placed on wood sub-floor which is cut between 2" x 12" wood joists. These joists bear on brick exterior walls and on brick walls along the corridor. Floor systems of day rooms and ward rooms have been reinforced by two lines of columns with beams made from 7" channels with cover plates. These appear to have been top chord members of an old bridge truss which have been converted for their present usage.

The type of patient using this building (soil-untidy; excited belligerent) requires that floors and lower portions of walls be washed down daily. As a result of this, these floors are now in very bad condition. Many of them require immediate repainting.

There are cracks in the floor along the corridor walls of both the second and third floors. These cracks are the result of the sub-floor dropping. The ceilings beneath these



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floors are not cracked, thus indicating that the failure was in wood flooring and not in the joists.

Several rotten places were found in the wood sub-floor of the first floor. The floor system of one portion has been replaced by concrete slab across steel railroad rails.

Door Frames: (Interior) Interior door frames and bucks extend into the concrete floor. Repeated cycles of wetting and drying have caused these to rot beneath the floor. All doors examined were in this condition. The cavities where the door bucks have rotted are inhabited by large numbers of roaches.

Doors: Doors are all in poor condition.

Windows: Over 50% of the windows and window frames are bad. Much of this is due to repeated wetting from the necessary scrubbing.

Window Guards: (Exterior) Many window guards have bars which are rusted off 6 to 9 inches on lower ends.

Interior Walls: Walls are gypsum plastered and painted. The lower 3 to 4 feet of these walls are badly in need of refinishing. Repeated scrubbing has worn away the paint and the plaster is badly pitted. An offensive odor from these portions of the walls and from the lower parts of the doors and door frames is noticeable, particularly on the first floor.



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Miscellaneous, Inside: Plaster badly cracked in 28 places; plaster on ceiling sagging from supports or off in 9 places. Paing is fair except for lower 3 to 4 feet of walls. Stair towers in fair condition. Hose rooms being used for miscellaneous storage. Steps bad second to third floors, southwest corner of building.

There is a very noticeable vibration to the floor system from persons walking across day room. There are several depressions in the floor of the third floor day room.

Tile floors of shower rooms are cracked.

Miscellaneous, Outside: Window screens are in bad condition. Heavy wire guards on proches require cleaning, painting and fastening. Exterior woodwork needs painting. Exterior iron work needs cleaning and painting (or replacement as indicated for window guards above).

Downspouts and gutters need replacement.

Cracked window sills (stone) require replacement and waterproofing.

Plumbing: First Floor: 4 water closets, seat operated flush valves; three bowls broken; two valves broken. Two lavatories, both cracked. One urinal, drain needs replacing. Three showers, fair condition. One slop sink, satisfactory.

Second Floor: Four water closets, three cracked or broken. Four lavatories, satisfactory. One urinal drain bad. Three showers, tile floor and wainscot cracked. One slop sink satisfactory



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Third Floor: Four water closets, all either cracked or require repairs to seat operated valves. Three lavatories, two cracked. One urinal, cracked. Three showers, tile floor cracked. One slop sink, satisfactory.

PiPing: Fair condition except for drains from urinals, from floor drains, and the tee on main soil line. All these require replacement as soon as possible. Water was falling from the plumbers shaft making it impractical to examine these pipes carefully.

Electrical: The existing electrical system is outmoded. Added loads have from time to time blown fuses which have either been replaced with fuses of larger capacity or the fuse blocks have been strapped across, thus resulting in little or no protection from the fuse panels. The existing system is a two-wire system which results in unbalanced loading on the transformers.

In order to afford a measure of protection to the electrical system, new multi breaker panels should be installed on each floor and the service be so connected to these panels as to provide balanced three-wire circuits.

Seven fixtures and six toggle switches are bad and should be replaced.



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Capacity of Building: During the survey of this building it was noted that the number of patients produced a crowded appearance. All available floor space in wards and rooms was occupied by beds or bedding. Space between beds was reduced to a minimum. There was little room for movement about the day rooms and corridors. A check on the number of patients and rated capacities showed the following:

	<u>No. Patients</u>	<u>Rated Capacity</u>
First Floor	74	60
Second Floor	88	70
Third Floor	<u>86</u>	<u>70</u>
Total	248	200

Sleeping area

Per Person	33 sq. ft.	41 sq. ft.
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These figures alone show a 24% excess number of patients over rated capacity. However, this rated capacity provides only 41 square feet per person, as compared with 50 square feet per person allowed in the rated capacity of Wards 1, 2, 3 and 4, which are the newest buildings here.

Day room space is only 12.4 square feet per patient, which is obviously inadequate.

Ratios of persons per water closet and lavatory provided are:

First Floor: 18

Second Floor: 22

Third Floor: 22



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The American Psychiatric Association recommends one water closet and one lavatory per 15 patients.

Heating: The quantity of radiation provided appears adequate. Control of heat is only through manual operation of steam shut-off valve in basement.

Desirable facilities for which no provision is made:

1. Exercise yard.
2. Drinking fountains.
3. Separate toilet facilities for attendants.
4. Exit lights marking doors to stairways.

Discussion: The exact date of original construction was not determined but the last renovation was in 1920-21.

This building, because of its wood supported floors; its wood door frames going into floors; and its window sills being close enough to the floor to permit soiling is not structurally suitable for the type patients which are housed there.

The present condition of the floors is what would be expected after 28 years of such usage. It is now necessary to repoint and/or reset the tile in order to prevent water going through to the sub-floor. This could not be done while the building is occupied. It is not possible to determine the exact condition of the sub-floor without removing either the tile flooring above or the plastered ceiling beneath. However, enough was seen from the basement and from ceilings where plaster was off to indicate that a large portion of this sub-floor is decayed.



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The plumbing deficiencies indicated above should be repaired as soon as possible.

The replacement of doors and door frames could not be carried on while the building is occupied.

It is estimated that the value of a new building of the size type and fixtures as the existing building would be \$185,000.

Conclusion and Recommendations: Since the original construction of this building is not of such type as to permit daily scrubbing of floors without damage to woodwork (sub-floor, joists, door bucks and frames) the building is not suitable for usage of soil, untidy patients. Furthermore, the repairs necessary to restore the building to its former condition (replace tile floors, repoint masonry walls, replace door frames and doors, repair window frames, repair or replace window sills, replace plumbing) are so extensive as to require that the building be vacated, and at the present time there are no facilities available in which to place the patients. From this it appears that the first requirement is to provide a place for these patients.

It is therefore, recommended that only those repairs necessary to prevent excessive deterioration of the building and to provide needed sanitary and safety facilities be done at this time. (Grout in cracks in floors, repair doors and frames which break, point up window sills, replace screens, repair window frames, repair floor drains; repair and/or replace water closets, urinals and lavatories; replace leaking



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water lines, replace urinal drains, replace tee in main soil line, repair gutters and downspouts; install multi breaker panels on each floor and reconnect electric circuits to provide balanced load; replace broken light fixtures and switches, point up large cracks in brick walls, replace plaster on ceiling of first floor). It is estimated that such repairs will cost about \$4,000 and would keep this building usable for a year.

It is further recommended that a building with reinforced concrete frame be constructed of adequate size to handle the maximum number of soil type patients which the medical staff expects. Such building should provide all desirable facilities for handling this particular type patient, and should incorporate the best modern practice for providing a fireproof structure which can be scrubbed daily with a minimum of resulting deterioration.

As soon as the patients are removed from the existing building, it is recommended that sufficient portions of the floor system be exposed to enable a true picture of its condition to be seen. At that time an estimate of cost of renovation can be made more accurately than now. The decision can then be made as to the desirability of renovation for a less severe type of usage, or for abandonment and demolition.