A REHABILITATION CENTER FOR THE SEVERELY DISABLED

RESPECTFULLY SUBMITTED, JULY 14, 1952, FOR
THE ~~DEGREE~~ OF MASTER OF ARCHITECTURE, BY:

RICHARD L. TAVIS

HEAD OF DEPARTMENT:

PROFESSOR LAWRENCE B. ANDERSON

A REHABILITATION CENTER FOR THE SEVERLY DISABLED

DESIGNED BY RICHARD L. TAVIS

SUBMITTED FOR THE DEGREE OF MASTER OF ARCHITECTURE

IN THE DEPARTMENT OF ARCHITECTURE ON JULY 14, 1952.

THE THESIS INCLUDES THE DRAWINGS AND RESEARCH SUMMARY FOR THE DESIGN OF A REHABILITATION CENTER AT WORCESTER, MASSACHUSETTS, TO SERVE THE NEW ENGLAND AREA.

THE CENTER PROVIDES A PHYSICAL PLANT FOR THE PHYSICAL, MENTAL, SOCIAL, AND VOCATIONAL RESTORATION OF PERSONS WITH NON-MILITARY INCURRED DISABILITIES. TREATMENT INCLUDES PHYSICAL THERAPY, OCCUPATIONAL THERAPY, GENERAL EDUCATION AND VOCATIONAL TRAINING, X-RAY THERAPY, RECREATIONAL AND LIVING FACILITIES. THE CENTER IS PART OF A NATIONAL PROGRAM FOR THE PROVISION OF UNIFIED, COORDINATED REHABILITATION SERVICES.

Porter (Arch) Nov 7, 1952

298 WESTGATE WEST
CAMBRIDGE 39, MASSACHUSETTS
JULY 14, 1952

PIETRO BELLUSCHI, DEAN
SCHOOL OF ARCHITECTURE AND PLANNING
MASSACHUSETTS INSTITUTE OF TECHNOLOGY
CAMBRIDGE 39, MASSACHUSETTS

DEAR SIR:

THE FOLLOWING THESIS, " A REHABILITATION CENTER FOR THE SEVERELY DISABLED", IS SUBMITTED IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE DEGREE OF MASTER OF ARCHITECTURE.

~~RESPECT~~FULLY YOURS,

RICHARD L. TAVIS

I WISH TO ACKNOWLEDGE AND THANK THE FOLLOWING FOR THEIR ASSISTANCE:

PROFESSOR LAWRENCE B. ANDERSON
PROFESSOR HERBERT L. BECKWITH
PROFESSOR E. N. GELOTTE
PROFESSOR R. W. KENNEDY
PROFESSOR ROBERT B. NEWMAN
MR. ENRICO PERESSUTTI
MR. T. GORM HANSEN

MR. GERALD CUBELLI AND
MISS KATHLEEN SIBLEY OF THE BAY STATE SOCIETY FOR CRIPPLED AND HANDICAPPED.

THE STAFF OF THE BOSTON SCHOOL OF OCCUPATIONAL THERAPY.

CLASSMATES AND ASSOCIATES.

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A GENERAL BACKGROUND IN REHABILITATION

DEFINITION

TWO DEFINITIONS OF REHABILITATION ARE WIDELY ACCEPTED. ONE LIMITS ITS CONSIDERATIONS TO THE FIELD OF PHYSICAL MEDICINE, AND CONCERNS ITSELF WITH MEASURES WHICH SUPPLEMENT SPECIFIC MEDICAL AND SURGICAL TREATMENT PRESCRIBED BY THE DOCTOR.*

THE OTHER DEFINITION IS MORE BROADLY CONCEIVED, IS GENERALLY ACCEPTED BY PROFESSIONAL WORKERS DEALING WITH PHYSICALLY HANDICAPPED PERSONS, AND WILL BE THE ONE USED IN THIS THESIS. REHABILITATION, ACCORDING TO THIS DEFINITION, IS THE RESTORATION OF THE PHYSICALLY HANDICAPPED TO THE FULLEST PHYSICAL, MENTAL, SOCIAL, VOCATIONAL, AND ECONOMIC USEFULNESS OF WHICH HE IS CAPABLE.

A GREAT MAJORITY OF PHYSICIANS ARE FAMILIAR WITH THE RAMIFICATIONS OF THE FIRST DEFINITION, BUT IT IS ONLY IN RECENT YEARS THAT MAJOR CONSIDERATION IS BEING GIVEN TO THE REALIZATION OF A PROGRAM DICTATED FOR THE PHYSICALLY HANDICAPPED PERSON BY THE SECOND.

THE SEVERELY DISABLED

THE SEVERELY DISABLED ARE OFTEN UNABLE TO RETURN TO A NORMAL LIFE AND NORMAL WORKING CAPACITY, EVEN AFTER THE COMPLETION OF STANDARD MEDICAL AND SURGICAL TREATMENT. THEIR NUMBER IN THE UNITED

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* KESSLER, HENRY H., M.D.:PHYSICAL RESTORATION.

STATES HAS BEEN ESTIMATED AT ONE AND A HALF MILLION. EVERY YEAR, AUTOMOBILES INJURE MORE THAN A MILLION PERSONS, AND MANY OF THESE ARE LEFT PERMANENTLY DISABLED. CHILDREN BORN WITH CONGENITAL DEFORMITIES OR ACQUIRING ORTHEPEDIC DEFECTS FROM POLIO AND LIKE CONDITIONS ADD TO THIS GROUP. DURING THE WAR YEARS, 120,000 CIVILIANS LOST ARMS OR LEGS THROUGH DISEASE OR INJURY.

UNFORTUNATELY, RETURN TO NORMAL LIFE IS NOT POSSIBLE FOR THE MAJORITY OF THESE PERSONS AFTER THE COMPLETION OF ROUTINE TREATMENT. AMPUTEES, HEMIPLEGICS, PARAPLEGICS, CONGENITALLY DEFORMED, AND CHRONIC INVALIDS ARE LEFT WITH DEFINITE RISIDUAL FUNCTIONAL AND STRUCTURAL IMPAIRMENTS WHICH SURGERY OR MEDICAL TREATMENT CANNOT ELIMINATE.

MANY BECOME COMPLETELY DEPENDENT ON THEIR FAMILIES OR COMMUNITIES. SOME OF THESE PERSONS ACHIEVE A HIGH ORDER OF ADJUSTMENT DESPITE THEIR DISABILITIES. MOST STRUGGLE AGAINST THE DIFFICULTIES OF EVERY DAY LIVI NG, THE SUCCESS OF THEIR ADJUSTMENT OFTEN DEPENDENT COMPLETELY UPON CIRCUMSTANCE.

A PHYSICAL REHABILITATION PROGRAM IS AIMED MAINLY AT THIS LARGE, LATTER GROUP. SOME WAY MUST BE FOUND TO RESTORE THEM TO SOCIETY.

FIGURE 1--SITDOWN VOLLEYBALL IS A VALUABLE METHOD IN THE PHYSICAL CONDITIONING OF ARM AND LEG AMPUTEES. (K)

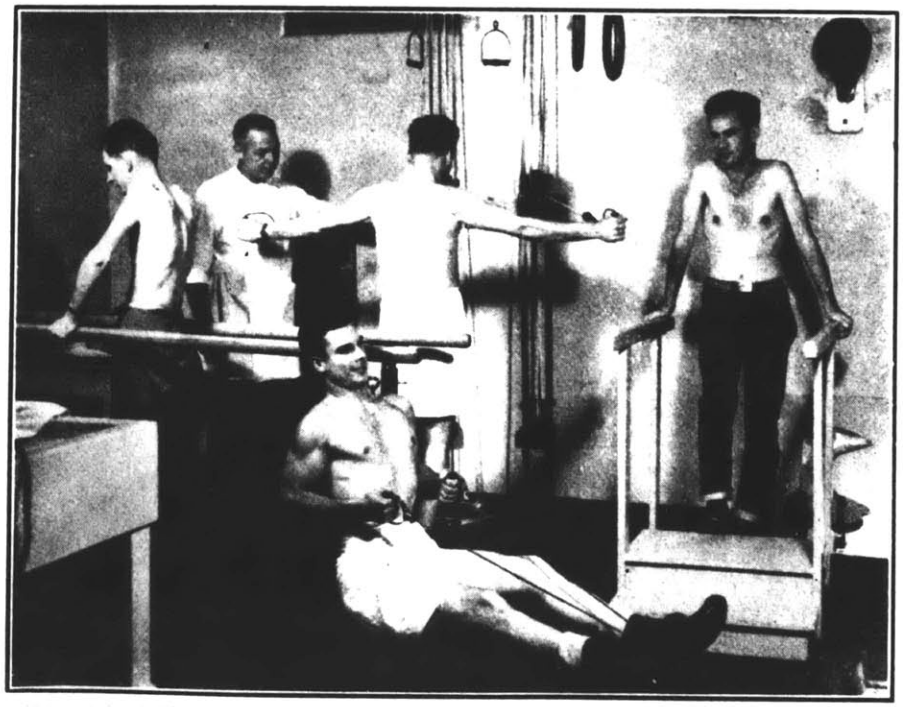

FIGURE 2--A HOSPITAL CORRECTIVE EXERCISE ROOM IN ACTIVE USE. (K)

A PHYSICAL REHABILITATION PROGRAM

THE HISTORY OF SOCIAL ATTITUDES TOWARD THE DISABLED HAD BEEN ONE OF HARSH AND BRUTAL TREATMENT, ONLY SLIGHTLY SOFTENED BY CHRISTIAN CHARITY. THESE ATTITUDES HAVE LASTED THROUGH THE CULTURE AND INSTITUTIONS OF SOCIETY DOWN TO MODERN TIMES. THE SOLUTIONS OFFERED BY PHILANTHROPY AND RELIEF DURING THE 19TH CENTURY WERE, AT BEST, INADEQUATE. A NEW PHILOSOPHY TOWARD THE DISABLED HAS DEVELOPED DURING OUR TIME, AND FROM THIS ATTITUDE HAVE COME NEW CONCEPTS OF REHABILITATION. FOR THE PHYSICALLY HANDICAPPED PERSON, THE CONCEPT OF DEPENDENCY IS BEING REPLACED WITH ONE OF ACTIVITY, IN WHICH THE REMAINING POWERS ARE DEVELOPED TO THE MAXIMUM. THIS DEVELOPEMENT IS, TO A GREAT EXTENT, ACHIEVED THROUGH PHYSICAL RESTORATION, WHICH INCLUDES ADEQUATE EXAMINATION AND DIAGNOSIS, APPRAISAL OF THE INDIVIDUAL'S CAPACITY TO WORK, RECONSTRUCTIVE SURGERY WHERE INDICATED, CONVALESCENT CARE, PHYSICAL THERAPY, PHYSICAL CONDITIONING, OCCUPATIONAL THERAPY, AND PROSTHETIC DEVICES.

NONMEDICAL AIDS INCLUDE VOCATIONAL GUIDANCE, TRAINING AND PLACEMENT. THESE EMBRACE ALL THE PSYCHOLOGICAL TECHNIQUES FOR MEASURING THE INDIVIDUAL'S APTITUDE, INTELLIGENCE AND INTERESTS, EVALUATION OF HIS SKILLS AND EXPERIENCE, AND PREPARATION OF A PLAN FOR FUTURE ACTIVITY WHICH WILL

MAKE THE GREATEST USE OF HIS TALENTS, WHILE RESPECTING THE LIMITS OF HIS DEFECTS.

EMPLOYMENT MUST FOLLOW AN ADEQUATE PROGRAM OF VOCATIONAL AND ACADEMIC TRAINING FOR THE INDIVIDUAL. FOR THE SEVERELY DISABLED, SHELTERED WORKSHOPS PROVIDE A BRIDGE TO EMPLOYMENT IN INDUSTRY, OR GIVE STEADY EMPLOYMENT, THUS AFFORDING PARTIAL SELF-SUPPORT AND REBUILDING SELF-RESPECT.

DIAGNOSIS

A DIAGNOSIS FOR PHYSICAL RESTORATION TREATMENT DIFFERS IN ONLY ONE RESPECT FROM ORDINARY MEDICAL DIAGNOSIS: IT STRESSES THE PATIENT'S RESERVE ABILITY RATHER THAN HIS DEFECT. THE EMPHASIS IS NOT ON HEART DISEASE BUT ON HEART RESERVE; NOT ON THE PATIENT'S HEMIPLEGIA BUT ON HIS ACHIEVEMENTS IN DAILY LIFE; NOT ON THE FACT OF THE PATIENT'S DISABILITY BUT ON HIS WORK TOLERANCE.

WHETHER A DEFECT IS OBVIOUS OR HIDDEN, STATIC OF DYNAMIC, WILL HAVE AN INFLUENCE UPON THE PATIENT'S ADAPTATION TO LIFE. THE TERMS OBVIOUS AND HIDDEN HAVE A SOCIAL CONNOTATION; HIDDEN DEFECTS WILL PROBABLY CARRY NO SOCIAL CENSURE, WHILE OBVIOUS DEFECTS ARE THREATS TO EMPLOYMENT BECAUSE OF SOCIAL PREJUDICE. STATIC AND DYNAMIC ARE FUNCTIONAL TERMS WHEN APPLIED TO DEFECTS. AMPUTATIONS, SCARS, ETC., ARE FIXED IN CHARACTER, HENCE STATIC. THE PATIENT'S WORK CAPACITY IS STABILIZED, AND ARRANGEMENTS CAN BE MADE TO UTILIZE THE REMAINING MENTAL AND PHYSICAL

SKILLS FOR EMPLOYMENT OR TRAINING IN A VOCATION CONSISTENT WITH THE PATIENT'S CAPACITY. ON THE OTHER HAND, IT IS MORE DIFFICULT TO EVALUATE THE WORK TOLERANCE OF A PERSON WITH NON-STATIONARY, PROGRESSIVE, OR DYNAMIC DEFECTS, SINCE HIS DISABILITY IS CONSTANTLY CHANGING FOR BETTER OR WORSE. DIABETES, TUBERCULOSIS, ARTHRITIS, AND HEART DISEASE BRING ABOUT INSTABILITY OF WORK CAPACITY IN A WORLD THAT DEMANDS CONTINUITY OF PRODUCTION POTENTIAL.

ONCE THE CONPLETE NATURE OF THE DISABILITY HAS BEEN ESTABLISHED, THE PERSON'S WORKING CAPACITY CAN BE EVALUATED. THIS MUST NECESSARILY BE DONE QUALITATIVELY, SINCE A QUANTATATIVE EVALUATION OF PRODUCTION HAS NOT BEEN ESTABLISHED.

REHABILITATION

WHEN A MEDICAL, FUNCTIONAL, AND SOCIAL DIAGNOSIS HAS BEEN ESTABLISHED, THE PHYSICAL RESTORATION PROGRAM CAN BE LAID OUT. THE PATIENT'S PROGRAM WILL BE DIRECTED TOWARD ONE OR MORE OF THE FOLLOWING AIMS: ELIMINATION OF THE DEFECT; CAMOUFLAGE OF THE DEFECT; DEVELOPMENT OF LATENT POWERS OF THE INDIVIDUAL.

REHABILITATION MUST BE BEGUN EARLY AND MUST BE THE RESPONSIBILITY OF AN ENTIRE MEDICAL, SURGICAL, AND THERAPEUTIC STAFF. WHILE THESE FUNCTIONS ARE OFTEN DIVIDED FROM PHYSICAL NECESSITY, THEIR WORK MUST BE COORDINATED FROM THE BEGINNING. AS SOON AS

MEDICAL HEALTH HAS BEEN RE-ESTABLISHED, A PROGRAM OF CONVALESCENT EXERCISE SHOULD BE ESTABLISHED. EARLY AMBULATION IS ENCOURAGED.

A PROGRAM OF PHYSICAL MEDICINE FOLLOWED BY, OR RUN CONCURRENT WITH A PROGRAM OF TRAINING, IS THE BASIC ELEMENT IN THE REHABILITATION PROGRAM. THE GREATER RESPONSIBILITY FOR THE PROGRAM RESTS ON PHYSICAL MEDICINE, EITHER WITHIN THE HOSPITAL OR IN A REHABILITATION CENTER. UNDER GOOD CARE CONDITIONS, IT WILL BE BLENDED WITH A PROGRAM OF VOCATIONAL REHABILITATION, GUIDANCE, TRAINING, AND PLACEMENT.

PHYSICAL THERAPY

A BASIC AXIOM OF REHABILITATION IS EXPRESSED: "NEVER TRAIN A MAN AROUND HIS HANDICAP". ALL OF THE TECHNIQUES OF PHYSICAL THERAPY PLACE A CONSTANT EMPHASIS UPON AN EFFORT TO REDUCE DISABILITY AND FACILITATE RETURN TO FORMER OR ADJUSTED WORK ACTIVITIES. THE BASIC TREATMENT ELEMENTS ARE: LIGHT, HEAT, MASSAGE, HYDROTHERAPY, AND ELECTRICITY. THEY SHOULD BE CAREFULLY APPLIED ON PRESCRIPTION, COMPARABLE TO OTHER FORMS OF SURGICAL AND MEDICAL TREATMENT.

PHYSICAL RECONDITIONING HAS RECEIVED INCREASED EMPHASIS SINCE THE WAR. EXCERCISE DEVICES ARE BEING BROUGHT TO THE BEDSIDE OF THE PATIENT. FOR AMBULATORY PATIENTS, EXCERCISE ROOMS, GAME ROOMS, AND GAME FIELDS ARE PROVIDED AT CLOSE HAND.

OCCUPATIONAL THERAPY

OCCUPATIONAL THERAPY COMPLETES THE PROGRAM OF CONVALESCENT PHYSICAL TRAINING. IT HAS PROGRESSED FROM MAKING SPUTUM BOXES AND ROLLING BANDAGES, THROUGH THE BASKET-WEAVING AND BEAD-STRINGING STAGE, TO THE PRESENT COMPREHENSIVE, INTEGRATED SERVICE WITH VALID OBJECTIVES. WHILE MANY OF THE OLD METHODS ARE STILL SOMETIMES USED TO CONQUOR BOREDOM, WOOD WORKING, LEATHERCRAFT, METAL WORK, WEAVING, PRINTING, AND CERAMICS GIVE PURPOSFUL OCCUPATION TO THE HANDICAPPED AND REESTABLISH INTEREST AND ABILITY TO DO GAINFUL WORK.

THE PART OF THE REHABILITATION CENTER IN AN INTEGRATED REHABILITATION PROGRAM

DEFINITION

WORKING WITHIN THE LIMITS OF PRESENT DAY MEDICAL AND SCIENTIFIC KNOWLEDGE, THERE IS NO JUSTIFIABLE REASON FOR NOT MEETING THE NEEDS OF THE PHYSICALLY DISABLED. THE REHABILITATION CENTER BEST MEETS THE NEED FOR SUCH CARE. REHABILITATION CENTERS SUPPLEMENT, IN VARYING DEGREES, THE WORK CARRIED ON IN HOSPITALS, SCHOOLS, AND INDUSTRY IN A COMMUNITY. IT IS A TOOL FOR SOCIAL AGENCIES AND SUPPLEMENTS THE OFFICES OF PRIVATE DOCTORS OF MEDICINE. AN IDEAL CENTER IS ONE IN WHICH A COMBINATION OF HIGHLY SPECIALIZED SERVICES ARE READILY AVAILABLE UNDER ONE ROOF, AND WHERE HIGHLY SKILLED STAFF MEMBERS ARE EASILY OBTAINABLE FOR CONSULTATION BY INDUSTRIES, SCHOOLS, OR INDIVIDUALS THEMSELVES--AN AREA IN WHICH THE PHYSICALLY HANDICAPPED PERSON CAN MOST READILY BE RESTORED TO SOCIAL USEFULNESS.*

AREAS OF EMPHASIS

A TYPICAL REHABILITATION CENTER, BESIDES PROVIDING INPATIENT HOUSING, WILL CARRY ON AN INTEGRATED PROGRAM FOR PHYSICAL AND VOCATIONAL RESTORATION AND DEVELOPMENT. IT WILL INCLUDE A DEPARTMENT OF PHYSICAL MEDICINE, SPECIALIZING IN TREATMENT DIRECTED AT PHYSICAL RESTORATION. ITS OCCUPATIONAL

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* GREVE, BELL: A REHABILITATION CENTER.

THERAPY DEPARTMENT WILL PROVIDE VALUABLE PSYCHO-THERAPY THROUGH USEFUL PURSUITS, PHYSICAL REDEVELOPMENT THROUGH RETRAINING OF DEFECTIVE PHYSICAL PARTS, AND VOCATIONAL TRAINING.

THE CENTER'S TRAINING SECTION WILL GIVE THE PATIENT ACADEMIC AND VOCATIONAL TRAINING THAT WILL INCREASE HIS ABILITY AND BROADEN HIS HORIZONS. THE SHELTERED WORKSHOP WILL UNIFY THE VOCATIONAL EFFORTS OF OTHER DEPARTMENTS, AND WITH THE HELP OF VOCATIONAL GUIDANCE, WILL PROVIDE THE PATIENT WITH THE BEGINNINGS OF SELF-SUPPORT AND A PROMISE FOR THE FUTURE.

PHYSICAL THERAPY

"PHYSICAL THERAPY OR PHYSICAL MEDICINE UNDER THE CURRENTLY ACCEPTED DEFINITION CONSISTS OF THE EMPLOYMENT OF THE PHYSICALLY EFFECTIVE PROPERTIES OF LIGHT, HEAT, COLD, WATER, ELECTRICITY, MASSAGE, MANIPULATION, EXERCISE, AND MECHANICAL DEVICES FOR PHYSICAL. . .THERAPY IN DIAGNOSIS AND TREATMENT OF DISEASE."* MOST OF THE PROCEDURES OF PHYSICAL MEDICINE ARE APPLIED THROUGH THE SKIN. WHEN A PHYSICAL AGENT IS CAPABLE OF PENETRATING THE PROTECTIVE COVERING OF SKIN AND OTHER TISSUE, EFFECTS ON INNER ORGANS AND TISSUES ARE PRODUCED.

HEAT IS ONE OF THE FORMS OF ENERGY INTO

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* KOVAKS, RICHARD, M.D.: PHYSICAL THERAPY IN REHABILITATION. PAGE 92.

FIGURE 3--A PHYSICAL THERAPY TREATMENT ROOM WITH RADIANT HEAT AND ULTRAVIOLET LIGHT EQUIPMENT. ILLUSTRATION DEPICTS MUSCLE REEDUCATION FOR INFANTILE PARALYSIS. (G)

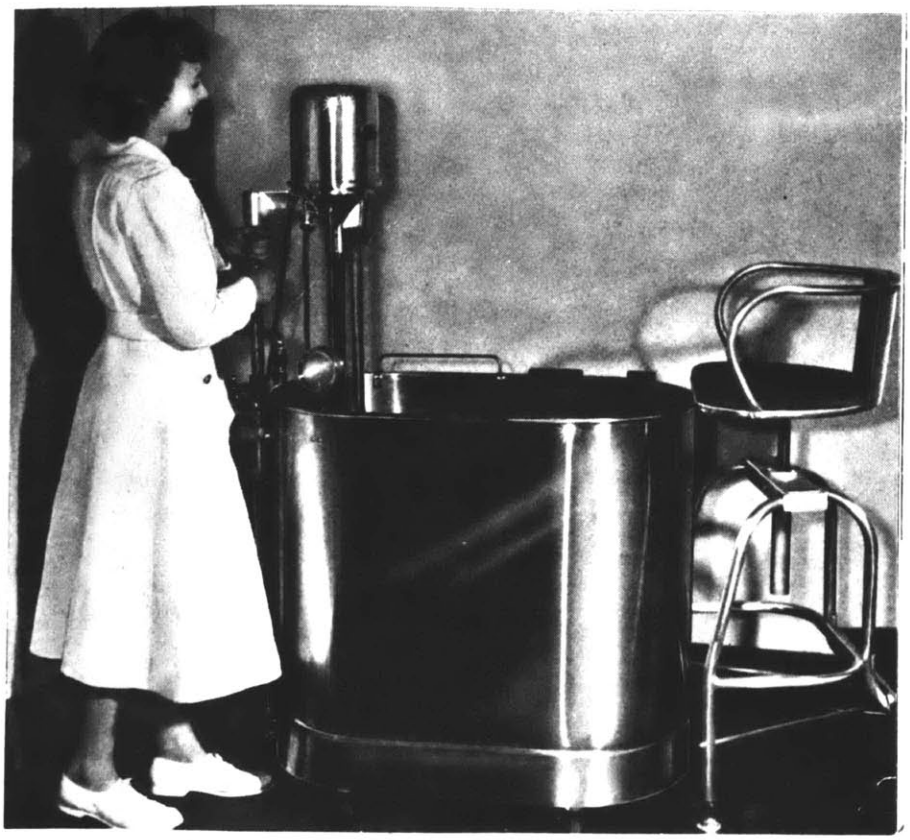

FIGURE 4--A WHIRLPOOL BATH WITH TREATMENT STOOL AND AGITATOR MOTOR. (G)

WHICH ALL OTHER FORMS CAN BE CONVERTED, AND IT IS ONE OF THE MOST USEFUL TOOLS AND VERSATILE PHYSICAL FORCES FOR TREATMENT. HEAT, AS CORRESPONDS TO PHYSICAL MEDICINE, CAN BE DEFINED AS AN INTERNAL VIBRATION OF THE MOLECULES COMPOSING THE BODY. COLD IS THE NEGATIVE CONDITION, AND DEPENDS ON THE DECREASE IN THE VIBRATION THAT MAKES UP HEAT.

THE TECHNIQUES OF THERMETHERAPY ARE AS FOLLOWS: (1) CONDUCTION OF HEAT FROM WATER TO THE PATIENT FROM A BATH, COMPRESS, POULTICE, OR ELECTRICALLY HEATED PAD; (2) LUMINOUS OR NON-LUMINOUS RADIATION; (3) CONVERSION OF HIGH FREQUENCY ELECTRICAL ENERGY IN THE FORM OF LONG OR SHORT WAVE DIATHERMY.

ALL FORMS OF HEATING PROVIDE THE SAME INITIAL PHYSICAL EFFECT ON THE BODY: A RISE IN THE TEMPERATURE OF THE TISSUES. THERE IS ALWAYS A SECONDARY EFFECT: AN IMPROVEMENT IN GENERAL CIRCULATION.

HEAT APPLICATION IS DIVIDED INTO TWO CATAGORIES, LOCAL HEATING AND GENERAL HEATING. THE EFFECTS OF THE FIRST ARE THREE: (1) INCREASE IN LOCAL METABOLISM AND THUS A SPEEDING UP OF THE RESOLUTION OF SUBACUTE AND CHRONIC INFLAMMATORY CHANGES IN TRAUMATISM; (2) IN MILD DOSES, THE RELIEF OF PAIN AND SPASM; (3) AN INCREASE IN LOCAL DEFENSE AGAINST BACTERIAL INVASION.

GENERAL HEATING INCREASES GENERAL METABOLISM AND AIDS ELIMINATION THROUGH THE SKIN, LUNGS AND KIDNEYS.

LOCAL OR GENERAL HEATING IS APPLIED THROUGH SEVERAL CLINICAL MEDIA. THE WHIRLPOOL BATH IS EMPLOYED WITH BENEFIT IN TREATING PAINFUL SCARS AND ADHESIONS, TREATMENT OF FRACTURED LIMBS AS SOON AS THEY ARE REMOVED FROM IMMOBILIZATION, TRAUMATIC AND CHRONIC INFLAMMATORY CONDITIONS, AND TO EASE PAIN, STIFFNESS AND SLUGGISH SKIN CONDITIONS. IT CONSISTS OF WATER AT A TEMPERATURE BETWEEN 105 AND 110 DEGREES WHICH IS KEPT IN CONSTANT AGITATION IN A TANK WHICH WILL HOLD THE ARMS OR LEGS.

THE PARAFFIN BATH CONSISTS IN IMMERSING OF THE EXTREMITIES IN A SMALL TANK OF MELTED PARAFFIN, OR THE BRUSHING OF THIS PARAFFIN ON THE SURFACE OF THE BODY. IT IS EFFECTIVE IN THE TREATMENT OF CHRONIC ARTHRITIS OF THE HANDS AND IN THE AFTER-TREATMENT OF TRAUMATIC CONDITIONS IN THE EXTREMITIES (E.G. SWELLING AND STIFFNESS FOLLOWING FRACTURES, SPRAINS, CONTUSIONS, LACERATIONS, AND INFECTIONS).

THE SOURCES OF RADIANT HEAT ARE METALLIC CONDUCTORS WHICH BECOME HEATED BY THE PASSAGE OF AN ELECTRIC CURRENT. THESE INCLUDE LOW-TEMPERATURE NON-LUMINOUS SOURCES, AND HIGH-TEMPERATURE LUMINOUS SOURCES SUCH AS HEAT LAMPS AND INFRA-RED GENERATORS. RADIANT HEAT IS USEFUL IN TREATING SUBACUTE AND

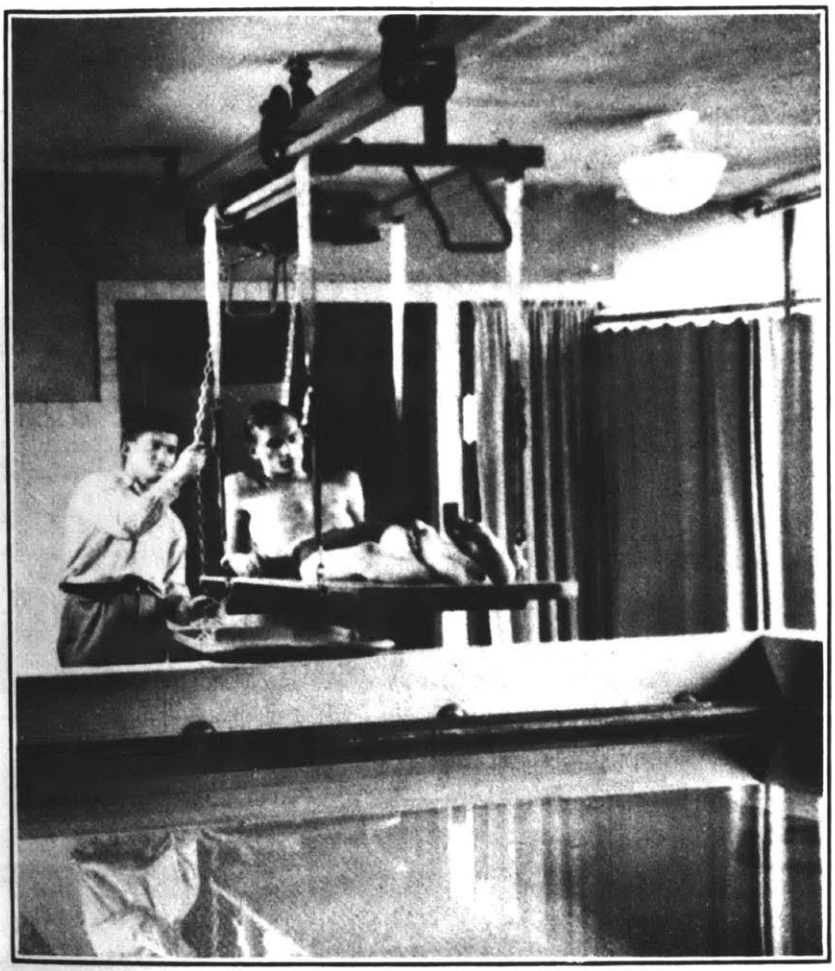

FIGURE 5--MONORAIL IS USED TO TRANSPORT PARAPLEGIC TO EXERCISE BATH. (K)

FIGURE 6--HYDROTHERAPY IN AN EXERCISE TANK. (K)

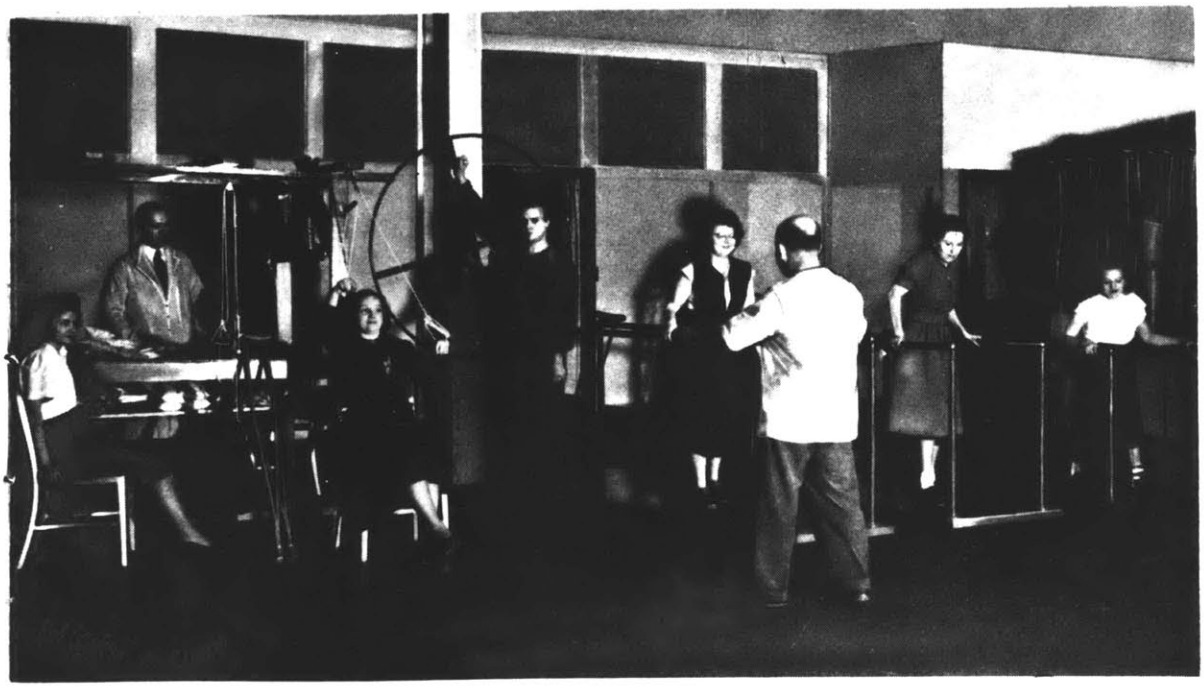

FIGURE 7--A WELL-EQUIPPED THERAPEUTIC GYMNASIUM, WHERE PATIENTS, UNDER THE DIRECTION OF A PHYSICAL THERAPIST, RECEIVE AMBULATION AND CORRECTIVE EXERCISES PRESCRIBED FOR EACH CASE AND ADMINISTERED ACCORDING TO SCHEDULES CONSTANTLY REVISED AS PROGRESS IS OBTAINED. (G)

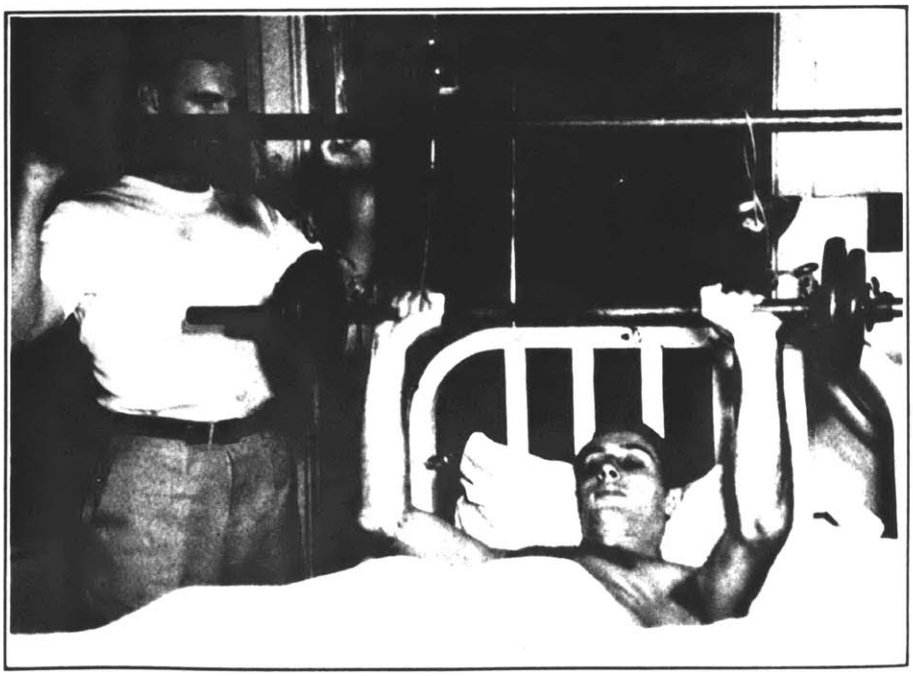

FIGURE 8--GYMNASIUM EQUIPMENT MAY BE BROUGHT TO THE BEDSIDE TO STRENGTHEN WEAKENED MUSCLES--ALWAYS ON A DOCTOR'S PRESCRIPTION. (K)

CHRONIC TRAUMATIC AND INFLAMMATORY CONDITIONS IN ACCESSIBLE LOCATIONS.

DIATHERMY, OR TREATMENT WITH LONG, SHORT AND MICRO WAVES, DOES NOT CAUSE STIMULATION OF THE MUSCLES OR NERVES, BUT INCREASES THE INTERNAL VIBRATIONS OF THE MOLECULES IN THE PATH OF THE CURRENT AND THUS RAISES THE LOCAL, AND SOMETIMES GENERAL, BODY TEMPERATURE. THE ESSENTIAL CLINICAL EFFECTS OF DIATHERMY ARE THE PROMOTION OF THE BREAKING UP AND RESORPTION OF INFLAMMATORY ADHESIONS, OBSERVABLE CLINICALLY BY DECREASE OF PAIN, REDUCTION OF SWELLING, AND RESTORATION OF FUNCTION.

LIGHT THERAPY, IN GENERALLY ACCEPTED TERMINOLOGY, IS THE APPLICATION OF NATURAL SUNLIGHT OR ITS ARTIFICIAL SUBSTITUTES: MERCURY VAPOR ULTRAVIOLET RADIATION, OR RADIATION FROM CARBON ARC LAMPS. SUBSTITUTES PRODUCE GOOD EFFECTS BUT IT IS A CLINICALLY PROVABLE FACT THAT THERE IS NO DUPLICATE FOR THE CURATIVE EFFECTS, REST, CLIMATE, AND GENERAL HYGIENE OF NATURAL HELIOTHERAPY. PRINCIPLE EFFECTS OF EITHER APPLICATION ARE GENERAL WELL BEING, ANTIRACHITIC PRODUCTION OF VITAMIN D, AN INFLUENCE ON CALCIUM METABOLISM, AND BACTERICIDAL EFFECTS.

ELECTROTHERAPY IS EMPLOYED IN THE FORM OF ELECTRO-MEDICAL CURRENTS SUCH AS GALVANIC, FARADIC, SINUSOIDAL, AND HIGH FREQUENCY, ALL DERIVED BY

FIGURE 9--THE PRACTICE STAIR IS ONE PART OF A PROGRAM TO LEAD A PARTIALLY PARALYZED PATIENT INTO THE WAYS OF SOLVING HIS AMBULATORY PROBLEMS. (G)

EFFECTING VARIOUS CHANGES ON THE COMMERCIAL LIGHTING CURRENT. IN CONTINUED OR INTERRUPTED CHARGES, THESE CURRENTS ARE USED IN TREATING SOME FORMS OF RHEUMATISM, ARTHRITIS, AND ULCERS, AND IN THE ELECTROSTIMULATION OF MUSCLES WHICH CANNOT BE TREATED BY MECHANOTHERAPY.

MECHANOTHERAPY COMPRISES MASSAGE AND THERAPEUTIC EXERCISE. MASSAGE, ONE OF THE SIMPLEST AND MOST USEFUL FORMS OF PHYSICAL TREATMENT, CONSISTS OF CONTACT BETWEEN THE SKIN OF THE TECHNICIAN AND THE SKIN OF THE PATIENT, COMBINED WITH PRESSURE IN VARYING AMOUNTS. THE THREE MAIN VARIETIES OF MOVEMENT ARE STROKING, COMPRESSION AND PERCUSSION. IT IS MOST BENEFICIAL IN CASES OF MUSCULAR WEAKNESS, TO KEEP UP MUSCLE TONE AND PREVENT ATROPHY OF THE MUSCLES.

THERAPEUTIC EXERCISE IS PRESCRIBED WHENEVER THERE IS DYSFUNCTION OF AN ORGAN, WHETHER DUE TO TRAUMA, DISEASE, OR DEFORMITY.* THERAPEUTIC EXERCISE IS BOTH FOCAL AND GENERAL, AND IS ADMINISTERED WITH REGARD TO DOSAGE, RHYTHM, PROGRESSION, AND VARIETY IN FORM--THE CHIEF FORMS BEING MEDICAL GYMNASTICS, OCCUPATIONAL THERAPY AND RECREATIONAL THERAPY..

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* COVALT, DONALD A., M.D.: PHYSICAL CONDITIONING.

THE THERAPEUTIC GYMNASIUM IS NOT A PLACE OF RECREATION. IT IS, RATHER, AN AREA IN WHICH TREATMENT, PRESCRIBED AFTER A COMPETENT EXAMINATION BY A QUALIFIED MEDICAL EXAMINER, CAN BE GIVEN. ALL PIECES OF EQUIPMENT SHOULD BE DESIGNED AND PLACED TO PRODUCE A PRESCRIBED RESULT, AND THIS EQUIPMENT SHOULD BE OPERATED BY APPOINTMENT UNDER PROPER SUPERVISION. THE TENDENCY TODAY IS TOWARD PROVIDING ADEQUATE SPACE FOR ACTIVE EXERCISE WITHOUT APPARATUS, AS WELL AS AREAS FOR APPARATUS WORK.

EXERCISE, PHYSICAL CONDITIONING, HAS THREE BASIC AIMS: (1) EVALUATION OF MUSCLE AND JOINT FUNCTION; (2) SPECIAL PROCEDURES TO OVERCOME ATROPHIC DETERIORATION, SPASTICITY, FLACCIDITY, OF THE INJURED PARTS, AND TO RESTORE FUNCTION WHERE POSSIBLE; (3) CONDITIONING AND DEVELOPMENT OF THE UNINJURED PARTS IN PREPARATION FOR THE COMPANSATING LOAD THEY MUST ASSUME.

EXERCISE IN A GYMNASIUM IS OF GREAT BENEFIT, BUT GRAVITY AND FRICTION ARE OFTEN PROBLEMS. THESE ARE OFTEN MET, TO SOME DEGREE, BY OVERHEAD SWINGS, ETC., BUT MOST OFTEN, UNDERWATER EXERCISE IS PRESCRIBED FOR THESE CASES. WEAK MUSCLES ARE THUS ABLE TO PERFORM MOVEMENT WITH GREATER EASE AND WITH A HIGHER DEGREE OF SPASM CONTROL. THE SEDATIVE EFFECT OF WATER IS ALSO OF GREAT IMPORTANCE IN OBTAINING A SMOOTH, RHYTHMIC, COORDINATED MOVEMENT. THE TWO

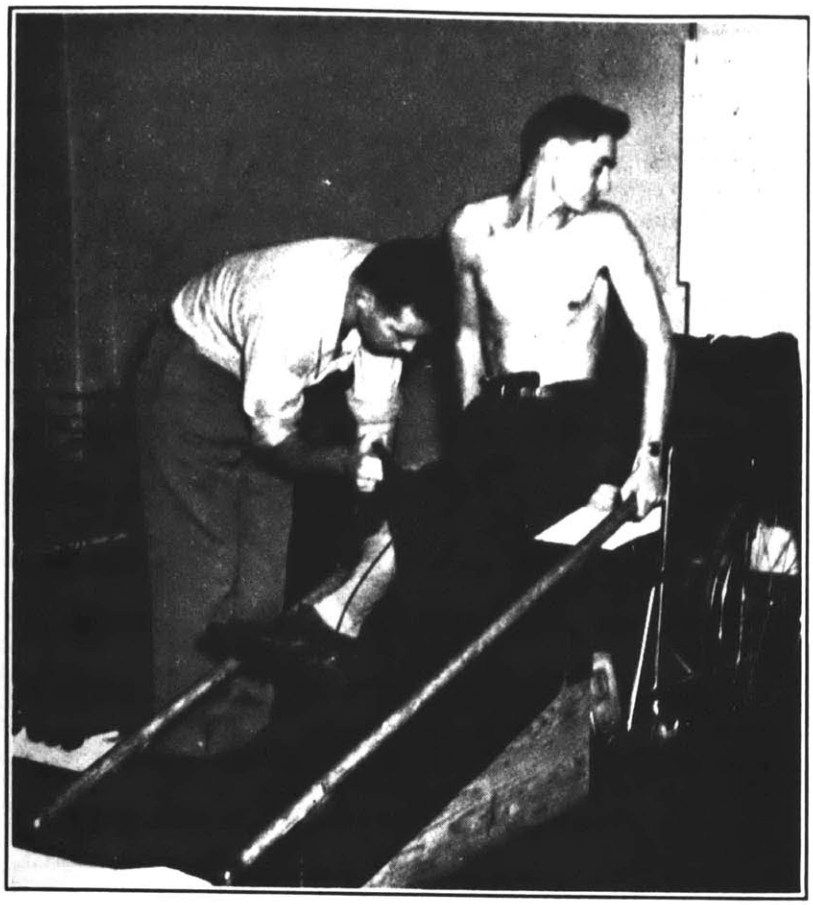

FIGURE 10--PARAPLEGIC USING A RAMP TO GO FROM WHEELCHAIR TO MAT IN ORDER TO DEVELOP UPPER EXTREMITY MUSCLES, PARTICULARLY THE TRICEPS, SO NECESSARY TO CRUTCH WALKING. (K)

FIGURE 11--MAT EXERCISES TO PREVENT THE DECONDITIONING PHENOMENON ASSOCIATED WITH LONG TERM CHRONIC ILLNESS. (K)

MEANS OF UNDERWATER EXERCISE ARE THE LARGE POOL WITH ITS MODERATE DEPTH AND TEMPERATURE, AND THE SMALLER TANK WITH ITS TEMPERATURE MORE EASILY CONTROLLED TO SUIT THE SPECIFIC NEEDS OF THE PATIENT. BOTH HAVE THEIR PLACE IN WELL ROUNDED TREATMENT.

INTERESTING WORK HAS BEEN DONE IN HYDROGYMNASTIC THERAPY CARRIED ON COMBATIVELY IN A LARGE POOL. PATIENTS WERE ENCOURAGED TO PROJECT THEIR COMBATIVENESS VIGOROUSLY IN THE SAFETY OF THE WATER, WHILE UNDER SUPERVISED CARE. IT WAS FOUND THAT PATIENTS RETURNED TO THEIR ROOMS RELAXED, APPETITES IMPROVED, AND PATIENTS SPENT QUIETER NIGHTS.

CONSISTENT AND INTELLIGENT APPLICATION OF PHYSICAL TREATMENT, AFTER PROPER SURGERY, COMBINED WITH ADEQUATE MEDICAL AND MENTAL CARE, IS THE CHIEF MEANS FOR ACHIEVING THE MAXIMUM ANATOMICAL AND FUNCTIONAL RESTORATIONS.

OCCUPATIONAL THERAPY

THE BASIC PRINCIPLE OF OCCUPATIONAL THERAPY IS ITS EMPHASIS OF THE INDIVIDUAL RATHER THAN A SPECIFIC DISEASE OR INJURY.* PHYSICAL FACTORS ALONE DO NOT PROPERLY ROUND OUT THE PATIENT IN HIS PSYCHO-SOCIAL APPROACH TOWARD LIFE. WHILE PHYSICAL TREATMENT IS ATTAINING ITS OBJECTIVES, WITHIN THE FRAMEWORK OF THE REHABILITATION CENTER, OCCUPA-

* WEST, WILMA L., M.A., O.T.R.: THE PRINCIPLES OF OCCUPATIONAL THERAPY IN THE REHABILITATION OF THE PHYSICALLY HANDICAPPED.

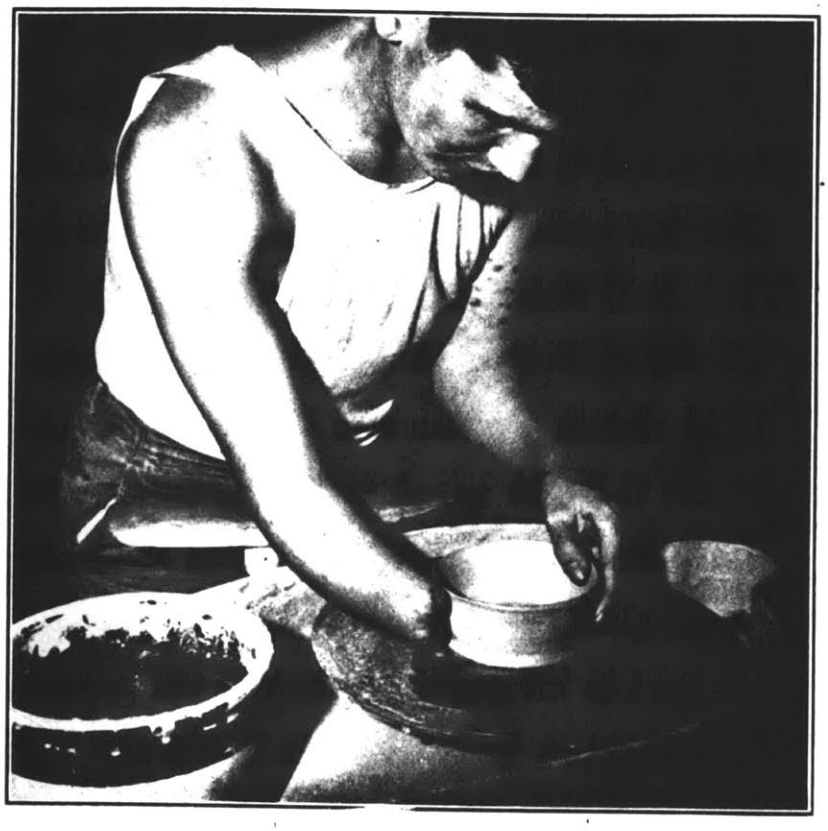

FIGURE 12--POTTERY HELPS TO DEVELOP SKILL OF REMAINING HAND IN CASES OF AMPUTATION. (K)

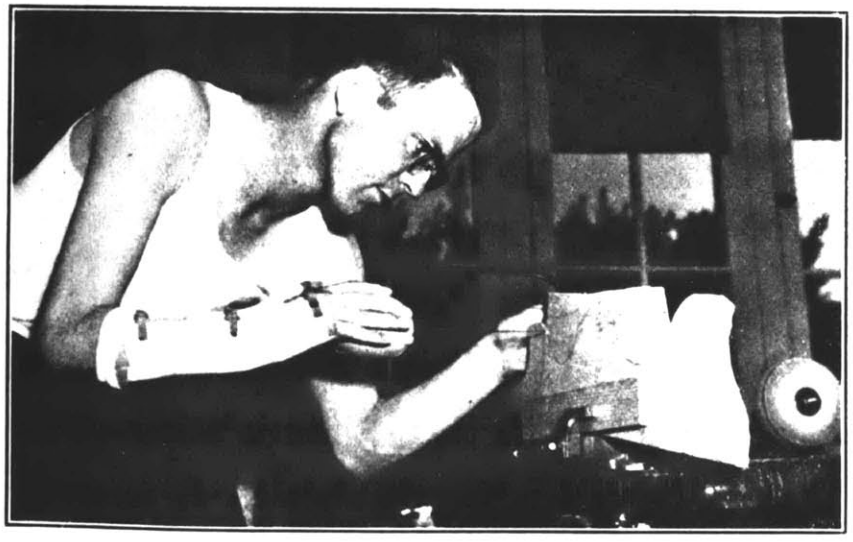

FIGURE 13--BUILT-UP TOOL HANDLES ARE REDUCED IN SIZE AS RANGE OF FINGER MOTION INCREASES. (K)

FIGURE 14--TABLE TENNIS TEACHES COORDINATION AND TIMING WITH RELATION TO THE INTERDEPENDENT FUNCTION OF THE PROSTHESES. (K)

TIONAL THERAPY IS DOING ITS WORK, AROUSING THE PATIENT'S INTEREST, PLACING COURAGE AND CONFIDENCE, INCREASING MUSCULAR STRENGTH, ADJUSTING MENTAL DEVIATIONS, AND PROVIDING A REESTABLISHED CAPACITY FOR INDUSTRIAL AND SOCIAL USEFULNESS. AT THE SAME TIME A MUSCLE IS BEING STRENGTHENED OR THE USE OF A JOINT RESTORED, AN INTEREST IS AROUSED, A TALENT DEVELOPED, AND A RECREATIONAL AND SOCIAL URGE FULFILLED.

IN THE FIELD OF PHYSICAL DISABILITY, A LARGE RANGE OF CONDITIONS IS ENCOUNTERED. FOR PURPOSES OF THEIR RELATION TO OCCUPATIONAL THERAPY, THESE ARE CLASSIFIED AS GENERAL MEDICAL CONDITIONS, SURGICAL, ORTHOPEDIC, AND NEUROLOGICAL CONDITIONS.

GENERAL MEDICAL CONDITIONS CALL FOR A GRADED VARIETY OF ACTIVITIES, RANGING FROM LIGHT FINGER MOVEMENTS TO AMBULATORY ACTIVITY OF A MORE STRENUOUS NATURE. ACTIVITY IS SLANTED TO COMBAT RESTLESSNESS AND TO DEVELOP WORK TOLERANCES THROUGH CONTROLLED PROCESSES WITHIN THE RANGE OF PHYSICAL LIMITATIONS.

SURGICAL CONDITIONS ARE USUALLY CONCERNED WITH THE TREATMENT OF AMPUTEES. FOR A SINGLE AMPUTATION, GRADED PRE-PROSTHETIC ACTIVITY IS RECOMMENDED TO STRENGTHEN THE REMAINING MEMBER. DOUBLE AMPUTATIONS REQUIRE A REESTABLISHING OF CONFIDENCE. CERAMIC WORK, CARPENTRY, WRITING

PRACTICE, AND GAMES ARE ESPECIALLY WELL SUITED FOR TREATMENT IN THIS FIELD.

WEAVING, GARDENING AND THE ABOVE MENTIONED ACTIVITIES ARE USEFUL IN THE TREATMENT OF ORTHOPEDIC CONDITIONS. OCCUPATIONAL THERAPISTS ARE TRAINED IN APPLYING AND ADAPTING THE CRAFTS TO THE FUNDAMENTAL PRINCIPLES OF TREATMENT: GRADED FORCE FOR JOINT LIMITATION, GRADED RESISTANCE FOR MUSCLE WEAKNESS, AND MUSCLE REEDUCATION FOR INCOORDINATION. IN ALL CASES, STARTING WITH ACTIVITY OCCURING IN ACTIVE RANGES, THEIR SCOPE IS INCREASED UNTIL FULLEST POSSIBLE RANGE IS INDUCED.

IN THE CASES OF NEUROLOGICALLY INDUCED DISABILITIES, EMPHASIS IS PLACED ON SELF HELP ACTIVITIES ESSENTIAL TO PERSONAL CARE AND INDEPENDENCE. THE OCCUPATIONAL THERAPY WORKSHOP IS OFTEN AN IDEAL PLACE FOR TESTING APTITUDES, FOR RESEARCH IN VOCATION CHANGING DUE TO LIMITED PHYSICAL CAPACITIES.

"OCCUPATIONAL THERAPY HAS A WELL-DEFINED ROLE IN THE REHABILITATION PROCESS. THROUGH THE MEDIUM OF A WIDE RANGE OF MANUAL SKILLS AND RECREATIONAL ACTIVITIES, IT OFFERS SPECIFIC ACTIVE EXERCISE FOR THE MAJORITY OF PHYSICAL DISABILITY CONDITIONS. IT HAS ITS BASIS IN RECOGNITION OF THE INTERRELATIONSHIP OF MIND AND BODY AND THE CONSEQUENT IMPORTANCE OF THE PHYSICO-PSYCHOLOGIC APPROACH. PLANNED, PURPOSEFUL ACTIVITY, PRESCRIBED BY THE PHYSICIAN,

FIGURE 15--THROUGH SPECIAL EQUIPMENT, SUCH AS JIGS AND CHAIRS, HANDICAPPED PERSONS ARE ENABLED TO COMPETE WITH NORMAL PERSONS IN ESTABLISHING HIGH PRODUCTION RECORDS. (G)

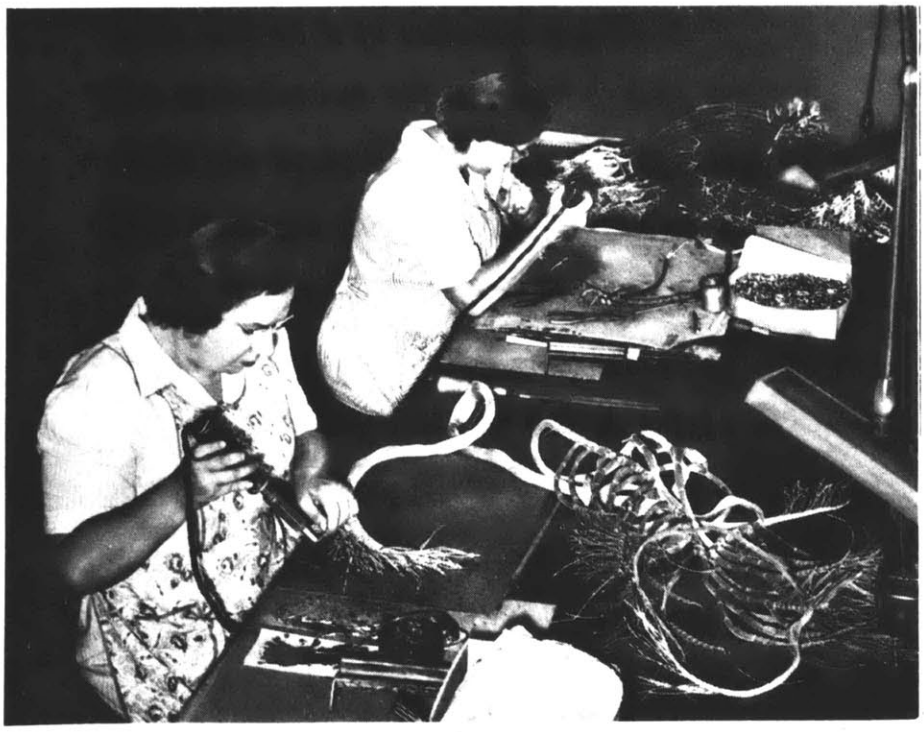

FIGURE 16--CABLE WIRE ENDS BEING SOLDERED BY WORKERS DISABLED PHYSICALLY BUT NOT HANDICAPPED IN PERFORMANCE ATTUNED TO THEIR CAPABILITIES. (G)

SUPERVISED BY THE TRAINED OCCUPATIONAL THERAPIST, AND GEARED TO THE PATIENT'S INDIVIDUAL PHYSICAL AND MENTAL NEEDS, IS INDISPENSABLE TO THE OPTIMUM PROGRAM OF MEDICAL CARE."*

TRAINING AND PLACEMENT

IN GENERAL, DISABLED PERSONS SHOULD HAVE AVAILABLE ALL FORMS OF TRAINING CONSISTENT WITH THEIR ABILITIES, AND WITH WHICH THEIR DISABILITY DOES NOT FORM AN OVERWHELMING PROBLEM OF READJUSTMENT."* THE DISABLED PERSON WHO HAS AN IMPAIRMENT WHICH HAS INCAPACITATED HIM FOR HIS NORMAL OCCUPATION, ONE WHO HAS HAD NO WORK EXPERIENCE, OR ONE WHOSE SKILLS HAVE BEEN MADE OBSOLETE BY CHANGING INDUSTRIAL NEEDS, IS THE ONE MOST FREQUENTLY REQUIRING TRAINING. SPECIFIC TRAINING PROGRAMS ARE GEARED TO THE NEEDS OF THE DISABLED INDIVIDUAL WITHIN THE FRAMEWORK OF THE OCCUPATIONAL OPPORTUNITIES AVAILABLE IN HIS COMMUNITY.

THE SELECTION OF TRAINING BEST SUITED TO THE INDIVIDUAL IS MADE THROUGH OCCUPATIONAL TESTING METHODS, AND VOCATIONAL AND EDUCATIONAL COUNSELING. TRAINING IS PLANNED IN RELATION TO THE CAPACITY OF THE INDIVIDUAL AND CURRENT OCCUPATIONAL INFORMATION.

IN THE HANDS OF EXPERIENCED MEN, AWARE OF

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* WEST, WILMA L., M.A., O.T.R.: THE PRINCIPLES OF OCCUPATIONAL THERAPY IN THE REHABILITATION OF THE PHYSICALLY HANDICAPPED. PAGE 130.

* ODOROFF, M.E.: GUIDANCE, TRAINING AND PLACEMENT.

THE LIMITATIONS OF VOCATIONAL TESTING, SUCH TESTS GIVE EXTREMELY USEFUL RESULTS. THEY ARE ESPECIALLY OF MERIT IN ELIMINATING AREAS OF ENDEAVOR FOR WHICH THE PATIENT IS NOT SUITED. ONCE THESE OCCUPATIONS HAVE BEEN ELIMINATED, THE PATIENT CAN BE GUIDED INTO A SUITABLE JOB THROUGH THE PROCESSES OF VOCATIONAL COUNSELING.

THE COUNSELING PROCESS MUST HELP THE PATIENT TO UNDERSTAND THE RELATION OF HIS PHYSICAL CONDITION TO THE PHYSICAL REQUIREMENTS OF PARTICULAR OCCUPATIONS. THROUGH THE COUNSELING PROCESS, THE PERSON IS PROVIDED WITH AN ORGANIZED APPROACH TO THE SELECTION OF AN APPROPRIATE VOCATIONAL OBJECTIVE. ONCE THIS OBJECTIVE HAS BEEN ESTABLISHED, IT IS NECESSARY TO MAKE AVAILABLE, IF IT IS PHYSICALLY POSSIBLE, THE NECESSARY TOOLS FOR ITS FULFILLMENT. THE WELL ORGANIZED REHABILITATION CENTER WILL EITHER PROVIDE THE NECESSARY SPACE AND EQUIPMENT FOR SUCH INSTRUCTION AND GUIDANCE, OR IT WILL MAINTAIN EASY LIAISSON WITH AN AREA WHERE SUCH INSTRUCTION CAN BE OBTAINED. A SMALL BUT COMPETENT ACADEMIC, AS WELL AS A VOCATIONAL STAFF WILL BE MAINTAINED TO PROVIDE COUNSELING IN VARIOUS INDUSTRIAL AND CLERICAL FIELDS, AND TO GIVE AS MUCH INSTRUCTION, WITHIN THE FRAMEWORK OF THE CENTER, AS WILL BENEFIT THE GREATEST NUMBER OF THE DISABLED.

GOOD PLACEMENT SERVICE DEMANDS THAT IN THE

FIGURE 17--WORKERS INSPECTING, ASSEMBLING AND SOLDERING DELICATE ELECTRICAL CONNECTIONS USED BY LOCAL INDUSTRY. (G)

FIGURE 18--CRIPPLED HANDS AND ARMS ARE TRAINED TO BE ADEPT AT WORK WHICH MIGHT PRESENT DIFFICULTIES TO A NORMAL PERSON. (G)

APPLICATION OF PLACEMENT PRINCIPLES, ALL WORKERS BE DEALT WITH ALIKE.* THE IDEA OF SELECTIVE PLACEMENT PREVALENT AFTER THE WAR WAS NOT SUCCESSFUL IN ITS APPLICATION. INSTEAD OF CREATING JOBS FOR THE HANDICAPPED, IT SEGREGATED THEM INTO A SPECIAL GROUP, AND AS SUCH WORKED AGAINST THE BETTER INTERESTS OF THE INDIVIDUAL. THIS PRACTICE IS DECREASING.

IT IS NECESSARY TO EMPHASIZE THE WORKER'S RESIDUAL ABILITY RATHER THAN HIS DEFECT. THE USE OF SPECIFIC TERMS IN DEALING WITH THESE ABILITIES, AND EMPHASIS OF THE CAPACITIES OF THE INDIVIDUAL WORKER ARE BASIC CONCEPTS IN THE MATCHING OF PHYSICAL CAPACITIES OF WORKERS TO THE PHYSICAL DEMANDS OF THE JOBS. THE REHABILITATION CENTER, THROUGH COORDINATION OF ITS OCCUPATIONAL THERAPY DEPARTMENT, TRAINING SECTION, SHELTERED WORKSHOP, AND PLACEMENT SECTION IS IN AN EXCELLENT POSITION TO PROVIDE THE SORT OF JOB PLACEMENT EMPHASIS NECESSARY TO THE SUCCESSFUL REHABILITATION OF THE DISABLED WORKER.

THE REHABILITATION CENTER'S SHELTERED WORKSHOP IS INCLUDED TO OFFER MODIFIED EMPLOYMENT TO SUCH HANDICAPPED INDIVIDUALS AS CANNOT BE EXPECTED TO COMPETE FOR REGULAR EMPLOYMENT. THROUGH THE DEVELOPING AND STRENGTHENING OF THE PERSON'S ABILITIES, THIS CONDITION IS USUALLY ALLEVIATED AFTER

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* HANMAN, BERT; M.A.: PLACEMENT.

A RELATIVELY SHORT PERIOD OF GRADUATED WORK.

WHEN A SUITABLE JOB HAS BEEN GIVEN, FOLLOWING A PERIOD OF APTITUDE TESTING AND TRAINING, PAYMENT IS MADE ON A PIECEWORK BASIS TO PROVIDE AN INCOME IN ACCORDANCE WITH THE INDIVIDUAL'S RATE OF OUTPUT. WORK HABITS AND WORK TOLERANCES IN SPECIFIC SKILLS ARE ESTABLISHED. WORK PERIODS ARE INCREASED IN LENGTH TO A FULL EIGHT HOUR DAY AND A FOURTY HOUR WEEK, WHEN THIS IS POSSIBLE. MOST WORKERS ARE ABLE TO GO FROM THE SHELTERED WORKSHOPS TO FULL OR PART TIME JOBS IN INDUSTRY.

THE ACTIVITIES MOST OFTEN FOUND IN SHELTERED WORKSHOPS ARE GARMENT CONSTRUCTION, LIGHT ASSEMBLY, FURNITURE BUILDING AND REFINISHING AND WEAVING. WORK IS USUALLY DONE UNDER CONTRACT.

"NO DEGREE OF ECONOMIC GAIN CAN MEASURE THE SOCIAL AND MORAL SATISFACTIONS OBTAINED BY THE SUCCESSFULLY REHABILITATED WORKER AND HIS FAMILY. NOR CAN IT MEASURE THE VALUE TO SOCIETY OF THE TRANSFORMATION OF THESE INDIVIDUALS FROM DEPENDENTS TO PRODUCTIVE SELF-RELIENT PERSONS. WITH ADEQUATE REHABILITATION A DISABLED PERSON BECOMES SELF-SUPPORTING; INDUSTRY SAVES PENSIONS; LABOR SAVES VALUABLE WORKMEN; GOVERNMENT HAS MORE TAXPAYERS; RELIEF ROLLS ARE REDUCED; AND THE NATION ATTAINS A HIGHER ECONOMIC LEVEL."*

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* GOGARTY, THOMAS H.: TWO FACILITIES FOR REHABILITATING. PAGE 12.

FIGURE 19--HANDICAPPED EMPLOYEES AND TRAINEES AT WORK IN SHELTERED WORKSHOP, PRODUCING PRODUCTS UNDER CONTRACT TO AREA INDUSTRIES. (G)

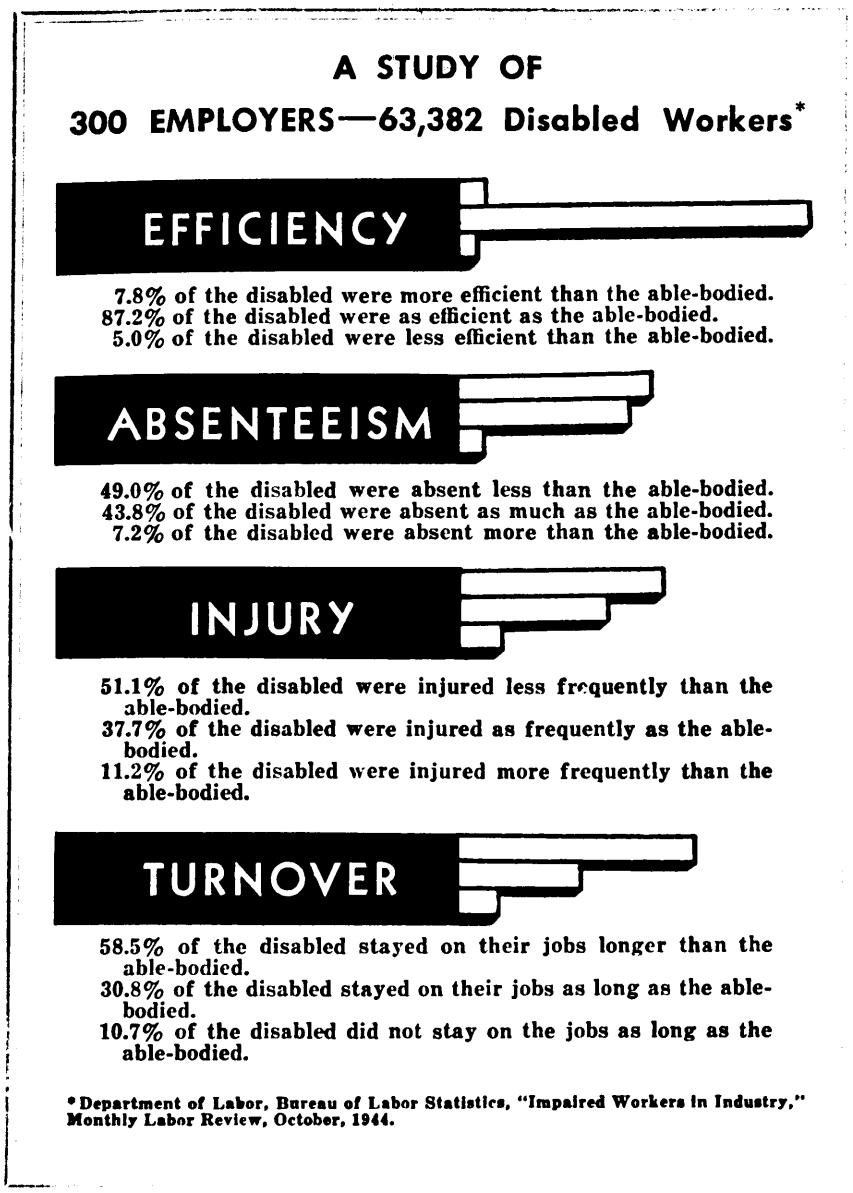

FIGURE 20--STATISTICAL DATA ON DISABLED WORKERS. (G)

A REHABILITATION CENTER FOR THE SEVERELY DISABLED

SECTION 5, TITLE IV OF THE NATIONAL SERVICES FOR DISABLED PERSONS ACT PROVIDES FOR FEDERAL PARTICIPATION IN THE ESTABLISHMENT OF REHABILITATION CENTERS AND WORKSHOPS BY PUBLIC OR NON-PROFIT AGENCIES. FOR THE PURPOSE OF DISBURSING THE MONEY PROVIDED BY THIS ACT, THE STATES ARE ORGANIZED INTO SIXTEEN GROUPS. GROUP I INCLUDES MAINE, NEW HAMPSHIRE, VERMONT, MASSACHUSETTS, CONNECTICUT, AND RHODE ISLAND. FOR THIS GROUP, THE LOCATION OF A CENTER WITHIN 100 MILES OF BOSTON IS ADVISED.

THE BAY STATE SOCIETY FOR THE CRIPPLED AND HANDICAPPED, MASSACHUSETTS AFFILIATE OF THE NATIONAL SOCIETY FOR THE CRIPPLED AND HANDICAPPED, FAVORS ORGANIZED AREA SUPPORT FOR THE ESTABLISHMENT OF A REHABILITATION CENTER TO CONFORM WITH THE PROVISIONS OF THIS ACT.

THE SOURCES OF FUNDS FOR THE ESTABLISHMENT AND OPERATION OF THE REHABILITATION CENTER MAY BE CLASSIFIED AS PUBLIC AND PRIVATE. THE SOURCES FOR PRIVATE FUNDS ARE CONTRIBUTIONS OF INDIVIDUALS, COMMUNITY FUNDS, ORGANIZED PHILANTHROPIES, SERVICE ORGANIZATIONS, FRATERNAL ORGANIZATIONS AND OTHERS. PUBLIC FUNDS ARE FEDERAL, STATE, AND LOCAL, FEDERAL FUNDS BEING PROVIDED BY THE AFOREMENTIONED ACT AND THE VOCATIONAL REHABILITATION ACT. STATE FUNDS FOR THE CENTER ARE OBTAINABLE BY DIRECT APPROPRIATION OR TRANSFER OF FUNDS FROM RELATED APPROPRIATIONS.

FIGURE 21--WHEN INDICATED, PRESCRIPTION FOR LOWER EXTREMITY EXERCISE WILL FOLLOW THIS NON-SPECIFIC TYPE OF OCCUPATIONAL THERAPY. (K)

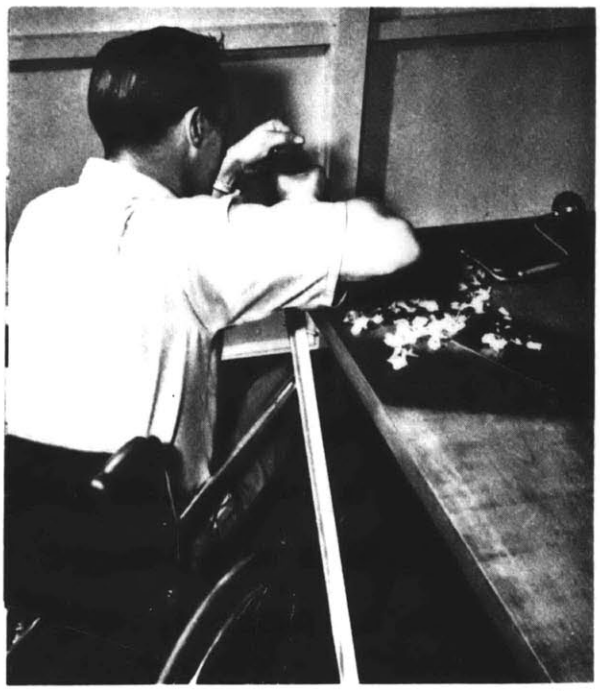

FIGURE 22--A PATIENT IN THE OCCUPATIONAL THERAPY SHOP LEARNING THE SKILL OF MITERING PICTURE FRAMES. (G)

LOCAL FUNDS ARE PROCURED BY GENERAL AND SPECIAL TAX LEVIES. AN AREA DIRECTORATE WOULD BE SET UP TO ORGANIZE FUND RAISING AND TO SUPERVISE THE ORGANIZATION OF THE REHABILITATION CENTER.

THE BAY STATE SOCIETY HAS EXPRESSED A PREFERENCE FOR WORCESTER, MASSACHUSETTS, AS THE LOCATION OF THE CENTER. IT IS CENTRALLY LOCATED IN THE SOUTHERN PART OF THE NEW ENGLAND GROUP, AND IS SERVED BY GOOD NORTH-SOUTH AND EAST-WEST LINES OF TRANSPORTATION. IT IS FELT THAT THE SIZE OF THE CITY IS CONDUCIVE TO GOOD CITY-INSTITUTION RELATIONS. SINCE WORCESTER IS THE HOME OF THE SOCIETY FOR THE CRIPPLED AND HANDICAPPED, EASY LIAISON COULD BE ESTABLISHED WITH EXISTING COOPERATING AGENCIES.

PROPOSAL

THE REHABILITATION CENTER FOR THE NEW ENGLAND GROUP IS ORGANIZED ALONG THE LINES OF THE GENERAL REQUIREMENTS FOR PHYSICAL, EMOTIONAL, SOCIAL, AND VOCATIONAL REHABILITATION. WHILE PROVISION IS MADE FOR OUTPATIENTS, IT IS PRIMARILY DESIGNED FOR INPATIENTS, UTILIZING THE ADVANTAGES OF EASY SCHEDULING AND CONVENIENCE OF ACCESS.

PHYSICAL REHABILITATION SERVICES PROVIDE FOR EASEMENT AND REMOVAL OF PAIN, HELP IN SELF-CARE AND TRAINING IN SELF-LOCOMOTION, THROUGH MEDICAL AND FUNCTIONAL EVALUATION, RESTORATION THERAPY, CONTROLLED NUTRITION, AND GENERAL HEALTH SUPERVISION.

PERSONNEL COUNSELING, PSYCHOLOGICAL EVALUATION AND TREATMENT, AND SOCIAL RECREATION MAKE UP THE NECESSARY PSYCHO-SOCIAL SERVICES. WHILE EMOTIONAL AND SOCIAL ADJUSTMENT IS OFTEN IMPROVED BY PHYSICAL AND OCCUPATIONAL THERAPY, THESE SERVICES PROVIDE A POSITIVE PROGRAM OF ADJUSTMENT AND A MEANS OF COORDINATING GAINS MADE.

A CENTER WITH 200 INPATIENTS CAN PROVIDE A WELL-DEVELOPED AREA FOR THE OCCUPATIONAL AND VOCATIONAL TRAINING OF THE DISABLED. BESIDES PROVIDING THE NECESSARY THERAPY ALREADY DISCUSSED, THIS DEPARTMENT WILL HELP OBVIATE EMPLOYMENT HANDICAPS, ESTABLISH SELF-RESPECT, AND PROVIDE FOR A MAXIMUM OF SELF-SUPPORT.

THE OBJECTIVE OF THE ENTIRE CENTER IS THE PREPARATION OF THE PATIENT FOR THE MOST EFFECTIVE LIFE OF WHICH HE IS CAPABLE. THIS INVOLVES THE ESTABLISHMENT OF GOALS IN TERMS OF PHYSICAL AND PSYCHOLOGICAL IMPROVEMENT, SOCIAL ADJUSTMENT, AND EMPLOYMENT. PROPER PLANNING COORDINATION, SUPERVISION, AND COUNSELING PROVIDE THE NUCLEUS FOR THIS PREPARATION WITHIN THE CENTER, AND ACT AS COORDINATORS FOR RELATED SERVICES AND AGENCIES.

DESIGN PROGRAM AND ANALYSIS

THE VARIOUS DESIGN REQUIREMENTS FOR THE REHABILITATION CENTER, AS SHOWN ON CHARTS A, B, C, D, AND E, ARE NET REQUIREMENTS AS ESTABLISHED BY A PRELIMINARY SURVEY. BECAUSE THE LARGE REHABILITATION CENTER IS A RELATIVELY NEW AREA OF DESIGN, AND THE COOPERATING AGENCIES ARE IN THE MOST INITIAL STAGES OF THEIR CONSIDERATION OF THE PROJECT, IT IS NECESSARY TO USE THE PROGRAM AS A FRAMEWORK FOR COLLECTING AND EVALUATING DESIGN DATA, RATHER THAN AS A SET DESIGN REQUIREMENT. (NOTE: AS THE DESIGN PROCEEDED, WITH THE COOPERATION OF CRITICS IN THE FIELD, IT WAS FOUND THAT THE PRELIMINARY SURVEY WAS VERY NEAR TO THE FINAL REQUIREMENTS, AS ESTABLISHED AT THIS TIME. A BIT MORE EMPHASIS WAS PLACED ON THE AREAS FOR GENERAL EDUCATION, THE CONCEPTION FOR THE PROVISION OF DINING FACILITIES WAS SLIGHTLY ADJUSTED, AND OTHER MINOR CHANGES WERE RECOMMENDED.)

THE FUNCTIONS OF THE REHABILITATION CENTER (SEE CHART A) DIVIDE ITS SPACE REQUIREMENTS INTO FIVE PARTS:

(1) ADMINISTRATION AND COUNSELING, INCLUDING PROVISION OF AMENITIES FOR THE STAFF, AND PUBLIC CIRCULATION SPACE.

(2) TREATMENT, BOTH PHYSICAL AND OCCUPATIONAL, WITH PROVISIONS FOR X-RAY THERAPY.

(3) TRAINING, TO INCLUDE GENERAL EDUCATION, OCCUPATIONAL, VOCATIONAL, AND RECREATIONAL TRAINING.

(4) MAINTAINANCE AND SERVICE DEPARTMENTS.

(5) LIVING AND DINING, WITH PROVISION OF FACILITIES FOR ALL PATIENTS, BEDFAST THROUGH AMBULATORY.

IN CALCULATION OF ALL SPACE REQUIREMENTS, PROVISION HAS BEEN MADE FOR THE TREATMENT OF OUTPATIENTS AS WELL AS INPATIENTS.

LOCATION OF THE SITE IS THE SOUTH HALF OF THE OLD LINCOLN COUNTRY CLUB, LINCOLN AVENUE, WORCESTER, MASSACHUSETTS. THE LAND IS ROLLING, GRASS-COVERED, AND PARTIALLY WOODED. THE SITE IS BOUNDED ON THE SOUTH BY LINCOLN AVENUE, ROUTE OF A CITY BUS LINE, ON THE NORTH, EAST, AND WEST BY RESIDENTIAL AREAS. THERE ARE THREE SMALL PONDS ALONG THE NORTH BOUNDARY OF THE SITE.

CHART B--ADMINISTRATION

THE DIRECTOR, BUSINESS MANAGER, DIRECTOR OF MEDICAL SERVICE, AND DIRECTOR OF TRAINING ARE DIRECTLY CONCERNED WITH THE OVERALL ADMINISTRATION OF THE CENTER. PROVISION IS MADE FOR LIAISON OFFICES WITH INDUSTRY AND COOPERATING AGENCIES.

THE LIBRARY AND CONFERENCE ROOM IS USED BY THE ENTIRE STAFF AND SERVES AS A REPOSITORY FOR PERTINENT DOCUMENTS AND A CENTRAL FILE FOR REHABILITATION LITERATURE IN THE AREA.

THE OCCUPATIONAL THERAPY SALES SHOP MAY BE COMBINED WITH THE INFORMATION DESK.

TREATMENT

THE RESIDENT DOCTOR, PSYCHOLOGIST, AND VISITING DENTIST ARE AVAILABLE FOR CONSULTATION IN THE ADMINISTRATION OF THE CENTER IN ADDITION TO THEIR TREATMENT DUTIES. SPACE FOR THE PHYSICAL, OCCUPATIONAL, AND X-RAY THERAPISTS MAY BE COMBINED WITH THE RESPECTIVE TREATMENT AREAS.

THE INFIRMARY PROVIDES SPACE FOR ACUTELY ILL DISABLED PERSONS; THE PATIENTS TREATED HERE ARE USUALLY INPATIENTS OF THE CENTER. PHYSICAL RESTORATION AREAS INCLUDE SPACE FOR SPECIALIZED EQUIPMENT AND FOR GENERAL EXERCISE AND TREATMENT. ONLY PRESCRIBED AND CONTROLLED EXERCISE IS CARRIED ON IN THE EXERCISE ROOMS.

OCCUPATIONAL THERAPY SHOPS HOUSE EQUIPMENT FOR CERAMICS, BENCH WORK, TABLE WORK, CERAMICS, AND SEWING.

CHART C--TRAINING

OFFICES FOR SPEECH TRAINING PROVIDE SPACE AND EQUIPMENT FOR THE TRAINING OF FROM ONE TO THREE PATIENTS SIMULTANIOUSLY BY EACH TEACHER.

CLASSROOMS ARE USED FOR GENERAL EDUCATION, AND FOR TRAINING IN DRAFTING AND CLERICAL WORK. THE READING ROOM IS USED AS AN ADJUNCT TO THE TRAINING FACILITIES AND AS A RECREATIONAL AREA.

THE RECREATION ROOM AND SWIMMING POOL ARE FOR EITHER PRESCRIBED OR SELF-SOUGHT RECREATIONAL ACTIVITIES.

THE SHELTERED WORKSHOPS PERFORM LIGHT INDUSTRIAL WORK UNDER CONTRACT AT A RATE DEPENDENT UPON INDIVIDUAL ABILITIES. STORAGE IS GENERALLY HANDLED IN THE WORK AREA, BUT SOME SEGREGATED STORAGE SPACE IS PROVIDED.

MAINTAINANCE

THE ENGINEER'S OFFICE IS THE CONTROL POINT OF THE MAINTAINANCE AREA.

CHART D--LIVING AND DINING

THE DORMITORIES ARE CONTROLLED SLEEPING AREAS, FOR THE HOUSING MAINLY OF AMBULATORY AND SEMI-AMBULATORY PATIENTS. WHENEVER POSSIBLE, PATIENTS ARE ENCOURAGED TO TAKE THEIR MEALS IN THE MAIN DINING ROOM, BUT PROVISION IS MADE ON EACH FLOOR FOR SERVING FACILITIES.

DEPENDENT ON ADMINISTRATION POLICY, THE PATIENTS' AND STAFF'S DINING MAY BE PROPERLY COMBINED.

CHART E

THE INTERRELATIONSHIP OF THE PARTS OF THE CENTER IS RATHER COMPLEX, WITH SOME AREAS BEING EQUALLY RELATED TO SEVERAL DEPARTMENTS. EASE OF TRANSITION FROM EXTERNAL TRANSPORTATION, INCLUDING TAXICABS, AUTOMOBILES, AND BUSSES, TO INTERNAL CIRCULATION IS EMPHASIZED.

CONCLUSION

THE BASIC PRINCIPLE GOVERNING THE CONCEPT OF THE DESIGN FOR THE REHABILITATION CENTER IS THE PROVISION OF AVAILABLE SPACE, ORGANIZED TO BE USED EASILY BY SEVERELY DISABLED PERSONS IN THE PROCESS OF THEIR PHYSICAL, MENTAL, SOCIAL, AND VOCATIONAL RESTORATION. TO DO THIS IT HAS BEEN NECESSARY TO CONSIDER THE SPECIALIZED REQUIREMENTS OF PERSONS FOR WHOM SELF-LOCOMOTION WILL ALWAYS BE DIFFICULT, WHOSE PHYSICAL RELATIONSHIP TO THE WORLD IS IN A PROCESS OF CHANGE FROM DEPENDENCY TO PARTIAL OR COMPLETE INDEPENDENCE, AND WHOSE MENTAL RELATIONSHIP IS BEING REDIRECTED TO ONE OF SELF-ASSURANCE.

THE SECONDARY PRINCIPLE IS THE ORGANIZATION OF THIS SPACE FOR EFFICIENT USE BY THE STAFF IN GIVING THE TREATMENT AND TRAINING NECESSARY. A CENTER MUST BE DESIGNED TO SERVE THE GREATEST NUMBER OF PATIENTS WITH THE LEAST EXPENSE CONSISTENT WITH THE ENLIGHTENED AIMS OF GOOD PRACTICE.

THIS BUILDING, AND THE ACTIVITIES WITHIN IT, WILL AID THE REINTRODUCTION OF THE DISABLED PERSON TO A HAPPY, SELF-ESTABLISHED PLACE IN SOCIETY.

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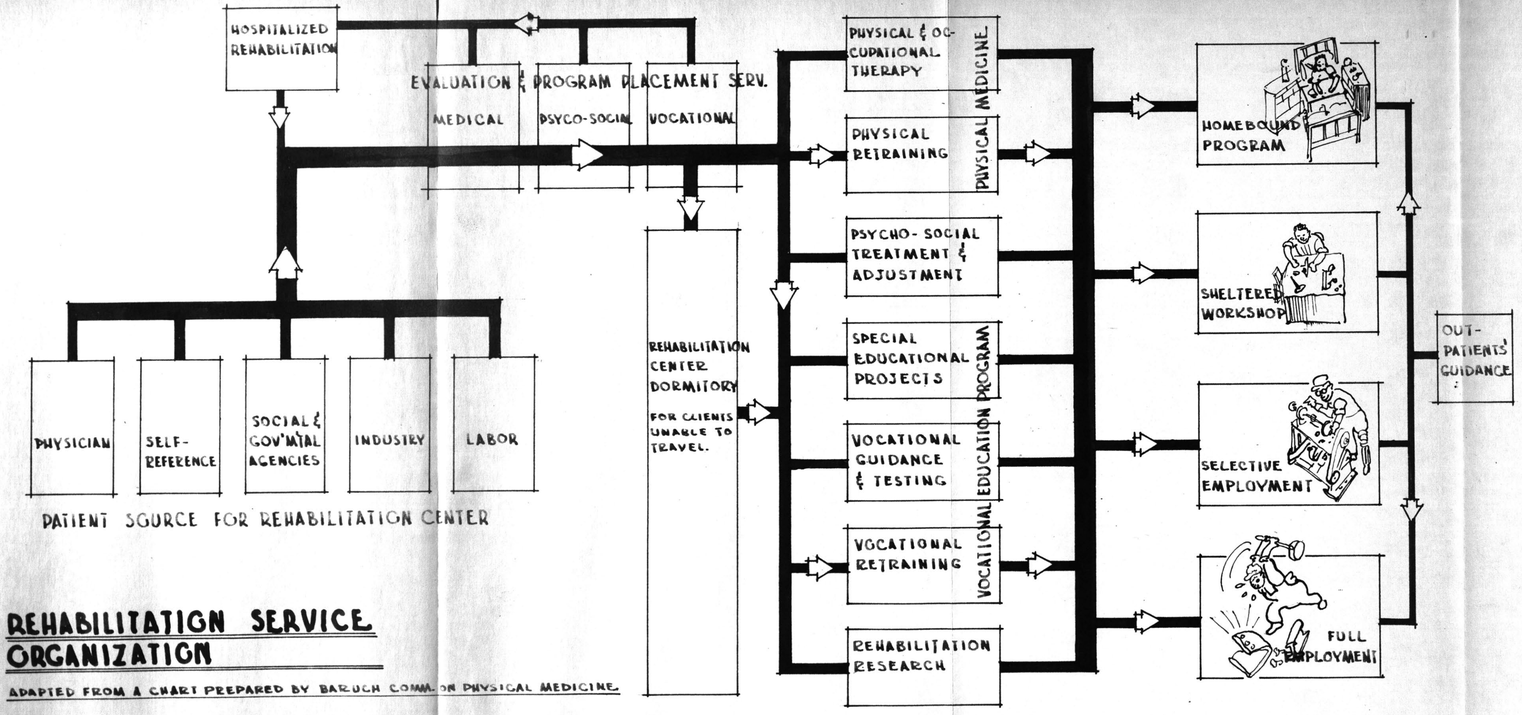
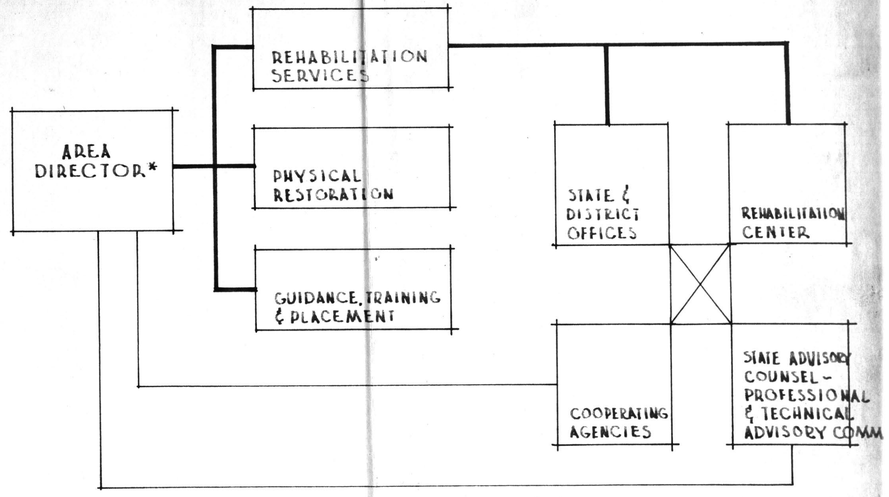


REHABILITATION SERVICE ORGANIZATION

ADAPTED FROM A CHART PREPARED BY BARUCH COMM. ON PHYSICAL MEDICINE.



*STATES IN AREA I
- MAINE
- NEW HAMPSHIRE
- VERMONT
- MASSACHUSETTS
- CONNECTICUT
- RHODE ISLAND

PROPOSED ADMINISTRATION OF REHABILITATION AREA

A

DEPARTMENTAL SPACE REQUIREMENTS

C-OFFICES*	A-SPECIALIZED USE BY CLIENTS**	B-GROUP USE BY CLIENTS	C-GENERAL SERVICE TO CLIENTS	D-SPECIALIZED STORAGE	E-USE BY STAFF PERSONNEL	F-TOILETS	G-SEMI-PUBLIC USE
ADMINISTRATION							
I- DIRECTOR (1) BUSINESS MGR.(1) II-CHIEF MED. SERV.(1) TRAINING DIRECTOR(1) III VOCATIONAL REHAB. COUN.(2) SECRETARIES (3) IV BUSINESS OFF.(5) SECRETARIES (2)				BUSINESS OFFICE STORAGE & VAULT RECORDS & STORAGE	LIBRARY & CONFERENCE	2 TOILET RMS.	LOBBY & WAITING AUDITORIUM 9¢/PERS. O.T. SALES SHOP
TREATMENT							
I-RESIDENT M.D.(1) PSYCHOLOGIST (1) DENTIST (1) II DUTY NURSE (1) III PHY. THERAPY (8) OCCUPATIONAL THERAPY (3) X-RAY TECH. (2)	INFIRMARY & SPECIAL TREATMENT WARDS - 200¢/BED FOR 25 BEDS P.T. TREATMENT 14¢/PERS. P.T. HYDROTHER. 10¢/PERS. X-RAY 6¢/PERS.	EXERCISE ROOM 18¢/PERS. X-RAY WAITING P.T. WAITING O.T. SHOPS 22¢/PERS.					

*EXECUTIVE OFFICE OR DIAGNOSTIC SUITE 280¢/STAFF
II PRIVATE OFFICE 170¢/STAFF
III SECRETARY'S OR CONFERENCE OFFICE 120¢/STAFF
IV SHARED OFFICE 80¢/STAFF
V PERSONNEL REQUIRING NO SPECIFIC SPACE

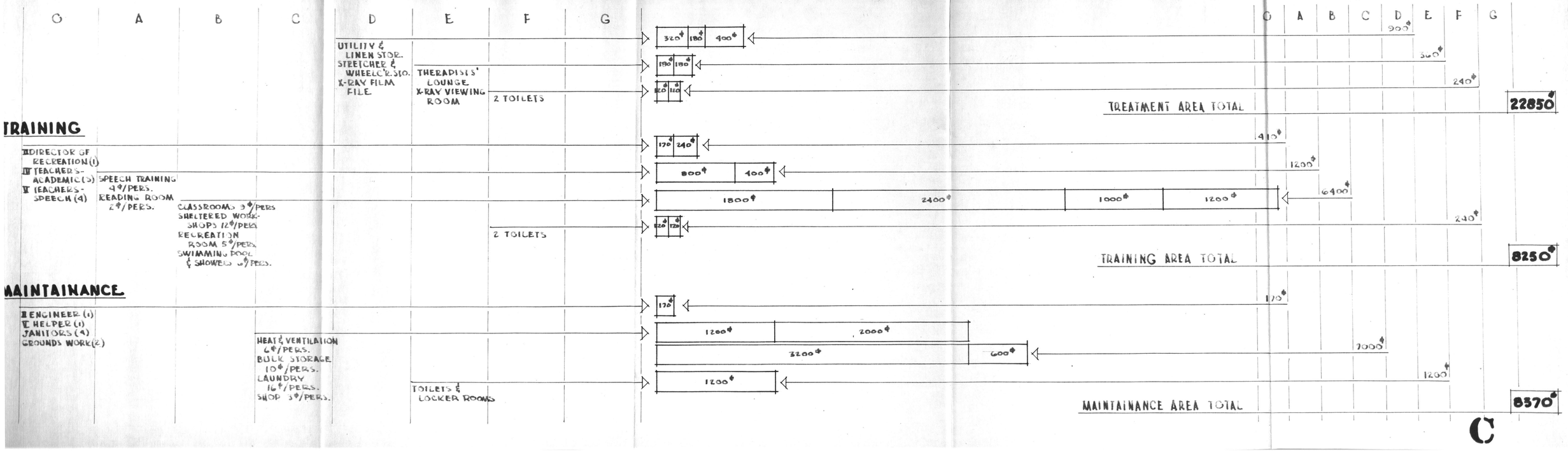
** NOTE: PER PERSON RATIOS REFER TO 200 CLIENTS IN CENTER'S DORMITORY, UNLESS OTHERWISE NOTED.

	O	A	B	C	D	E	F	G
ADMINISTRATION	1340¢				700¢	720¢	240¢	3060¢
TREATMENT	2050¢		11000¢					8500¢

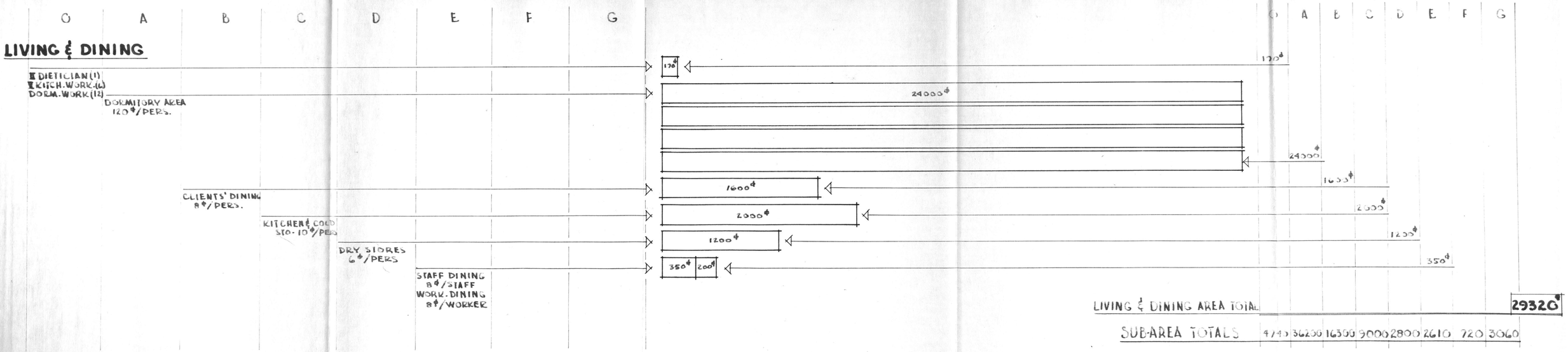
ADMINISTRATION AREA TOTAL 6640¢

B

DEPARTMENTAL SPACE REQUIREMENTS (CONTINUED)

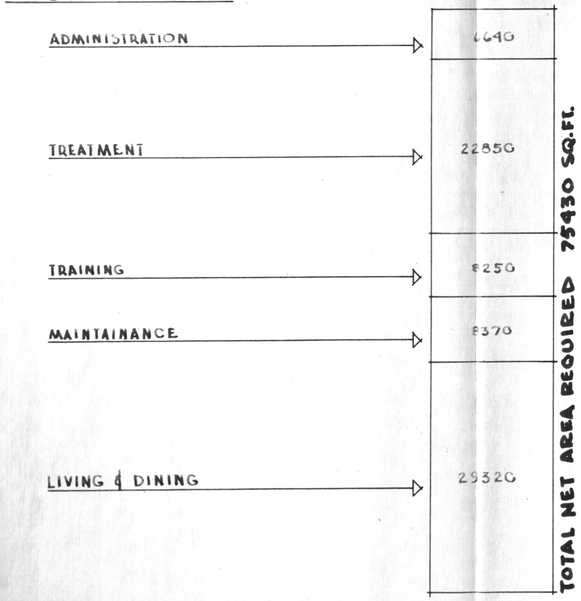


DEPARTMENTAL SPACE REQUIREMENTS (CONTINUED)

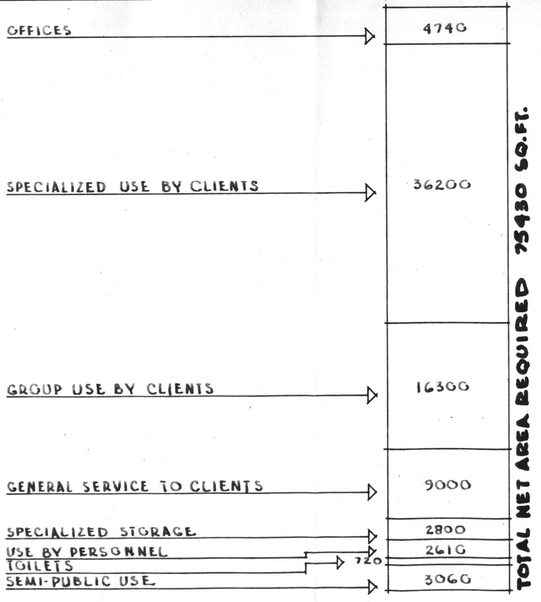


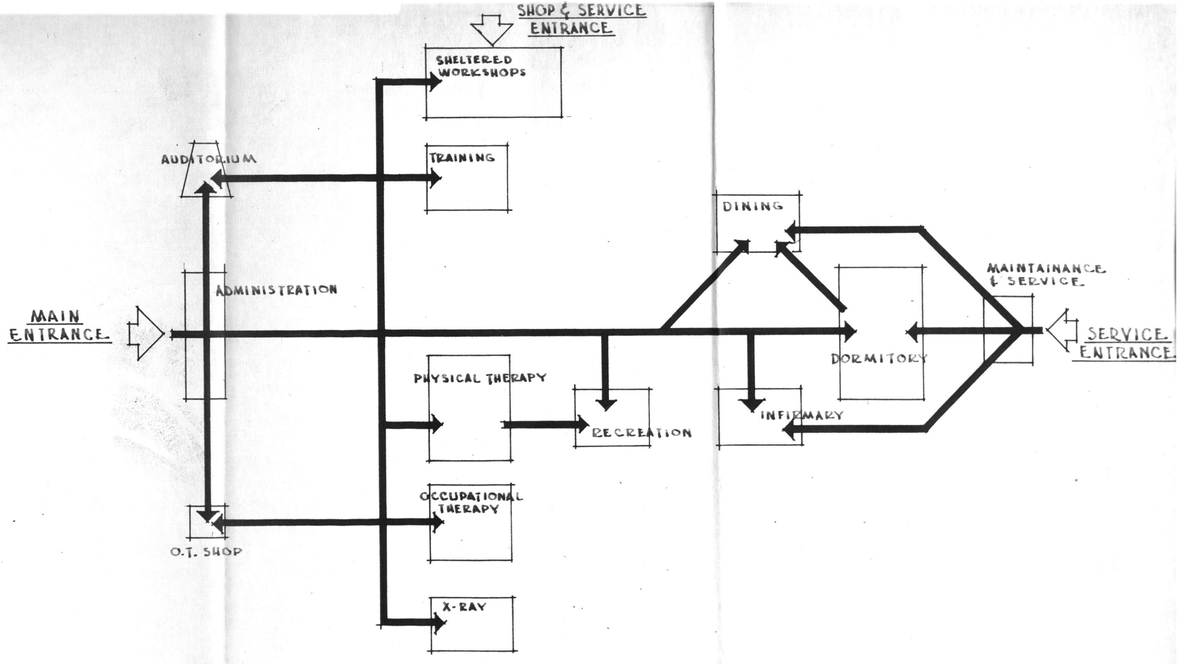
TOTAL REQUIRED AREA: 75430 ϕ

NET SPACE REQUIREMENTS
BY DEPARTMENTS



NET SPACE REQUIREMENTS
BY SUB-AREAS





CIRCULATION DIAGRAM

E

EQUIPMENT LIST

FIRST FLOOR PLAN

1 FILE CABINETS
2 UTILITY COUNTER
3 SINK
4 SEWING MACHINE AND ASSEMBLY TABLE
5 LAYOUT TABLE
6 OFFICE CHAIR
7 OFFICE DESK
8 CONFERENCE CHAIR
9 OVERHEAD SHELVING
10 WARD CARTS
11 TWO CHAIR WORK TABLE
12 LATHE
13 GRINDER
14 PULL OUT SHELVES
15 BICYCLE JIG SAW
16 ELECTRIC JIG SAW
17 BENCH SAW
18 TREADLE SANDER
19 FOUR CHAIR WORK TABLE
20 ASSEMBLY TABLE
21 ASSEMBLY BIN
22 TABLE LOOM
23 SMALL FLOOR LOOM
24 LARGE FLOOR LOOM
25 LARGE ASSEMBLY BENCH
26 MAKE-UP TABLE
27 TYPE CABINET
28 IMPOSING TABLE
29 PRESS
30 SMALL ELECTRIC KILN
31 POTTERY TURNING WHEEL
32 FOUR CHAIR WORK TABLE
33 LARGE ELECTRIC KILN
34 FOUR CHAIR DINING TABLE
35 SERVING TABLE
36 SCRAPPING HOLE
37 SCRAPPING TABLE
38 DISHWASHER
39 CLEAN DISH TABLE
40 PAN SHELVES
41 PAN BIN
42 SERVING TABLE
43 THREE COMPARTMENT OVEN
44 RANGE WITH OVEN
45 KETTLE
46 TWO COMPARTMENT STEAMER
47 STEEL SHELVING
48 SINK IN TABLE
49 BAKERS' TABLE

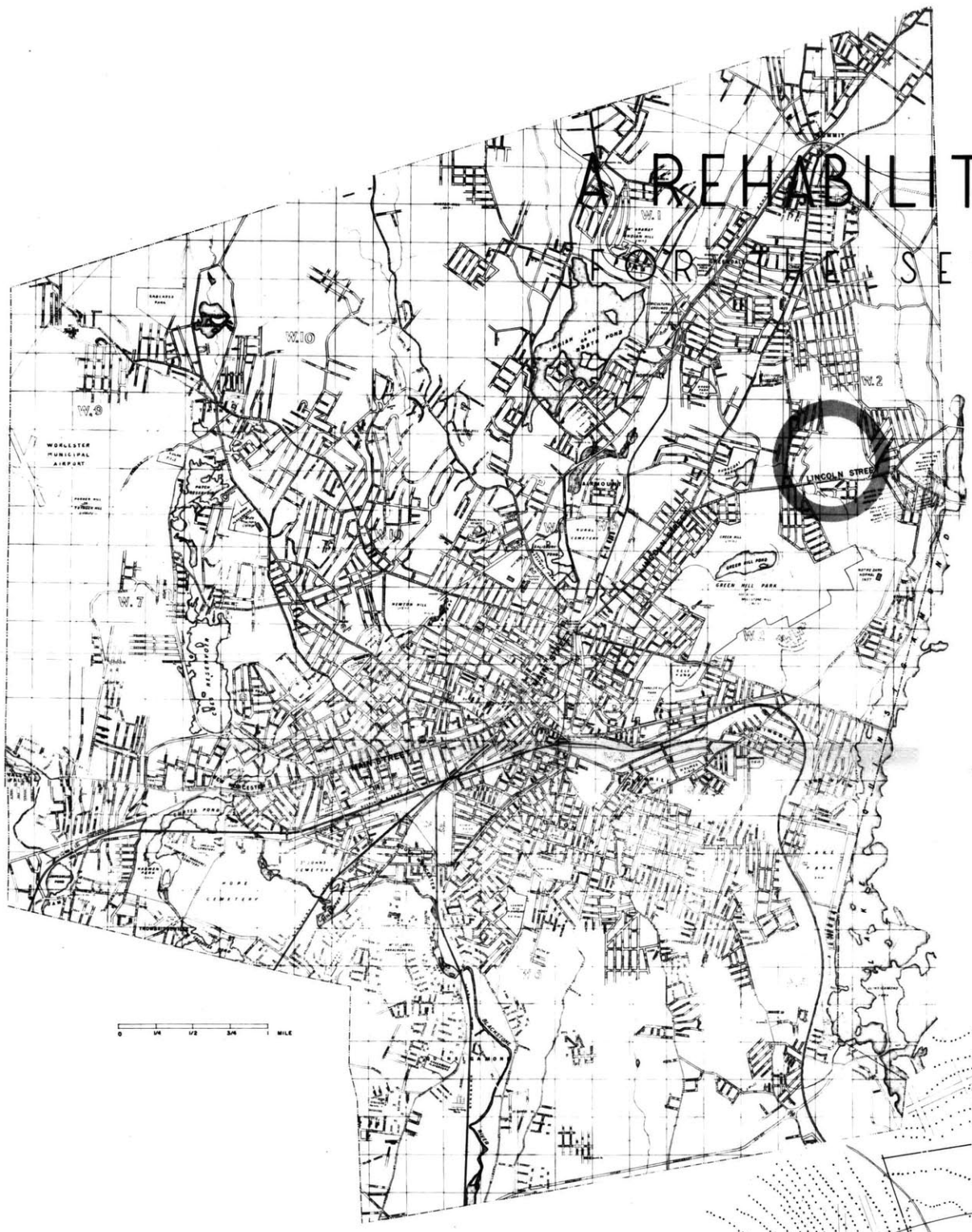
50 COFFEE URNS
51 GRILL AND SALAD TABLE
52 COUNTER SWING-UP
53 LOUNGE CHAIR
54 SMALL TABLE
55 SOFA
56 EXECUTIVE DESK CHAIR
57 TABLE
58 DENTIST'S CHAIR
59 PREPARATION COUNTER
60 BOOKCASE
61 CONFERENCE TABLE
62 LIBRARY SHELVING

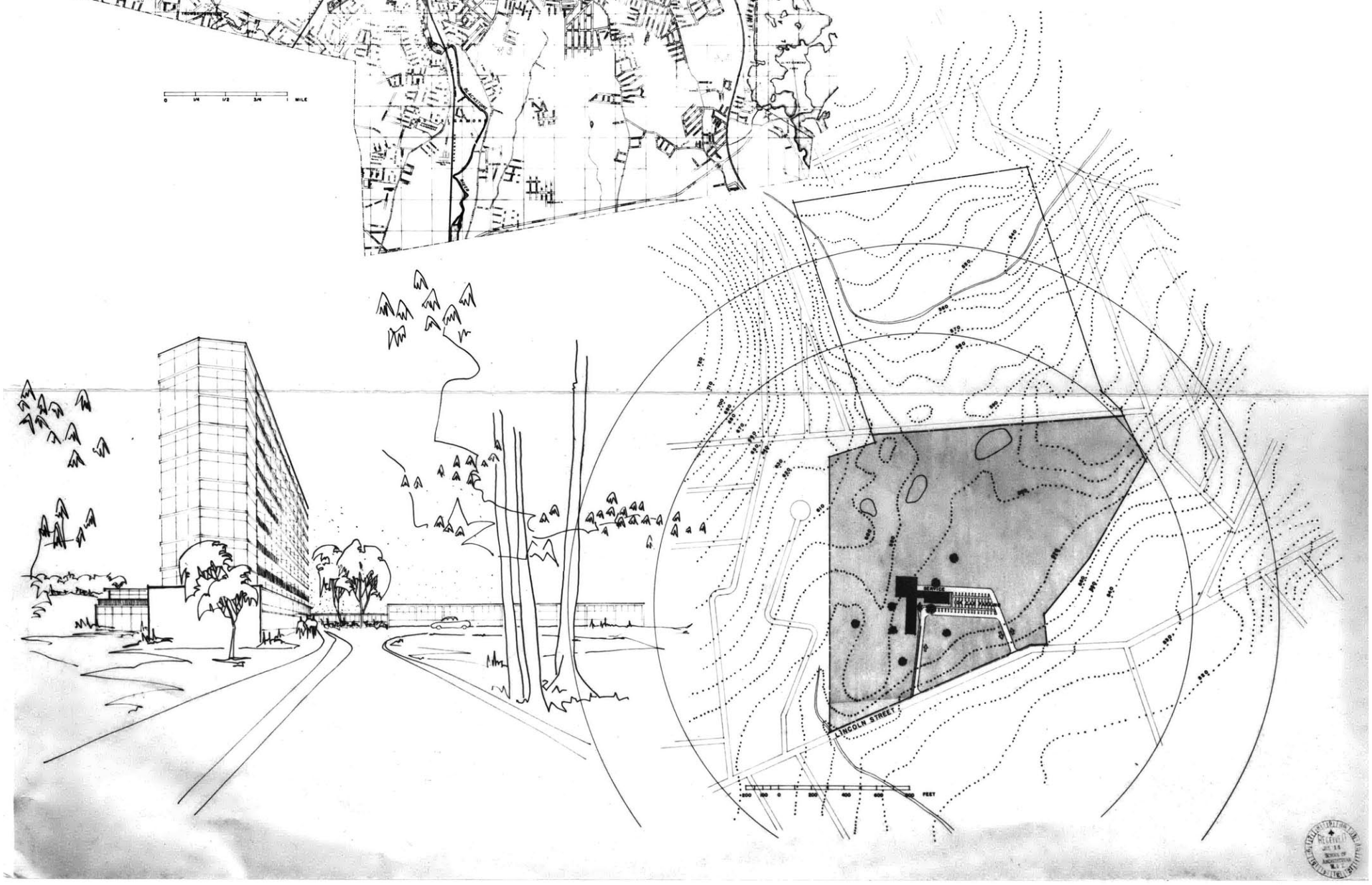
A REHABILITATION CENTER

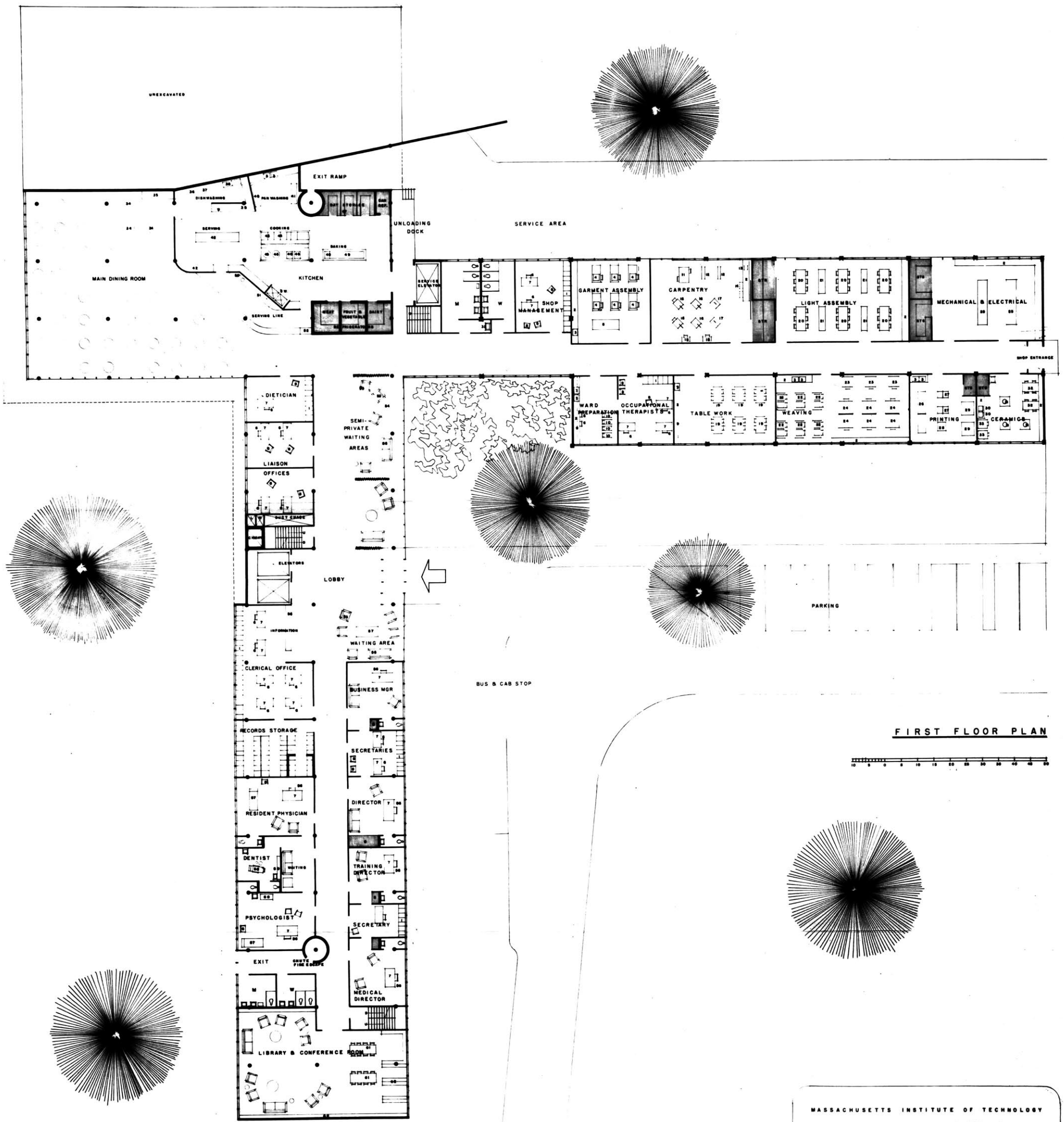
FOR THE SEVERELY DISABLED

LOCATED IN WORCESTER, MASSACHUSETTS

SUBMITTED IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE DEGREE OF MASTER OF ARCHITECTURE AT MASSACHUSETTS INSTITUTE OF TECHNOLOGY, JULY 14, 1952
BY RICHARD L. TAVIS.







FIRST FLOOR PLAN

10 5 0 5 10 15 20 25 30 35 40 45 50

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THESIS FOR THE DEGREE OF
MASTER OF ARCHITECTURE

RICHARD L. TAVIS JULY 14, 1952

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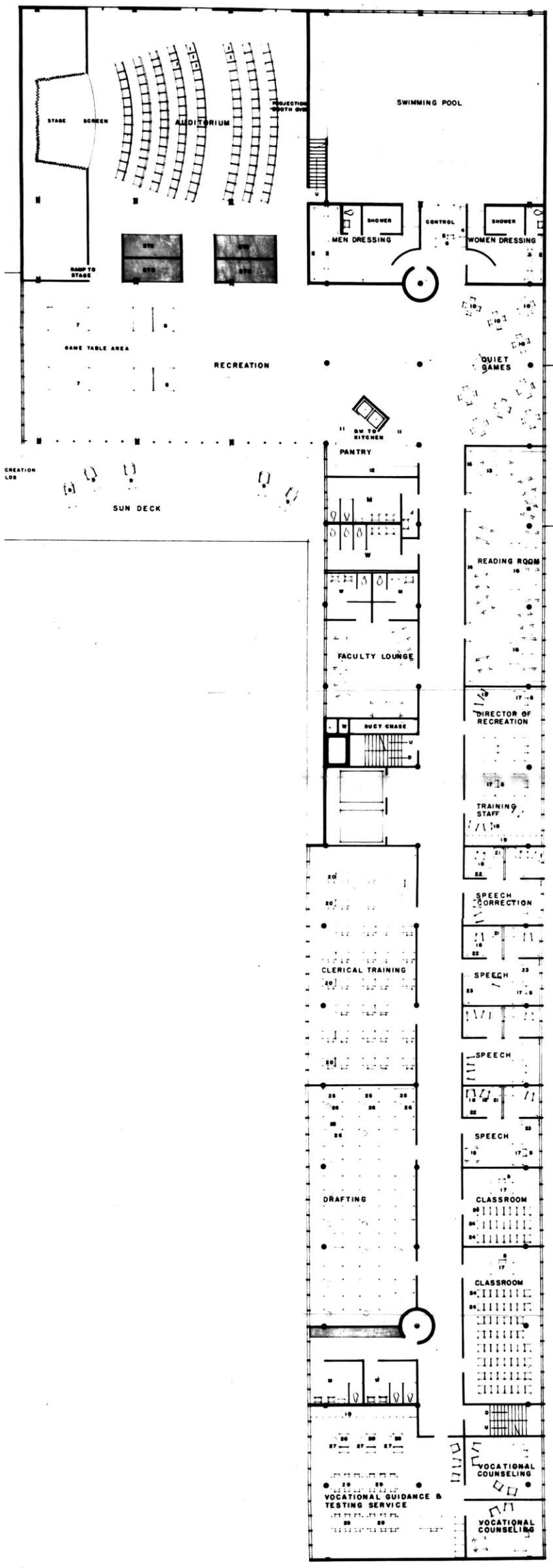
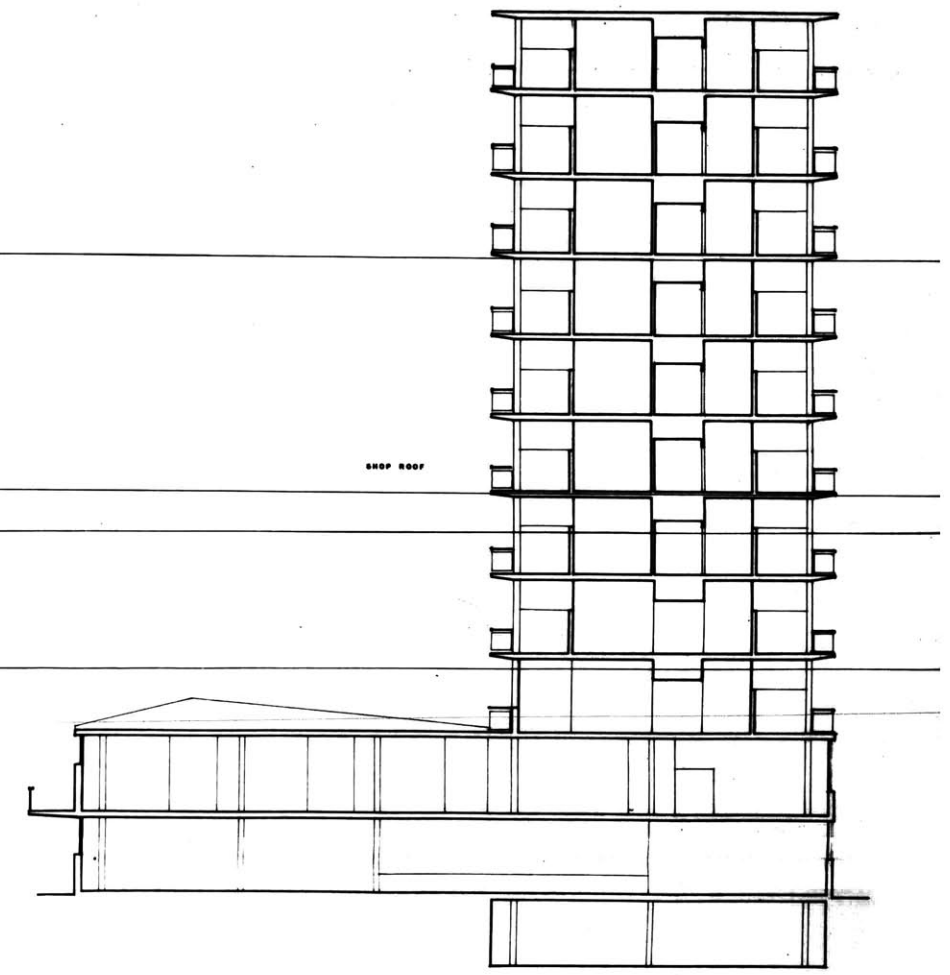
EQUIPMENT LIST

SECOND FLOOR PLAN

1 AUDITORIUM SEATS
2 PERSONNEL LOCKERS
3 BENCH
4 CABINET
5 OFFICE CHAIR
6 CONTROL DESK
7 BILLIARD TABLE
8 TABLE TENNIS TABLE
9 WHEEL LOUNGE CHAIR
10 GAME TABLE
11 SERVING COUNTER
12 SODA FOUNTAIN
13 SOFA
14 LIBRARY SHELVING
15 LOUNGE CHAIR
16 TABLE
17 OFFICE DESK
18 CONFERENCE CHAIR
19 FILING CABINETS
20 TYPING TABLE
21 TABLE
22 LARGE WALL MIRROR
23 BOOKCASE
24 CLASSROOM SEATING
25 DRAFTING TABLE
26 DRAFTING STOOL
27 STOOL
28 IBM MACHINE
29 TESTING TABLES





CROSS SECTION

SECOND FLOOR PLAN

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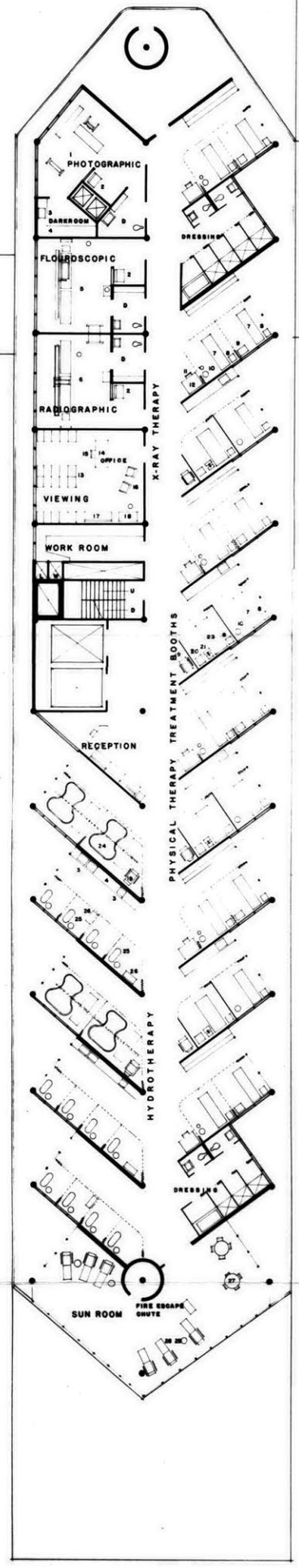
EQUIPMENT LIST

THIRD FLOOR PLAN

1 PHOTOGRAPHIC X-RAY EQUIPMENT
2 X-RAY CONTROL
3 DARKROOM SINK
4 DARKROOM COUNTER
5 500 MA UNIT
6 200 MA UNIT
7 MASSAGE TABLE WITH BUILT-IN STORAGE
8 CHAIR
9 SHORT-WAVE DIATHERMY UNIT
10 INFRA-RED LAMP
11 OFFICE CHAIR
12 CONTROL DESK
13 FILE CABINETS
14 OFFICE DESK
15 CHAIR
16 CONFERENCE CHAIR
17 VIEW BOX
18 TEMPORARY FILING CABINET
19 WHEEL CHAIR SPACE
20 DIRECT CURRENT GENERATOR
21 ULTRAVIOLET LAMP
22 TABLE
23 EXAMINATION TABLE
24 HUBBARD TANK
25 WHIRLPOOL BATH
26 PARAFFIN BATH
27 GAME TABLE
28 WHEEL LOUNGE CHAIR
29 SMALL TABLE



THIRD FLOOR PLAN

10 5 0 5 10 15 20 25 30 35 40 45

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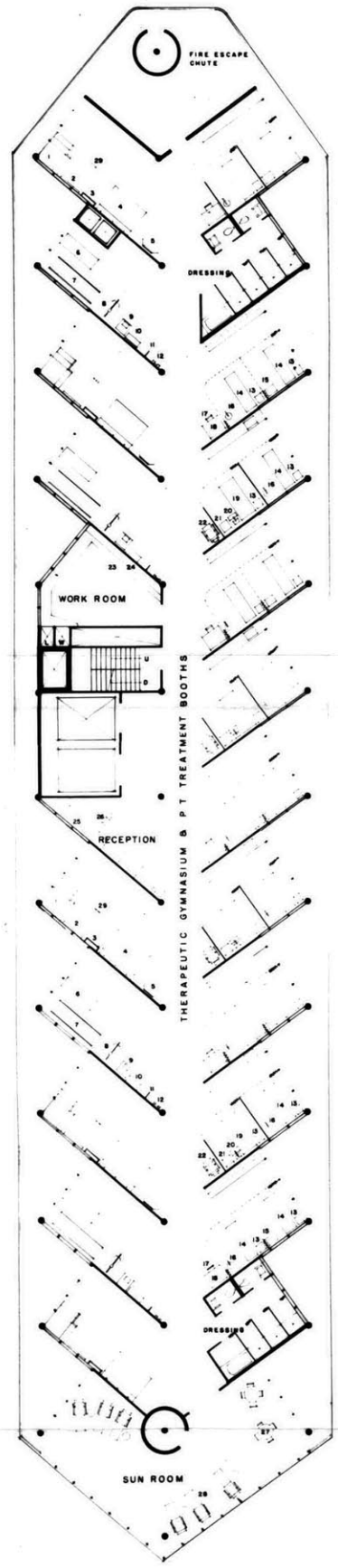
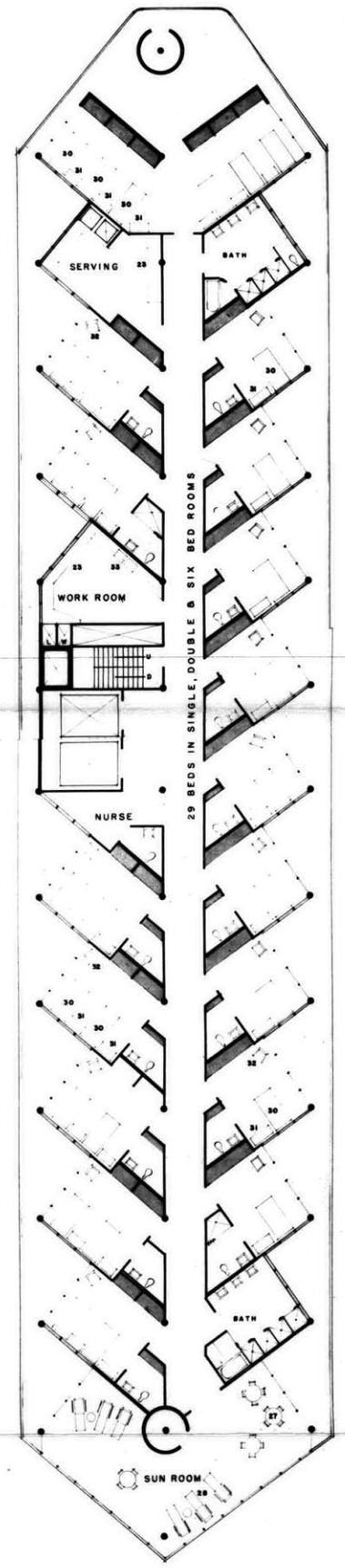
EQUIPMENT LIST

FOURTH AND TYPICAL FLOOR PLANS

1 PRACTICE STEPS
2 SHOULDER WHEEL
3 STALL BARS
4 GYM MAT AND WALL HOOKS
5 POSTURE MIRROR
6 MASSAGE TABLE WITH STORAGE SPACE
7 PARALLEL BARS
8 STATIONARY BICYCLE
9 TABLE WITH FOOT REST
10 SHELVES
11 SHOULDER ABDUCTION LADDER, ARC TYPE
12 PULLEY WEIGHTS
13 CHAIR
14 MASSAGE OR EXAMINATION TABLE, STORAGE UNDER
15 SHORT-WAVE DIATHERMY UNIT
16 INFRARED LAMP
17 OFFICE CHAIR
18 CONTROL DESK
19 EXAMINATION TABLE
20 ULTRAVIOLET LAMP
21 DIRECT CURRENT GENERATOR
22 WHEELCHAIR SPACE
23 UTILITY COUNTER
24 OVERHEAD SHELVING
25 FLOOR CONTROL DESK
26 CHAIR
27 GAME TABLE
28 WHEEL LOUNGE CHAIR
29 SMALL TABLE
30 HOSPITAL BED
31 BEDSIDE DRESSER
32 BEDROOM CHAIR
33 SINKS IN COUNTER



FOURTH FLOOR PLAN



TYPICAL FLOOR PLAN
FIFTH THROUGH TENTH FLOOR

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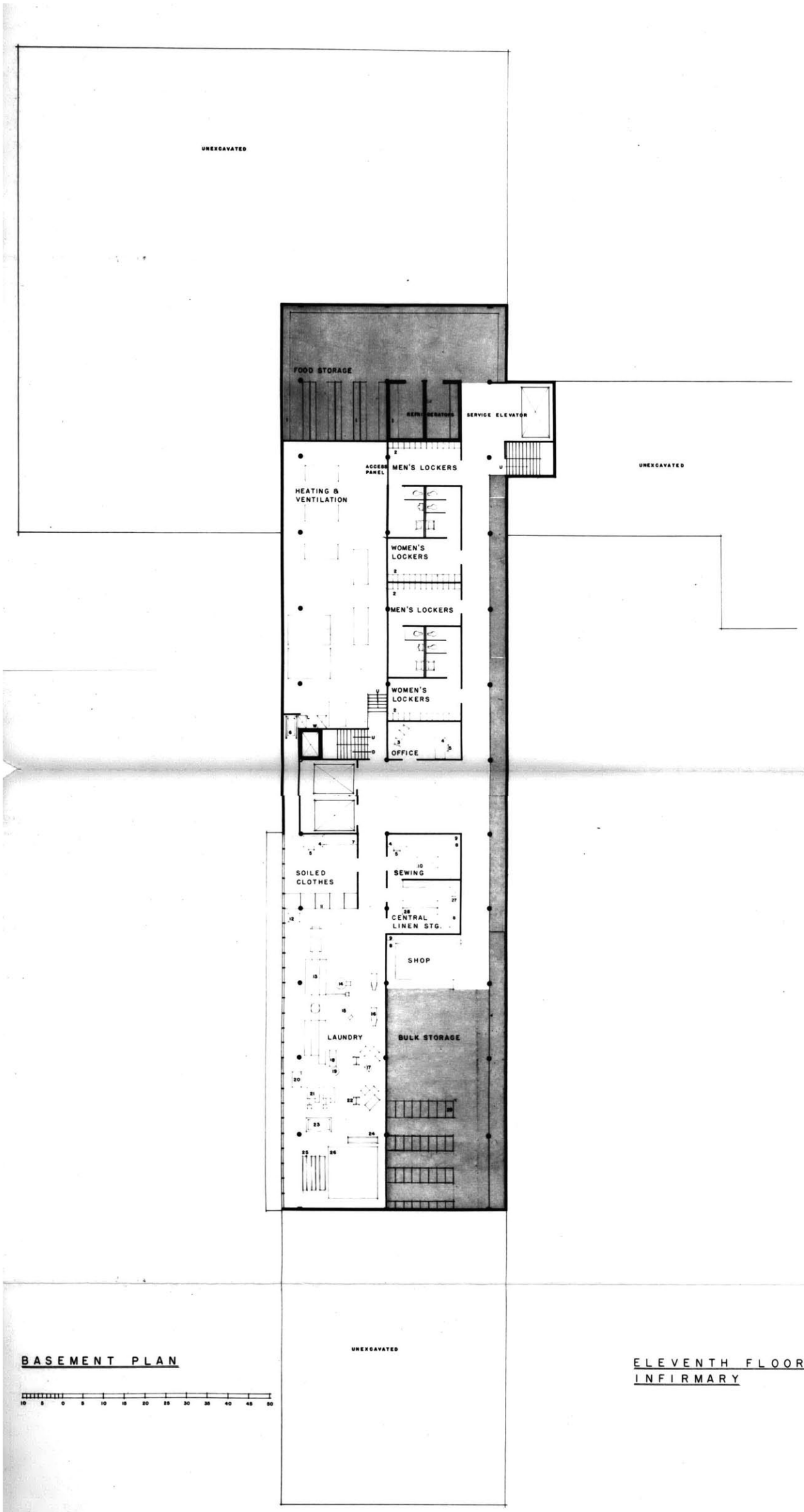
EQUIPMENT LIST

BASEMENT AND INFIRMARY PLANS

1 STEEL STORAGE SHELVES
2 PERSONNEL LOCKERS
3 CONFERENCE CHAIR
4 OFFICE DESK
5 OFFICE CHAIR
6 LAUNDRY CART
7 SORTING TABLE
8 COUNTER WITH SHELVING BELOW
9 WALL SHELVING
10 BIN SHELVING
11 SORTING BINS
12 PLATFORM SCALE
13 WASHERS WITH SOAP TANK
14 17 INCH EXTRACTOR
15 20 INCH EXTRACTOR
16 IRONING BOARDS
17 UTILITY PRESS
18 SINKS
19 STARCH COOKER
20 TABLE
21 TUMBLER
22 UNIFORM RACK
23 SHAKEOUT TABLE WITH SLOPING SIDES
24 SIDE FEED RACK
25 FEED RACK
26 FLAT WORK IRONER
27 MARKING MACHINE
28 MACHINE WORK SPACE
29 UTILITY RACK SHELVING
30 BEDSIDE DRESSER
31 HOSPITAL BED
32 UTILITY COUNTER
33 SMALL ARM CHAIR
34 SINKS
35 WHIRLPOOL BATH
36 STOOL
37 PARAFFIN BATH
38 MASSAGE TABLE
39 CHAIR
40 SHORT-WAVE DIATHERMY UNIT
41 DIRECT CURRENT GENERATOR
42 WHEEL LOUNGE CHAIR
43 SMALL TABLE



BASEMENT PLAN

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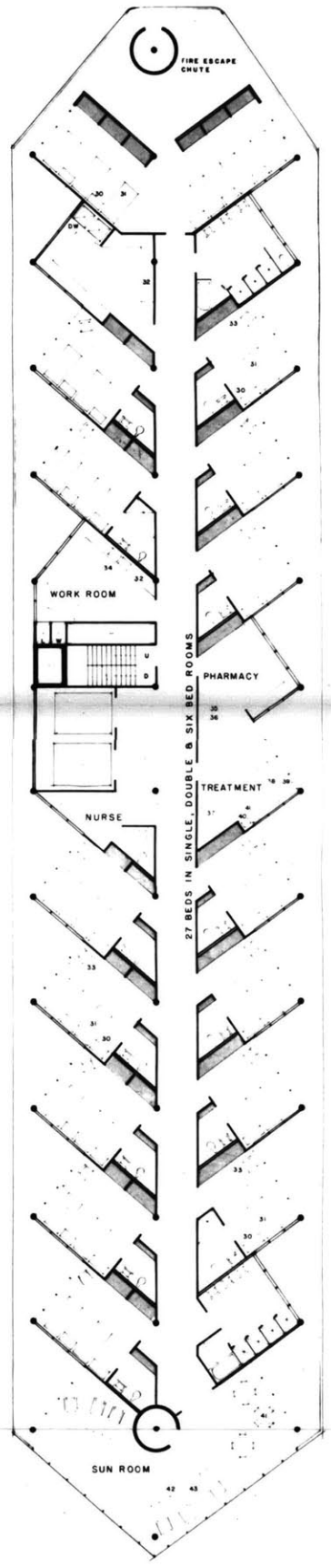

ELEVENTH FLOOR PLAN
INFIRMARY

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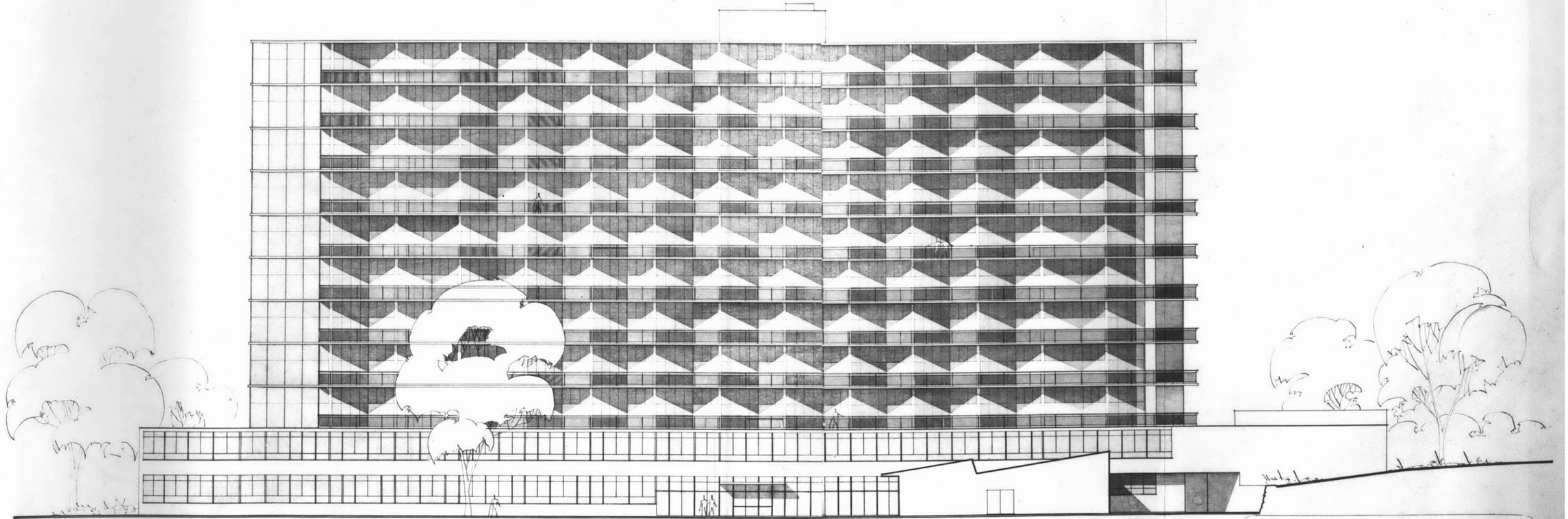

EAST ELEVATION

10 5 0 5 10 15 20 25 30 35 40 45 50

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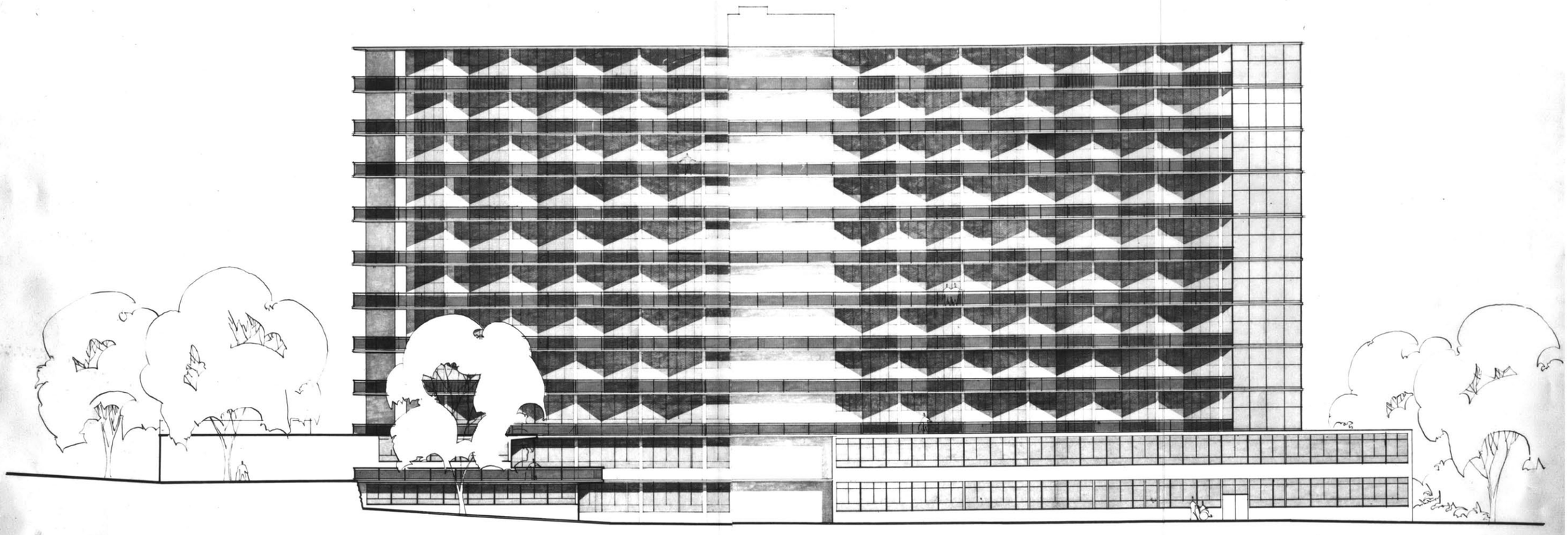

WEST ELEVATION

10 5 0 5 10 15 20 25 30 35 40 45 50

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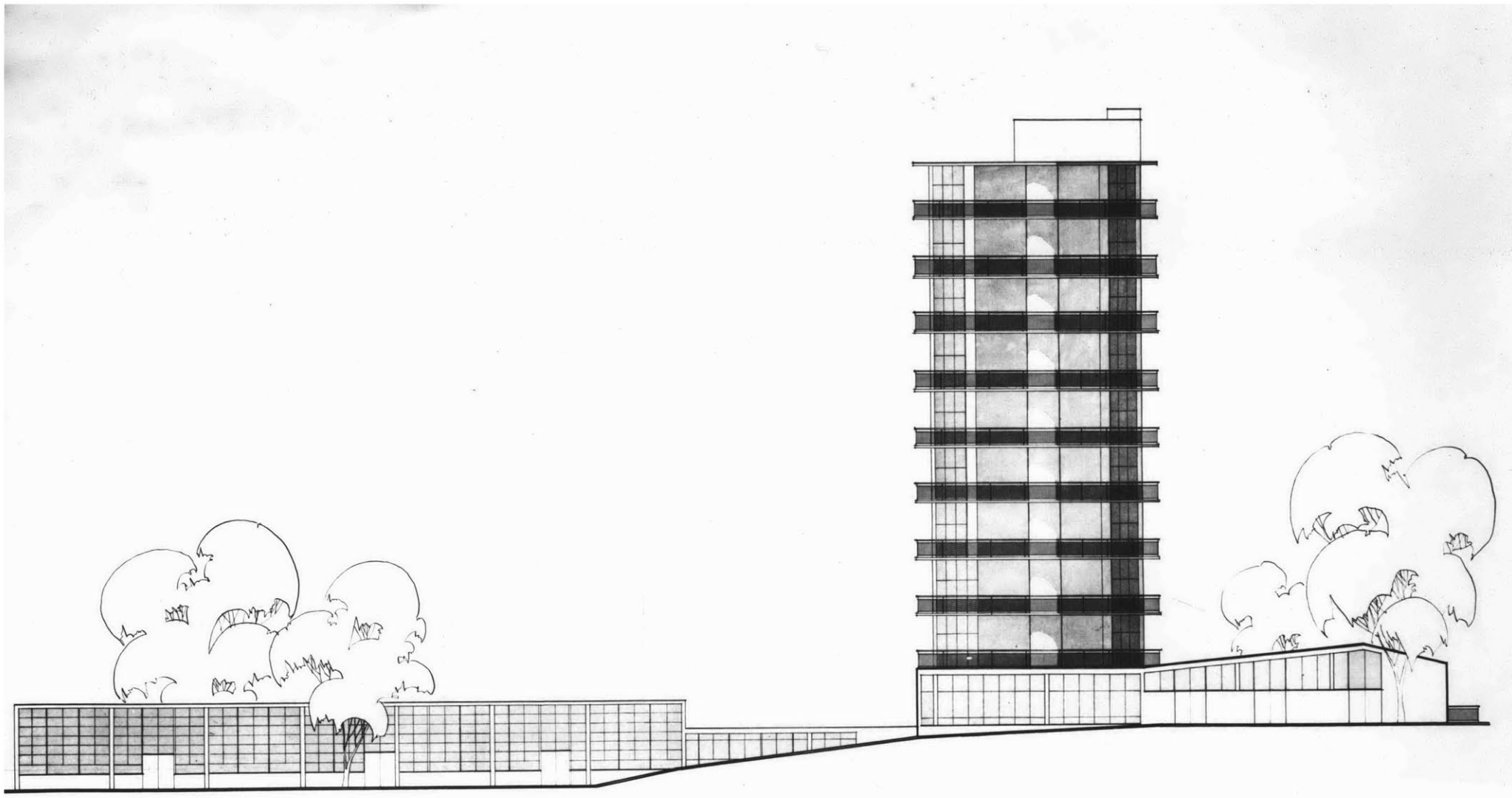
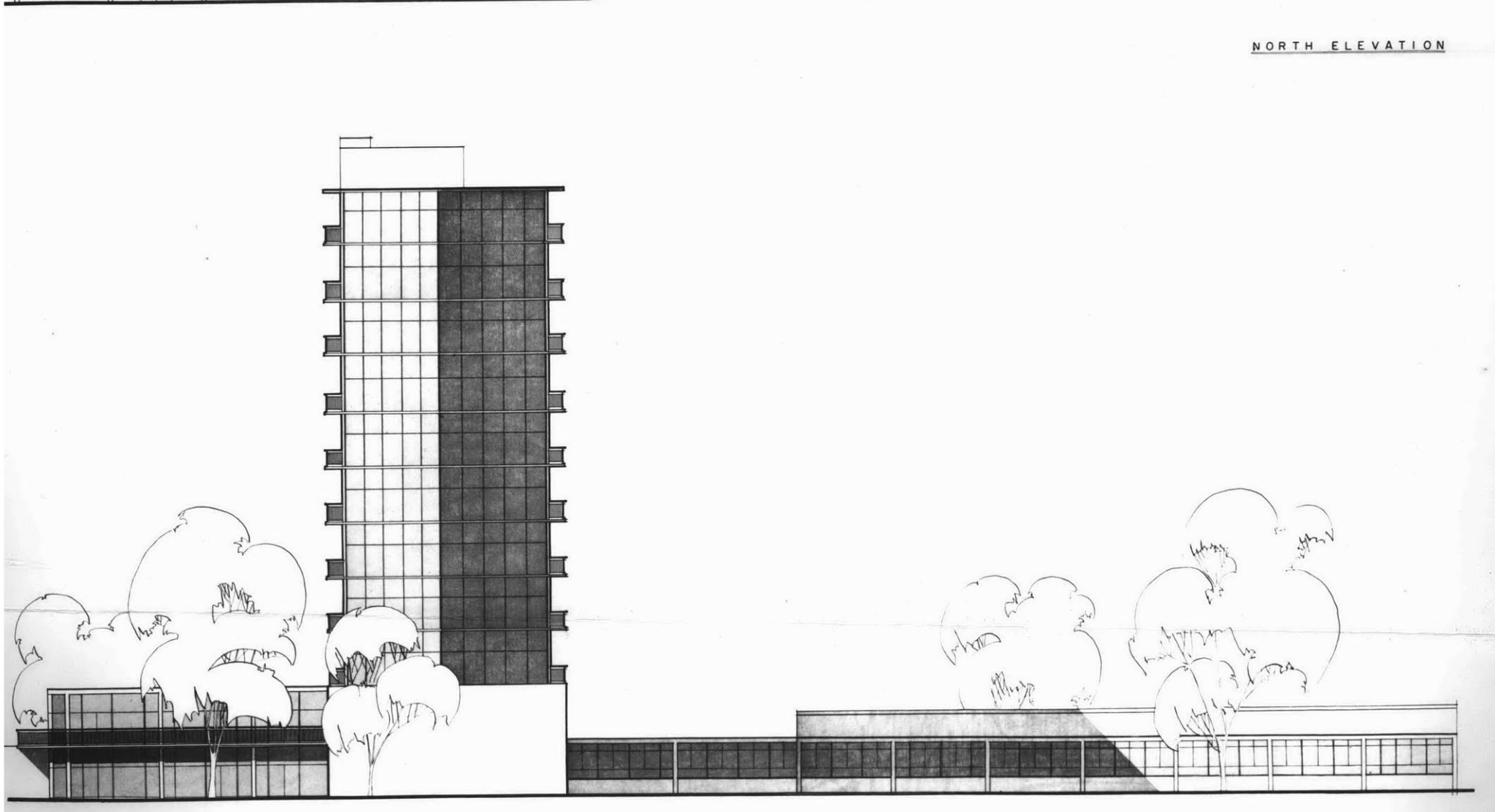


NORTH ELEVATION



SOUTH ELEVATION

10 5 0 5 10 15 20 25 30 35 40 45 50

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