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UNIFIED FACILITIES CRITERIA (UFC)

DESIGN: INDOOR FITNESS/RECREATIONAL FACILITIES

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UNIFIED FACILITIES CRITERIA (UFC)

DESIGN: INDOOR FITNESS/RECREATIONAL FACILITIES

U.S. ARMY CORPS OF ENGINEERS

NAVAL FACILITIES ENGINEERING COMMAND (Preparing Activity)

AIR FORCE CIVIL ENGINEERING SUPPORT AGENCY

Record of Changes (changes indicated by **1**\ ... /**1**/)

Change No.	Date	Location

FOREWORD

The Unified Facilities Criteria (UFC) system is prescribed by MIL-STD 3007 and provides planning, design, construction, sustainment, restoration, and modernization criteria, and applies to the Military Departments, the Defense Agencies, and the DoD Field Activities in accordance with USD(AT&L) Memorandum dated 29 May 2002. UFC will be used for all DoD projects and work for other customers where appropriate.

UFC are living documents and will be periodically reviewed, updated, and made available to users as part of the Services' responsibility for providing technical criteria for military construction. Headquarters, U.S. Army Corps of Engineers (HQUSACE), Naval Facilities Engineering Command (NAVFAC), and Air Force Civil Engineer Support Agency (AFCESA) are responsible for administration of the UFC system. Defense agencies should contact the preparing service for document interpretation and improvements. Technical content of UFC is the responsibility of the cognizant DoD working group. Recommended changes with supporting rationale should be sent to the respective service proponent office by the following electronic form: Criteria Change Request (CCR). The form is also accessible from the Internet sites listed below.

UFC are effective upon issuance and are distributed only in electronic media from the following sources:

- Unified Facilities Criteria (UFC) Index http://65.204.17.188//report/doc_ufc.html.
- USACE TECHINFO Internet site http://www.hnd.usace.army.mil/techinfo/index.htm.
- NAVFAC Engineering Innovation and Criteria Office Internet site http://criteria.navfac.navy.mil.
- Construction Criteria Base (CCB) system maintained by the National Institute of Building Sciences at Internet site http://www.nibs.org/ccb.

Hard copies of UFC printed from electronic media should be checked against the current electronic version prior to use to ensure that they are current.

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CHAPTER 1

INTRODUCTION

1-1 **PURPOSE AND SCOPE**. This UFC is comprised of two sections. Chapter 1 introduces this UFC and provides a listing of references to other Tri-Service documents closely related to the subject. Appendix A contains the full text copy of the previously released Military Handbook (MIL-HDBK) on this subject. This UFC serves as criteria until such time as the full text UFC is developed from the MIL-HDBK and other sources.

This UFC provides general criteria for the design of indoor fitness/recreational facilities.

Note that this document does not constitute a detailed technical design, maintenance or operations manual, and is issued as a general guide to the considerations associated with the design of indoor fitness/recreational facilities.

1-2 **APPLICABILITY**. This UFC applies to all Navy service elements and Navy contractors; Army service elements should use the references cited in paragraph 1-3 below; all other DoD agencies may use either document unless explicitly directed otherwise.

1-2.1 **GENERAL BUILDING REQUIREMENTS**. All DoD facilities must comply with UFC 1-200-01, *Design: General Building Requirements*. If any conflict occurs between this UFC and UFC 1-200-01, the requirements of UFC 1-200-01 take precedence.

1-2.2 **SAFETY**. All DoD facilities must comply with DODINST 6055.1 and applicable Occupational Safety and Health Administration (OSHA) safety and health standards.

NOTE: All **NAVY** projects, must comply with OPNAVINST 5100.23 (series), *Navy Occupational Safety and Health Program Manual*. The most recent publication in this series can be accessed at the NAVFAC Safety web site: www.navfac.navy.mil/safety/pub.htm. If any conflict occurs between this UFC and OPNAVINST 5100.23, the requirements of OPNAVINST 5100.23 take precedence.

1-2.3 **FIRE PROTECTION**. All DoD facilities must comply with UFC 3-600-01, *Design: Fire Protection Engineering for Facilities*. If any conflict occurs between this UFC and UFC 3-600-01, the requirements of UFC 3-600-01 take precedence.

1-2.4 **ANTITERRORISM/FORCE PROTECTION**. All DoD facilities must comply with UFC 4-010-01, *Design: DoD Minimum Antiterrorism Standards for Buildings*. If any conflict occurs between this UFC and UFC 4-010-01, the requirements of UFC 4-010-01 take precedence.

1-3 **REFERENCES**. The following Tri-Service publications have valuable information on the subject of this UFC. When the full text UFC is developed for this

subject, applicable portions of these documents will be incorporated into the text. The designer is encouraged to access and review these documents as well as the references cited in Appendix A.

1. US Army Corps of Engineers
Commander
USACE Publication Depot
ATTN: CEIM-IM-PD
2803 52nd Avenue
Hyattsville, MD 20781-1102
(301) 394-0081 fax: 0084
karl.abt@hq02.usace.army.mil
http://www.usace.army.mil/inet/usace-docs/

USACE DG 1110-3-132, Design Guide for Recreation Centers, 01 January 1976

APPENDIX A

MIL-HDBK 1037/8
INDOOR FITNESS/RECREATIONAL FACILITIES

SYSTEM
INTERNATIONAL

MIL-HDBK-1037/8
15 AUGUST 1996

MILITARY HANDBOOK

INDOOR FITNESS/RECREATIONAL FACILITIES

AMSC N/A

AREA FACR

ABSTRACT

This publication provides basic design guidance developed from extensive reevaluation of facilities for use by personnel involved in the project development process, and planning/design consultants, architects, landscape architects, interior designers, and engineers.

This handbook also provides basic criteria to evaluate, plan, program and design Navy and Marine Corps indoor fitness/ recreational facilities. The types of buildings include those covered by Facility Category Codes 740-43, 740-45, and 740-84.

FOREWORD

Indoor fitness/recreational facilities provide a comprehensive, varied program of wholesome off-duty activities to meet the leisure time needs of military personnel. It also includes other patrons such as family members, reservists, retirees, and civilian employees. They are a necessary element in today's volunteer military force. Quality facilities are important factors in the retention of Navy and Marine Corps personnel. Do not deviate from this criteria without prior approval of NAVFACENGCOM Code 15C.

Recommendations for improvement are encouraged from within the Navy, other Government agencies, and the private sector and should be furnished on the DD Form 1426 provided inside the back cover. These should be sent to Commander, Pacific Division, Naval Facilities Engineering Command, Code 401, Pearl Harbor, Hawaii 96860-7300; phone commercial (808) 471-8417.

THIS HANDBOOK SHALL NOT BE USED AS A REFERENCE DOCUMENT FOR PROCUREMENT OF FACILITIES CONSTRUCTION. IT IS TO BE USED IN THE PREPARATION OF FACILITIES ENGINEERING STUDIES AND DESIGN (PLANS, SPECS AND COST ESTIMATING). DO NOT REFERENCE IT IN MILITARY OR FEDERAL SPECIFICATIONS OR OTHER PROCUREMENT DOCUMENTS.

MISSION STATEMENT

The Department of the Navy's Fitness and Sports Program is an essential Morale, Welfare, and Recreation (MWR) activity whose primary mission is to promote and maintain the well-being, morale, and efficiency of Navy and Marine Corps personnel by promoting physical health and mental well-being. As a benefit of military service, fitness and sports programs play a major role in retention and maintaining the physical and emotional well-being of military personnel and their family members which directly influences the Department of the Navy's primary mission.

INDOOR FITNESS/RECREATIONAL FACILITIES

CONTENTS

FACILITY PLATES

Section 1: INTRODUCTION

1.1 Scope. This military handbook, MIL-HDBK-1037/8, provides general design guidance for indoor fitness/recreational facilities and is applicable to gymnasiums, fitness centers, and indoor playing courts. This handbook should be used to help designers in creating indoor recreational facilities within statutory cost limitations in conformance with DOD criteria. Modernization projects should update existing facilities to meet as nearly as practicable the established criteria within budgetary constraints.

1.2 Design Philosophy. The Department of the Navy's Fitness and Sports Program addresses the growing concerns and need for behavioral changes to achieve a healthier lifestyle. Fitness and sports programs require patrons to establish and adhere to long-range commitments for optimum physical, mental, social, emotional and spiritual health. It is each MWR activity's responsibility to help our military personnel, family members, retirees, reservists and other authorized patrons grow, change and experience the gift of fitness/health which will improve Navy and Marine Corps readiness, reduce health risk, and lower health care cost.

The optimum design shall result in durable facilities with reasonable and appropriate maintenance and operating life cycle costs. Designers should visit similar facilities, and interview building managers and users. When available, they should review post occupancy evaluation reports of similar projects to avoid design deficiencies that affect operation and maintenance.

The design process requires that all of the principal players be involved in specific and appropriate ways. These are the local MWR directors, local MWR fitness/sports specialists, base engineers and architects, builders, and Navy and Marine Corps Headquarters programs managers. The principal players will form a core partnership committed to completing a high quality facility that meets operational and functional requirements within project scope and budget.

1.2.1 Purpose of Criteria. The objective of this handbook is to help architects, planners and designers in creating the best possible recreational environments within allowable space and cost limitations. It is an aid to the following stages of design: analysis of requirements and preparation of feasibility studies, developing schematic design, detail design and coordination of consultants and specialists.

The objective of each new or modernization project for recreational facilities is to provide facilities that are complete and responsive to the requirements of the activity. Facility design must consider the long-range future needs for the building and planned as a functional part of the total anticipated building.

Safety and a healthy environment should be given prime consideration in facility design. Include considerations such as administrative control, flexibility in usage, acoustical control, storage, temperature control, security, ease of maintenance, and efficiency of operation. The MWR directors and their fitness/sports personnel should be actively involved and consulted early in the planning.

1.2.2 Economic Studies. Undertake economic studies to provide the optimum design for the most efficient and effective facility at the least cost and least adverse impact to the environment. During these studies, consider the following: site orientation, building form, column spacing, story heights, structural systems, exterior and interior finishes, plumbing, electrical, heating, and air-conditioning systems, site utilities, and site design.

Include life cycle facility cost analysis, consideration of initial construction cost, operation, and maintenance budgets over the design life of the facilities. Consider the amount of fuel on a Btu basis required to supply the energy needs to satisfy the cooling and heating loads of the facility. For projects more than $300,000, prepare design studies to identify alternatives and the basis for selection of the solutions.

1.2.3 Regulatory Authorities. Design the facilities to meet technical and environmental requirements at Federal, State and local levels. Design of various building systems to comply with all applicable standards.

Section 2: COST LIMITATIONS

2.1 Budget Cost Estimates. The statutory 1524 millimeter (5-foot) line budget limitation applies to recreational facilities constructed at locations in the United States having a geographical cost index of 1.0 and building size of 1858.07 square meters (20,000 square feet). For other locations and sizes, the limitation is multiplied by the appropriate geographical cost index and size adjustment factor (to be found in MIL-HDBK-1010A, Cost Engineering, Policy and Procedures). After such modification, the statutory 1524 mm (5-foot) line budget limitation cannot be exceeded without a waiver, as described in NAVFAC P-68, Contracting Manual. The 1524 mm (5-foot) line portion of the budget cost estimate, when divided by the gross building floor area, should be equal or less than the DOD proposed statutory 1524 mm (5-foot) line budget limitation, adjusted by the appropriate geographical cost index and size adjustment factor. Cost escalation to the mid-point of construction also shall be included.

2.2 Gross Area Computations. Compute the gross area of the facility according to paragraphs A.3.a through e of Chapter 4 of MIL-HDBK-1190, Facility Planning and Design Guide, and NAVFAC P-80, Facility Planning Criteria for Navy and Marine Corps Shore Installations.

2.3 Determination of Basic Building Cost. Include costs for the 1.524 mm (5-foot) line portion of the engineering cost estimate as follows:

2.3.1 Items Considered Part of the Basic Building Cost

a) Fire sprinkler system (if required), fire alarm systems, and other built-in electrical systems

b) Blinds or drapes

c) Individual lockers, storage walls, and partitions

d) Mechanical equipment, including mechanical ventilation, evaporative cooling, and air-conditioning

e) Double glazing and other energy-conserving provisions warranted by life-cycle analysis

f) Telescopic folding bleachers

g) Retractable basketball backboards

h) Overhead storage systems, e.g., wrestling mats, divider curtains between courts, and protective covers for floors

i) Washers and dryers and water extractors

j) Electronic scoreboards

k) Exterior signage (illuminated)

l) Volleyball sleeves (installed as integral component of the basketball court subflooring system, with flush-mounted cover plates)

2.3.2 Items Considered Separate From Basic Building Cost. Do not include the following items:

a) Seismic construction additional costs

b) Special foundations such as piles

c) Sound attenuation additional costs

d) Work outside the 1524 mm (5-foot) line

e) Environmental concerns

f) Any other cost that may be considered unique or unusual to the facility and, therefore, not typical to other recreational facilities.

2.4 Modernization Project Cost Limitations. For modernization projects, the square foot cost shall not exceed the statutory limitation for new construction.

Section 3: GENERAL DESIGN CRITERIA

3.1 Site Design. Planning should be done according to the MWR master plan for the activity, including MWR master plan where available. The site should be large enough to fit the proposed building, any possible future additions, and on-site parking and outdoor activity space if it is included in the program. Ensure that the site is safely accessible by foot, bicycle, car, and public transportation. Vehicle driveways should be located to permit safe ingress and egress. Driveways should give direct access to recreation areas, and should not bisect these areas.

The preferred site is near military personnel population centers (e.g., bachelor quarters, ships). Site outdoor recreation and sports facilities around the gymnasium. Check the relationship to its surroundings, and investigate what future facilities are planned for the area. If there are existing or planned outdoor activities on the site, consider the relationship they will have to the proposed building. Outdoor recreation areas should be sited so they do not interfere with pedestrians, buses, automobiles, service vehicles, and bicycles.

Exterior design elements that should be integrated with the facility include street furniture, bike racks, trash receptacles, pavement under/around these bike racks and trash receptacles, signage, site lighting/security lighting, and service/trash/delivery/maintenance areas.

3.1.1 Layout and Drainage. Locate the outdoor playing courts and fields of the physical fitness complex on areas of the site that best approximate natural level conditions. Design for positive drainage to eliminate ponding on courts/fields and around the complex.

3.1.2 Parking and Paving. The paving design shall comply with the design criteria contained in TM 5-822-2 and DM-5.04, Pavements, as well as satisfy the following general criteria:

a) Parking: Lighted paved parking areas shall be readily accessible to the building entrance and where spectator viewing is provided to playing courts and fields. Refer to MIL-HDBK-1190, pages 3-6, paragraph h, for parking requirements.

b) Walks: Pave the walk from parking areas to the facility entrance and to the spectator viewing areas at playing courts and fields. Refer to TM-5-822-2 for design requirements.

c) Parking and Walks: Some of the existing parking areas at adjacent playing courts, fields, and other facilities shall be considered for use as overflow spectator parking. Their location and the walks system shall allow for such usage.

d) Jogging Paths: Jogging paths shall be surfaced with loose materials that minimize injury, such as one-inch wood chips/mulch.

3.1.3 Service Areas (Circulation). At service areas, provide convenient trash container access (dumpsters) for the staff and trash collection. Service areas should be located away from public entrance/exit areas at the facility to avoid traffic congestion and pedestrian conflicts, and screened with a divider wall/fence/or landscaping to prevent unsightly appearances. Access roadways and circulation should be convenient for service vehicles to park and maneuver without difficulty.

3.1.4 Landscaping

a) Planting Design: Planting design should be simple, functional, economical to maintain, and compatible with its surroundings. Use species proven hardy and tolerant of local site conditions, and coordinate the planting to avoid conflict with utilities. Minimize planting obstacles to snow removal. Refer to TM 5-803-5 for additional landscaping guidance. Planting designs should conform to the Base Exterior Architectural Plan (BEAP) for the activity. Landscaping should always be considered as an integral part of site design. Also, use sod instead of grass seed to the extent that it is economically feasible.

b) Planting and Irrigation Systems: Systems should be automatic/programmable systems.

c) Exterior Cool-Down Areas: Include provisions for exterior cool-down areas for patrons, such as shade trees bordering playing courts and fields.

d) Signage: Conform to the BEAP of the activity and integrate with the activity MWR logo/facility title (illuminated).

e) Energy Conservation: Utilize landscaping to an advantage. Planting rows of deciduous trees along the southern side of a facility can provide shade during the summer and help to reduce air conditioning costs. In winter, the leaves fall from the trees and allow the winter sun to shine into windows or on walls to help heat the facility.

3.2 Architecture and Engineering. Design of recreation facilities shall be in accordance with MIL-HDBK-1001/1, Basic Architectural Requirements and Design Considerations. The architectural style and color of the building shall follow the architectural compatibility guidelines in the BEAP for the

activity. Construct the facility in accordance with MIL-HDBK-1002/1, Structural Engineering-General Requirements. For general roofing criteria, see MIL-HDBK-1001/5, Roofing and Waterproofing. Roof design, the type of space/function of the activity, and hurricane region building codes should determine the roofing construction. Consider the bulk and massing, including roof-mounted mechanical equipment, because it can have a significant visual impact.

3.2.1 Materials. Consider using suitable local materials and construction methods. Use new materials and techniques only where it can be shown in actual practice that there is an economic or functional advantage. These proposals should have no increase in cost over conventional systems. Wherever possible, use stock or standard materials, fixtures, and equipment, readily available at the local activity that is responsible for maintaining and repairing the facility. Coordinate selection of the materials with the BEAP of the activity. If the activity does not have a BEAP, coordinate selection of the materials with the adjacent surroundings and the entire activity.

3.2.2 Barrier Free Design Requirements. Provide barrier free design requirements in accordance with Uniform Federal Accessibility Standards (UFAS) or Americans With Disability Act Accessibility Guidelines (ADAAG). Use the criteria that provides the greatest accessibility.

The Recreational Access Advisory Committee developed the "Recommendations for Accessibility Guidelines: Recreational Facilities and Outdoor Developed Areas" (Recreation Report) for the U.S. Architectural Barriers Compliance Board (Access Board) in July 1994. The Recreation Report contains recommendations only and are not proposed or final accessibility guidelines. The Recreation Report is a good supplemental reference for swimming pools, whirlpools, saunas, gymnasiums, and fitness centers, and is available from the Access Board.

3.2.3 Energy Conservation. OPNAVINST 4100.5D, Navy Energy Management, requires compliance with the Energy Policy Act of 1992 and related executive orders such as Executive Order 12902, Energy Efficiency and Water Conservation at Federal Facilities, dated 8 March 1994. Executive Order 12902 sets new energy consumption reduction goal of 30 percent by the year 2005. The previous goal to which we have been designing facilities was 20 percent reduction by the year 2000. For new construction, this was being done using guidance provided in NAVFAC letter 1001/04A/05A1 dated 1 May 1992 with revisions (draft) to MIL-HDBK-1190 and Design Energy Targets (DET) of MIL-HDBK-1190. The Interagency Energy Management Task Force was directed by Executive Order 12902 to "ensure that the design and construction

of facilities meet or exceed the energy performance standards applicable. . .as set forth in 10 CFR 435, Local Building Standards, or Btu per gross square-foot ceiling as determined by the Task Force. . ., whichever will result in a lower life cycle cost over the life of the facility." The Task Force has not yet issued any guidance. Until replaced by additional specific guidance, reduce the DET values of the draft revision of MIL-HDBK-1190, Chapter 8, "Energy Conservation Criteria," by 10 percent. For appropriate energy calculations, the reduced DET values are minimum standards. Do not rely only on more efficient mechanical systems to meet the DETs. Use energy efficient design features and new high efficiency products to provide facilities with lowest life cycle costs. Energy efficient architectural features and design strategies, such as solar shading, day lighting, building form, and siting, are covered in MIL-HDBK-1001/1. Energy efficient mechanical systems are covered in MIL-HDBK-1003/3, Heating, Ventilating, Air Conditioning and Dehumidification Systems. Energy efficient lighting systems, occupancy sensors and LED exit signs are specified in NFGS-16510, Interior Lighting. Note: Energy conservation measures shall not compromise the operational requirements stated in this document.

3.2.4 Air Conditioning, Heating, and Mechanical Ventilation

a) Follow the requirements of MIL-HDBK-1190 except that air conditioning will be allowed in accordance with the following criteria.

(1) Gymnasiums and other physical activity spaces, including weight rooms, exercise rooms, running tracks, racquetball courts, and handball courts shall be air conditioned for all geographic locations except for command locations in Alaska and Iceland. The air conditioning requirements for the spaces noted above shall be comparable to the air conditioning of recently constructed similar facilities located off base. For commands where air conditioning is not authorized, provide mechanical ventilation to achieve air circulation requirements, e.g., 10-12 air changes per hour, and operable windows.

(2) Showers, locker rooms, rest rooms and similar high ventilation spaces may be air conditioned; however, consider using air conditioned air from other spaces for ventilation and humidity control.

(3) Every effort should be made to minimize the air conditioning load for such areas. The air conditioning load associated with human occupancy, including spectators and activity levels, shall be carefully determined in coordination with the using activity. For facilities, regardless of the extent of air conditioning eligibility, the design energy target shall be in accordance with paragraph 3.2.3 above.

b) The comfort cooling and heating inside design temperatures shall be per MIL-HDBK-1190.

c) For high occupancy spaces, such as fitness areas, aerobic rooms, and combative/martial arts rooms, maintain 10-12 air changes per hour. For gear issue and equipment storage areas, provide proper ventilation and humidity control to prevent deterioration of supplies. Maintain at least 10-12 air changes per hour with high air movement in locker and dressing areas.

3.2.5 Interior Design. Interior design is to be an integral part of the facility's architectural design, finish schedule and specifications for built-in and collateral furniture/fixtures and equipment (FF&E). Interior design specification should provide a cohesive, visual appearance and complement the overall facility's architectural design. For example, lockers should be specified to coordinate with each of the locker room's finish schedule. Exercise mats should be specified to coordinate with the gym's court stripping and padded cushion wall panels. The finish/ upholstery of the physical fitness equipment should be coordinated with the rubber flooring and/or carpeting. Wall graphics, decorative suspended acoustical panel/banners are encouraged to provide visual interest and to help direct patrons throughout the facility by color zones and/or graphic designs. Interior design specifications should provide a bright, cheerful, contemporary facility with durable, commercial quality furniture, fixtures, and equipment that meet local safety and fire building codes. FF&E should be specified to withstand heavy commercial use, body perspiration and odors associated with all physical conditioning facilities.

Section 4: SPECIFIC SPACE CRITERIA

Installation Size Definition:

XSMALL = Military Personnel population under 250
SMALL = Military Personnel population of 251-999
MEDIUM = Military Personnel population of 1000-4999
LARGE = Military Personnel population of 5000-9999
XLARGE = Military Personnel population over 10,000

Note 1: Military personnel include active duty enlisted, officers, and students; and reservists.

Note 2: Certain installations will vary in the prescribed requirements due to the patron demand, geography and climatic environment.

4.1 Activity Spaces

4.1.1 Indoor Basketball/Volleyball Courts

a) Activity Description: An area where a basketball/volleyball court supports single or multipurpose use for instructional, informal, intramural, and extramural sports as well as special community events.

b) Hours of Use: Daily. Monday through Friday 0600-2200; Saturday/Sunday/Holidays 0900-2000. Coordinate specific hours with the local command.

c) User Groups: Military personnel, family members, reservists, retirees, and eligible DOD civilians. Primary utilization by military personnel.

d) Number of Users: Daily average varies by base population and program.

e) Special Finishes Required

(1) The court surface should be hard wood with a sleeper subsurface system. An alternative in certain locales is a resilient synthetic material. Both flooring systems require level subsurface systems with vapor barriers.

(2) The main court area shall provide seating in the form of bleachers as follows: Xlarge - 700 people; Large - 600 people; Medium - 500 people; Small - 300 people, and Xsmall - 200 people. Pull-out (telescopic) type bleachers are preferred.

(3) The main court area must have either one multi-faced scoreboard suspended above center court, or two single-faced scoreboards mounted on the end walls at each end of the court. Two timing clocks must be in operation with the scoreboard and mounted according to proper regulations and with visual access from the scoring and playing areas. Additionally, provide wall mounted clocks visible to all patrons.

(4) The architectural design and interior finish schedule should coordinate and complement one another. The overall appearance should provide an energetic, bright, clean, contemporary facility. The finishes must be able to withstand heavy, repetitive, and abusive patron usage, i.e., from apparatus and balls associated with indoor sports activities. Built-in finishes (e.g., for flooring, bleachers, walls, trim, and floor striping), and collateral equipment finishes (e.g., for netting, floor mats, court floor covering, scoreboards, and timing clocks) should coordinate and complement each other.

(5) Large, superimposed wall graphics should be considered as decorative motifs. In addition, graphics may be used to help identify and emphasize key areas such as entrances, exits, spectator areas, and locker/rest rooms, as well as direct patrons throughout the facility. Wall graphics may also be used as part of the facility's title/logo.

f) Utilities Requirements

(1) Indoor basketball and volleyball courts should have the appropriate sources and levels of light of at least 500 lux (50 footcandles). Provide a lighting system with variable levels of illumination, minimum setting for general recreation activities and high setting for league/tournament play. Provide energy efficient natural lighting sources, such as Kalwall, to supplement the sports lighting system, being careful to avoid heat gain, harsh direct sun lines and glare that affect sports activities. The preferred location for natural lighting sources is built into the north wall of the structure along the upper portion of the gym wall.

(2) The electric lighting source should be metal halide lamps and fixtures. The IES recommends a minimum lighting level of 500 lux (50 footcandles); however, higher levels of 700 lux (70 footcandles) are required for official league and tournament activities. Where local energy conservation limitations require, the lighting system should consist of bi-level ballasts to accommodate various lighting levels. This bi-level lighting system should be controlled from the control counter. The bi-level lighting system should be manually or automatically regulated to reduce the illumination level to conserve energy consumption during periods of informal recreation

activities. Care must be taken to achieve a brightness balance across the court and to eliminate extremes of brightness and glare. Locate controls at the control counter. Coordinate with activity. Provide dimmer switches and separate circuits for special effects and events.

(3) Provide special outlets for scoreboard/timing clocks, public address (PA) and sound system, and telephone jacks.

g) Furnishing, Built-in and Collateral Equipment List

(1) The backboards shall be shatterproof glass. Each court shall have six basketball goals with four of the goals located in a cross-court configuration. The goals may be either swing ceiling, wall mounted or portable, or any combination thereof. Breakaway rims must be installed on all goals.

(2) Electronic Scoreboard: one or two unit(s) for each full court (not cross-configuration).

(3) Timing (30 second) clocks: one pair for main court.

(4) Volleyball stanchions and net with floor insert sleeves built-in.

(5) Wrestling mat, gym wall mats for player protection, and exercise mat.

(6) Court floor covering and storage reels.

(7) Communication System: PA and sound system.

(8) Bleachers: Pull-out (telescopic).

(9) Gym divider: Netting (overhead power lift if divider is to be stored overhead).

(10) Overhead storage lift for wrestling mat, floor covering, etc.

(11) Overhead Garage Door: Exterior access for delivery of oversized items, equipment for special events, etc.

(12) Drinking Fountains: Provide waterproof surface and coordinate recessed location of drinking fountain with size and layout of facility. Locate drinking fountain adjacent to gym entrance in the corridor.

h) Adjacency Considerations

(1) Provide easy access to patrons from entry and locker rooms, flexibility of activities, good patron control and adequate storage off court area.

(2) The gym equipment storage room(s) should be adjacent to and directly accessible to the gym for equipment and supplies used in gym activities.

i) Special Requirements

(1) The walls in the gym should be constructed of concrete or concrete masonry units.

(2) At a minimum, the wall areas immediately behind the backboards should be padded for player safety and all other walls considered for padding to protect patrons.

(3) Consider acoustics in selection of materials and finishes.

(4) There must be adequate space designated to store volleyball stanchions and net, scoreboard panels, court floor covering and storage reels, tables and chairs, wrestling mats and other exercise mats. Provide large double doors for entry. Consider overhead storage systems for wrestling mats, court floor covering, and court divider curtains.

j) Space Size (square meters (feet), occupancy, or unit of equipment): Basketball courts must be minimum NCAA basketball standards 28,651 mm by 15,240 mm (94 by 50 feet) with a minimum 3048 mm (10-foot) unobstructed safety zone area on all sides. The size of a volleyball court is 9144 mm by 18,288 mm (30 by 60 feet) with a minimum 3048 mm (10-foot) unobstructed safety zone area on all sides. Multiple basketball and volleyball courts within the same facility are likely at the largest bases. In this case, adjacent courts shall be separated by a minimum of 4877 mm (16 feet). There should be an overhead clearance free from obstruction to a height of 8534 mm (28 feet 0 inch) measured from the playing surface. Court markings shall be in accordance with NCAA guidelines or other applicable national governing body guidelines.

4.1.2 Fitness Area

a) Activity Description: This instructional and informal sport area is necessary for variety and balance to the regular exercise program. It shall be divided into four areas: Warm-up/cool area, free weight section, circuit training machine section and a cardiovascular equipment space.

b) Hours of Use: Daily. Monday through Friday 0600-2200; Saturday/Sunday/Holidays 0900-2000. Coordinate specific hours with local command.

c) User Groups: Military personnel, family members, reservists, retirees, and eligible DOD civilians. Primary utilization by military personnel.

d) Number of Users: Daily average varies by base population and program.

e) Special Finishes Required

(1) The type of flooring must be consistent with the type of equipment selected. The free weight area shall be covered with a durable, resilient, high impact resistant material. The preferred floor finish is a rolled rubber or sheet goods product designed for free weight exercise areas. In the circuit training and cardiovascular machine areas, an easily cleaned and durable carpet with attached rubber cushion (pad) should be used. Recommend installing a broadloom, carpet (not carpet tiles) direct glue, multicolored, patterned carpet to help hide soil and stains. Carpeted areas should be treated with an antimicrobial agent.

(2) At least one wall in the free weight area should be mirrored. A combination of windows, plants, and graphics should be used throughout the area. The mirror locations and equipment layout must be coordinated to ensure patrons can see their reflections when using the fitness equipment, especially in the free weight area. The wall mirrors should be mounted continually edge-to-edge, approximately 354 mm (1 foot 2 inches) above the finished floor, and continue to a minimum height of 2133 mm (7 feet) above the finished floor. Specify trim moldings along the top and bottom edges of the mirrors, and along the mirror ends if they are not flush with the end walls. This will provide a protective edge and a decorative finished trim edging.

(3) Continue the floor carpeting up the walls to the bottom of the mirror trim as permitted by local fire regulations. If carpet is not allowed, specify a vinyl base molding strip, approximately 101 mm (4 inches) high, and paint or vinyl cover the wall area up to the bottom of the mirror trim.

(4) Coordinate the finish schedule with the furniture/fixtures and equipment (FF&E) so they provide a decorative, coordinated interior design scheme.

(5) A minimum ceiling height of 3657 mm (12 feet) must be maintained for the fitness area. A higher ceiling will ensure proper ceiling clearances for certain pieces of equipment and their use. It will also help dissipate heat build-up created by large groups using the facility at the same time.

(6) Provide rubber mats with beveled edges under cardiovascular and strength training equipment.

f) Utilities Requirements: Provide special outlets for cardiovascular equipment, computerized strength training machines, electric water cooler, computer and printer for fitness assessments, stereo/audio/visual/video system and phone jacks. Wall and/or recessed floor electrical outlets may be required for the fitness equipment depending on the overall size of the space, the architectural floor plan design/shape, and the placement for the equipment.

g) Furnishing, Built-in and Collateral Equipment List

(1) An average of 4.3 square meters (46 square feet) should be given for each piece of single station equipment. This includes the dimensions of the equipment and the space between stations for safety zones and circulation around and between each piece of equipment.

(2) Computerized fitness evaluation system.

(3) Free Weight Area: Although the number of items varies by installation size, the following should be included: A complete set of dumbbells ranging from 2.3 to 54.4 kilograms (5 to 120 pounds) in 2.3 kilogram (5-pound) increments; Olympic style power bars with safety collars and at least 725.7 to 816.5 kilograms (1600 to 1800 pounds) of free weight; a variety of benches for dumbbell work and Olympic barbell work, such as incline bench, decline bench, power squat rack, flat benches, preacher curl bench, weight racks, and dumbbell racks. The floor space must be structurally sound enough to bear the load of weight machines and equipment (minimum 45.36 kilograms per .1 square meter or 100 pounds per square foot). Exercise equipment should have finished framing so as not to damage the finished floor; e.g., provide rolled bar framing and no cut-off legs.

(4) Strength training or circuit training machines: There should be at least one circuit training machine for each muscle group. Larger bases should have more. Machine brand name may vary by manufacturer; however, this list should cover good a variety of equipment for each muscle group.

Chest	Legs and Knee	Arms and Shoulders
Chest Press	Calf Raise	Lateral Raise
Incline Press	Leg Press	Tricep Extension
Fly	Leg Extension	Arm Curl Cable Crossover
40-degree Chest	Leg Curl	

Back	Abdominal	Hips
Pullover	AB Machine	Abduction
Back Extension	Rotary Torso	Adduction
Lateral Pull-down	Bent Leg AB Board	Abduction/Adduction
Rowing Machine		
Torso Pull-down	Neck	

(5) Cardiovascular Equipment: There should be at least 16 X-Large; 14 Large; 12 Medium; 10 Small; and 6 X-Small different pieces of the following equipment installed: Stationary bikes, recumbent bikes, rowing machines, stair climbers, treadmills, cross-country ski machine, versa-climber and upper body ergometer (UB).

(6) Warm-Up/Cool-Down Area: There should be a minimum of at least 37.2 square meters (400 square feet) dedicated for the purpose of stretching and flexibility. The area should be covered with antimicrobial treated carpet. Additionally, exercise mats should be provided that are nonabsorbent and antistatic and have been treated with antifungal and antibacterial agents.

(7) Drinking Fountain(s): Provide one (minimum) near entry; specify water resistant floor finish under and surrounding the fountain (minimum 1524 mm (5-foot) arc).

(8) Bulletin board.

(9) Exercise mats.

(10) Wall clocks.

(11) Ballet bar/stretch bar.

(12) A centrally controlled sound system, television monitor and VCR should be furnished, but controlled at the main control desk.

(13) Trash containers.

h) Adjacency Considerations: Provide easy access to all patrons from entry and locker rooms as well as good patron control and adequate circulation space in moving from one activity area to another.

i) Special Requirements

(1) Provide control desk near entry of the fitness area if a direct view is obstructed from the main control desk.

(2) Whether utilizing a standard lay-in ceiling or an exposed structure, the light source should be diffused to avoid focusing strong light sources directly above equipment. Specify light fixtures and their locations so as not to generate unnecessary heat and be uncomfortable when viewed directly looking up, i.e., indirect lighting is preferred.

(3) Sound levels should be kept under 80 decibels. Sound sources include exercise equipment in use, stereo sound system, conversation, etc.

(4) Provide natural lighting sources and windows with blinds or shades as required to supplement lighting system. Aerobic exercise equipment should be located in front of the windows. Windows will provide the opportunity to advertise the fitness center activities to potential patrons walking or driving past the facility.

j) Space Size (square meters (feet), occupancy, or unit of equipment): The total minimum space requirement must contain by installation size the following square meters of floor space: Xlarge - 650 square meters (7000 square feet); Large - 372 square meters (4000 square feet); Medium - 325 square meters (3500 square feet); Small - 148 square meters (1600 square feet) and Xsmall - 93 square meters (1000 square feet). The fitness area must contain at least one private fitness testing room of at least 14 square meters (150 square feet) of air-conditioned, well lit space. The room may also serve as the fitness specialist's office. FOR MARINE CORPS INSTALLATIONS ONLY: If military personnel population exceeds 5000, use the fitness center space requirements shown below. Otherwise, use the space requirements shown above.

(1) 3.5 percent of military personnel population determines peak load.

(2) 3.58 square meters (38.5 square feet (SF)) per patron at peak loading determines the minimum sizing standard for Marine Corps fitness centers.

Example:

6000 Military Personnel Population x 3.5% = 210 patrons at peak load

210 patrons x 3.58 square meters (38.5 SF) = 751.10 square meters (8,085 SF) fitness area

4.1.3 Aerobic Room

a) Activity Description: For instructional classes and informal practice sessions in aerobic dance.

b) Hours of Use: Daily. Hours will vary. Coordinate specific hours with the local command.

c) User Groups: Military personnel, family members, reservists, retirees, and eligible DOD civilians. Majority utilization by female patrons.

d) Number of Users: Daily average varies by base population and program.

e) Special Finishes Required

(1) The floor should be either hardwood with a subsurface sleeper system or low pile, bond-layered carpet on top of 100-ounce impact absorbent padding. Synthetic floor finishes/materials, specially made for aerobic exercise, can be used as an alternative.

(2) At least one wall should be finished with mirrors to a minimum height of 2133 mm (7 feet) above the finished floor. Specify trim moldings along the top and bottom edges of the mirrors, and along the mirror ends if they are not flush with the end walls. Two or three walls finished with mirrors are preferable. The wall mirrors should be mounted continually edge-to-edge, approximately 355 mm (1 foot 2 inches) above the finished floor. A ballet bar, 1062 mm (42 inches) above the finished floor, 37 to 50 mm (1.5 to 2 inches) in diameter, and 152 to 177 mm (6 to 7 inches) from the wall, should be mounted along one wall for stretching.

(3) Aerobic areas must have a minimum of 500 lux (50 footcandles) of lighting. Natural lighting (skylights or windows) may be used whenever possible, being careful to avoid heat gain, harsh direct sun lines and glare.

f) Utilities Requirements

(1) Light controls should allow for variable lighting levels, e.g., rheostat.

(2) Provide electrical receptacles for stereo system, VCR, and TV monitors. Provide phone jacks.

g) Furnishing, Built-in and Collateral Equipment List

(1) Storage space for instructor's platform, stereo system, exercise mats and equipment.

(2) TV, VCR, and speakers ceiling/wall mounted.

(3) Aerobic steps/benches, tubes/bands, and weights.

(4) Exercise mats.

(5) Drinking fountain - located adjacent to room entrance.

(6) Wall clock.

(7) Folding, raised platform approximately 1828 mm deep by 2438 mm wide (6 feet by 8 feet) wide and 304 mm high (12 inches) with mobile storage cart for the aerobics instructor. The platform could be divided into two sections with connector capability.

(8) VCR/TV projection screens, recessed movie screen, built-in sound speakers.

(9) A separate, instructor controlled sound system with a dual cassette deck and or CD player and elevated speakers should be installed. Provide built-in locking cabinet/storage for equipment security.

h) Adjacency Considerations: Provide easy access to all patrons from entry and locker rooms, flexibility of activities, good patron control and adequate storage area.

i) Space Size (square meters (feet), occupancy, or unit of equipment): The aerobics room(s) must meet the following minimum guidelines: Xlarge - 418 square meters (4500 square feet); Large - 307 square meters (3300 square feet); Medium - 140 square meters (1500 square feet); Small - 112 square meters (1200 square feet), and Xsmall - 74 square meters (800 square feet). Provide 3.2 to 3.7 square meters (35 to 40 square feet) per person minimum. A minimum ceiling height of 3657 mm (12 feet) must be maintained for aerobics room.

4.1.4 Combative/Martial Arts Room (Optional)

a) Activity Description: To be utilized for the instruction and practice sessions of combative and martial arts disciplines. The martial arts program can be included in the aerobics room; however, additional storage capacity is required to contain martial arts exercise mats.

b) Hours of Use: Daily. Times will vary. Coordinate specific hours with local command.

c) User Groups: Military personnel, family members, reservists, retirees, and eligible DOD civilians. Approximately 75 percent utilization by military personnel and family members.

d) Number of Users: Daily average varies by base population and program.

e) Special Finishes Required

(1) The floor of the room should be hardwood with a subsurface sleeper system or resilient materials to prolong the life of the mats.

(2) At least one wall should be finished with mirrors to a minimum height of 2133 mm (7 feet) above the finished floor. The wall mirrors should be mounted continually edge-to-edge, approximately 354 mm (1 foot 2 inches) above the finished floor. Specify trim moldings along the top and bottom edges of the mirrors, and along the mirror ends if they are not flush with end walls.

(3) The remaining walls should be covered with impact absorbent material; e.g., tatami mat up to 1524 m (5 feet) above the finished floor on all sides.

(4) The ceiling must be of acoustic material and a minimum of 3657 mm (12 feet) high.

f) Utilities Requirements

(1) Light controls should allow for variable lighting levels rheostat.

(2) Provide special outlets for phone jacks.

g) Furnishing, Built-in and Collateral Equipment List

(1) Storage space for exercise mats and equipment

(2) Provide a 34 kilogram (75-pound) kick bag with adequate structural support.

(3) Drinking fountain located adjacent to room entrance.

(4) Wall clock.

h) Adjacency Considerations: Provide easy access to all patrons from entry and locker rooms, flexibility of activities, good patron control and adequate storage area.

i) Special Requirements: The combative/martial arts room must have a minimum of 500 lux (50 footcandles) of lighting. Recommend natural lighting (skylights or windows) be used whenever possible, being careful to avoid heat gain, harsh direct sun lines and glare.

j) Space Size (square meter (feet), occupancy, or unit of equipment): The combative/martial arts room must be a minimum of 74.3 square meters (800 square feet).

4.1.5 Racquetball/Handball Courts

a) Activity Description: For the instructional, informal and intramural patron and to maintain a high level of physical fitness.

b) Hours of Use: To Be Used Daily. Monday through Friday 0600-2200; Saturday/Sunday/Holidays 0900-2000. Coordinate specific hours with local command.

c) User Groups: Military personnel, family members, reservists, retirees, and eligible DOD civilians.

d) Number of Users: Daily average varies by base size and number of courts available for play.

e) Special Finishes Required

(1) The floor should be a hardwood covering with a sleeper system subsurface structure as in standard gymnasium construction. Flooring systems require level subsurface systems with vapor barriers. Provide expansion material along perimeter of floor such as cork.

(2) Court walls and ceilings shall be constructed of laminated high density wood composite panels or tempered shatterproof glass. Provide vapor barrier at exterior wall(s) and/or wet zones, e.g., showers, locker rooms, swimming pools.

(3) Entrance doors shall have flush mounted handles, hinges and hardware. Install full height doors that open into the court, e.g., 2031 mm high by 914 mm wide (6 feet 8 inches high by 3 feet wide). Provide viewing capability into each court. A full glass door with tempered safety glass, specifically designed for racquetball courts, is preferred. There shall be a small tempered shatterproof window installed flush with the interior surface of the door at approximately eye level. A window in the door is not required if vision panels or glass back walls are provided.

(4) Ventilating ducts and lighting fixtures must be installed flush with the ceiling or wall surfaces. Supply and return vents shall be located in the rear one-third of the ceiling and/or the upper one-third of the back wall.

(5) Two small locker compartment units approximately 228 mm by 354 mm by 152 mm deep (9 inches by 14 inches by 6 inches deep) shall be installed for patron usage inside each court and located in the lower portion of the side wall approximately 914 mm (3 feet) from the back wall. Locker doors and hardware must be flush mounted in the walls.

(6) For courts with glass walls, all surfaces, e.g., floors and walls, immediately outside and adjacent to the court shall not be darker in color or tone than the floor of the court. This feature will reduce glare and allow players to follow the ball as it plays off the glass wall.

f) Utilities Requirements: Translucent, impact resistant, nonbreakable, flush mounted protective cover specifically designed for racquetball courts must be used to protect lighting units. The lighting source must provide an illumination level of 900 lux (90 footcandles) on task, evenly distributed throughout the court. Metal halide fixtures are preferred. For courts with glass walls, the lighting level shall be the same on both sides of the glass wall. This feature will reduce glare and allow players to follow the ball as it plays off the glass wall.

g) Furnishing, Built-in and Collateral Equipment List

(1) Wally ball anchors and hardware

(2) Water fountain and clock located in the immediate area outside of courts, such as in the lobby or corridor

h) Adjacency Considerations: Provide easy access to patrons from entry and locker rooms, and good patron control.

i) Special Requirements

(1) Small storage space for cleaning material such as floor mops. Locate in corridor, not in court.

(2) Consider an intercom controlled at the control desk in the lobby and install speakers in adjacent lobby and corridor areas.

(3) Provide individual light control switches for each court at the control desk in the lobby.

(4) Ensure access into each court will allow for a telescopic platform and equipment for changing light bulbs, court maintenance and repair work. Provide doors with a minimum width of 914 mm (3 feet 0 inch) and minimum height of 2031 mm (6 feet 8 inches).

(5) Provide locks for the courts doors where courts are remote from control counter.

(6) If no direct visual access can be provided for staff observation from the control counter, consider a closed circuit television (CCTV) system for monitoring access to the courts. Install cameras in adjacent lobby and corridor (not inside courts) with controls, and monitor at the main control desk.

(7) Each playing court is to be identified by a number on the wall adjacent to or on the playing court door or suspended from the corridor ceiling.

j) Space Size (square meters (feet), occupancy, or unit of equipment): All courts will have four walls. The dimensions shall be 6096 mm (20 feet) wide, 6096 mm (20 feet) high, and 12,192 mm (40 feet) long. The overall playing surface of each racquetball court is 74.3 square meters (800 square feet). A spectator gallery may be located immediately adjacent to the courts.

4.1.6 Room/Activity Name. Climbing wall (optional).

a) Activity Description: Many fitness conscious patrons prefer rock climbing over other aerobic or cardiovascular training for a total body workout. Indoor climbing walls provide climbers with opportunities to better their skills. Indoor climbing walls have become a successful tool to teach the skills of climbing and movement on rock surface in a safe and controlled environment. Designers should remember that the main uses of climbing walls are threefold: offering instructional programs for new climbers, fitness training or recreation for intermediate through advanced climbers, and climbing competitions.

b) Hours of Use: Daily. Monday through Friday 0600-2200; Saturday/Sunday/Holidays 0900-2000. Coordinate specific hours with local command.

c) User Groups: Military personnel, family members, reservists, retirees, and eligible DOD civilians.

d) Number of Users: Daily average varies by base population and program.

e) Special Finishes Required

(1) Climbing walls are designed in every shape and size imaginable.

(2) A good combination of a generous grid of T-nut placements on wall panels, a wide variety of removable holds, and carefully planned "natural" or permanent features can create an environment where almost any type of problem can be developed.

(3) Basic wall features should include aretes, dihedrals, overhanging routes, flakes, chimneys, buttresses and roof. It's important to consider not only the width and height of climbing walls, but also the depth available to create interesting features such as aretes, buttresses and overhangs.

f) Utilities Requirements: Provide a lighting system with a level of illumination, minimum setting of 500 lux (50 footcandles). Metal halide, mercury vapor or fluorescent lights are recommended. Coordinate location of light with design of the climbing wall. Lighting should not impair the patron, e.g., down-lighting fixtures shall not be installed directly above the climbing wall.

g) Furnishing, Built-in and Collateral Equipment List: A bulletin board should be placed in a visible, adjacent area on which appropriate information and materials are posted, e.g., safety and injury guidelines, climbing tips, target heart zone information, and instructions for measuring heart rate.

h) Adjacency Considerations

(1) Location is the most important element in a successful operation. A prominently placed climbing wall will draw people to it and encourage investigation of other outdoor programs.

(2) Must be visible from the control counter. Preferred location in main gym or maybe lobby. The intent is to have visual control of the climbing wall when it is not in supervised use.

i) Special Requirements

(1) The minimum square footage requirement for climbing wall can be determined as an 2438 mm(8-foot) unobstructed safety zone that extends directly in front of all climbing surfaces for the entire length of the wall. This unobstructed safety zone will increase proportionally for climbing features that overhang the belay anchor area.

(2) The flooring beneath the climbing wall should be a soft and resilient surface. Surface such as recycled rubber chips, a resilient rubber playground surface. The depth of the material should be specified to attenuate a 3048 mm (10-foot) fall.

(3) Belay system attachment hardware shall be installed at the top of the climbing wall to allow for a top rope belay configuration. Consider belay anchor bolts installed in floor or on adjacent wall located a minimum of 2438 mm (8 feet) from the climbing wall.

4.1.7 Room/Activity Name. Indoor running track (optional).

a) Activity Description: A space for the development and enhancement of aerobic activities; namely, running, jogging and walking.

b) Hours of Use: Monday through Friday 0600-2200; Saturday/Sunday/Holidays 0900-2000. Coordinate specific hours with local command.

c) User Groups: Military personnel, family members, reservists, retirees, and eligible DOD civilians.

d) Number of Users: Daily average varies by base population and programs.

e) Special Finishes Required: The track surface (over the track foundation) should be a composite, synthetic material engineered for running and walking. The surface material 9.5 mm thick minimum (3/8 inch thick minimum) for the track should provide a durable, resilient, and cushioned covering.

f) Utilities Requirements: The indoor running track area should have an appropriate source and level of light. Metal halide, mercury vapor, or fluorescent lights are recommended, supplemented with natural light sources. The illumination level should be at least 300 lux to 500 lux (30 to 50 footcandles) at the surface of the indoor running track.

g) Furnishing, Built-in and Collateral Equipment List

(1) A telephone or other emergency call system must be available within or adjacent to the running track area.

(2) A bulletin board should be placed in a visible, adjacent area on which appropriate information and materials are posted, e.g., injury guidelines, running/aerobic tips, target heart zone information and instructions for measuring heart rate.

h) Adjacency Considerations

(1) The running track should be reasonably accessible to men's and women's locker rooms.

(2) Preferred indoor track location is surrounding the indoor basketball court (outside of the unobstructed safety zone) or suspended above the gym area, avoiding the space directly above the court. If the track is suspended, elevator access will be required.

i) Special Requirements

(1) An indoor running track should be at least 3657 mm (12 feet) wide with a minimum of three lanes. Each lane should be 1066 mm (42 inches) in width.

(2) An indoor running track should have a maximum of 18 laps to a mile; 11 laps (or fewer) to the mile are recommended.

(3) Banked curves are preferred for indoor tracks. The height of the banked (to the inside) curves should not exceed 25 mm per 304 mm (1 inch per 1 foot), evenly sloped over the entire width of the track.

(4) The height of banked (to the inside) curves on the indoor track should not exceed 25 mm per 304 mm (1 inch per 1 foot) of the track width.

4.2 Support Spaces

4.2.1 Men’s and Women’s Locker Area

a) Activity Description: The locker rooms will be used by those participating in fitness/sports activities for changing, showering, dressing, and secured storage of personal effects. Toilet facilities will also be provided in this area. Several other functions may be provided in this space such as sauna, steam room, hot tub. Provide separate spaces for each functional activity for men and women.

b) Hours of Use: Daily. Monday through Friday 0600-2200; Saturday/Sunday/Holidays 0900-2000. Coordinate specific hours with local command.

c) User Groups: Military personnel, family members, reservists, retirees, and eligible DOD civilians.

d) Number of Users: Daily average varies by base population and program.

e) Special Finishes Required

(1) Floor covering must be a non-skid, impervious material. Prefer a monolithic floor with integral cove base. If ceramic or quarry tile is used, provide dark color grout.

(2) Lockers are to be installed on a base with an integral bench. The lockers shall be raised a minimum of 1-1/2 inches above the top surface of the bench. The base finish should have the same performance characteristics (not necessarily the same finish characteristics) as the floor finish, and be capable of being hosed down when cleaned.

(3) Materials and finishes shall be water and humidity resistant, and easy to maintain. The preferred wall finish is ceramic tile floor to ceiling with integrated color scheme and/or pattern.

(4) Specify full length, framed mirrors located at the end of each locker row in the dressing rooms, and full width and height from the top of the vanity shelf to the bottom of the overhead soffit lighting.

(5) Specify recessed, wall mounted soap dispensers to help deter vandalizing. Provide nonporous solid surfacing material, such as Corian, counter tops with a 228 to 304 mm (9- to 12-inch) high integral seamless back splash for sink counters. Above the back splash, specify a wall mounted shelf for toiletries. To ensure proper structural support, the counter top should be mounted to three wall sections. An integral counter top and sink are preferred. Sinks may be mounted under or flush with the counter top. This will prevent constant maintenance around the water seal where the counter and sink come into contact. Provide soffit lighting over each counter top. Provide structural support underneath counter between each sink.

(6) The sauna flooring, walls, and ceiling should be cedar or redwood. The sauna flooring should be removable for cleaning of the subfloor. The ceiling height shall be 2734 mm (9 foot 0 inch) minimum.

f) Utilities Requirements

(1) Ventilation system must be capable of controlling excessive odor, heat and humidity common to locker rooms.

(2) Floor drain locations will be positioned at water sources, instead of located in the center of the space, e.g., between the toilets, directly under sinks and in locker areas.

(3) The locker room lighting must be 500 lux (50 footcandles).

(4) Lighting fixtures should have translucent, moisture resistant, nonbreakable, protective covers in place.

g) Furnishing, Built-in and Collateral Equipment List

(1) Lockers, hair dryers, electric water coolers, clocks, benches, scales, bulletin boards, and soap dispensers, and paper towel dispensers with integral trash receptacle.

(2) Lockers: Full-size lockers will be 304 mm by 304 mm by 1828 mm high (12 inches by 12 inches by 72 inches high) and half-size lockers will be 304 mm by 304 mm by 914 mm high (12 inches by 12 inches by 36 inches high). Lockers shall have latches for separate pad locks instead of built-in locks. Full-size lockers are preferred over half-size lockers.

(3) Provide wall shelf and mirror and wall mounted hair dryers at various heights, equipped with rotating heads so the air can be adjusted. Provide one hair dryer for every three shower heads for men and one hair dryer for every two shower heads for women. Locate adjacent to the drying areas.

h) Adjacency Considerations

(1) Locker rooms shall be readily accessible to the activity spaces, lobby, and control desk in the lobby with privacy screening at entrances to eliminate views from adjacent spaces into locker rooms. Provide direct line-of-sight from the control counter to the locker room entrances.

(2) Locker rooms shall have direct access to the shower and toilet spaces, and, if provided, the sauna, steam room, and/or hot tub. Each locker room shall include a wet (direct access to showers) and a dry (direct access to activity spaces) corridor system.

(3) Shower spaces shall have direct access through the drying area from the locker spaces. The toilet spaces shall be adjacent to the locker spaces. If a pool is provided, access between the shower spaces and the toilet spaces and the pool deck should be coordinated to adequately separate wet and dry zones within the locker rooms. Access from the shower spaces and the locker spaces to the toilet spaces shall be through a dry corridor or area.

(4) The sauna and steam rooms shall be adjacent to each other and share an adjacent cool-down space. The sauna, steam room, and cool-down space shall have direct access to the shower spaces and the locker spaces.

i) Special Requirements

(1) The locker rooms, shower and toilet spaces shall be designed to facilitate cleaning by hosing down the spaces, e.g., design locker base and floor drain(s) with proper floor slope and access to a keyed hose bibb with hot and cold water.

(2) Provide individual shower stall in the women’s shower spaces. If gang showers are provided in the men’s shower spaces, provide a separate drying space between the shower space and the locker space. The drying space shall have a bench and clothing and towel hooks on the wall above the bench.

(3) Do not provide urinal screens in the men’s toilets. Deleting them will reduce daily cleaning and maintenance/repairs, eliminate rusting, provide more width clearance, and reduce vandalizing.

(4) Provide toilet location immediately inside locker room entrance. The intent is to separate spectators using toilets from patrons using locker room to minimize flow conflicts.

(5) The sauna shall include wood benches, electric heater with guard rails, tamperproof temperature control, thermometer, hydrometer, temperature and panic alarms with audible monitors at the main control desk, light with exterior switch, door with glass vision panel and panic bar hardware, and clock (hardwired with battery backup) that is outside the sauna and visible through the door vision panel from inside the sauna.

(6) The steam room shall have ceramic tile benches.

(7) The cool-down space shared by the sauna and steam room shall have bench(es) with clothing/towel hooks on the wall above the bench(es).

(8) The sauna, steam room, and cool-down space shall have floor drains with proper floor slope and access to a keyed hose bibb with hot and cold water. The steam room and the cool-down space shall be designed to facilitate cleaning by hosing down the space.

(9) The locker room must have a wall, e.g., glass block wall with an opening, that separates the dry and the wet areas.

(10) For Sauna: Room should be either redwood or cedar; door must provide an adequate seal to retain heat within the sauna; lighting should be sufficient so that the room does not appear dark; and provide a wooden door handle on inside.

(11) For steam room: Floor and benches should be of non-slip tile; ceiling should be pitched for drainage down the walls; floor should be sloped for adequate drainage; a cold water shower with a rope pull-chain should be positioned in the room; lighting should be sufficient for visibility through the steam; and the door must provide an adequate seal to retain steam within this room.

j) Space Size (square meters (feet), occupancy, or unit of equipment):

(1) The patron support area including locker rooms, showers, toilets and sauna rooms must adhere to the following minimum square meter (feet) totals: Xlarge - 650 square meters (7000 square feet); Large - 465 square meters (5000 square feet); Medium - 232 square meters (2500 square feet); Small - 186 square meters (2000 square feet); Xsmall - 93 square meters (1000 square feet). The locker area must have sufficient number of lockers to meet peak demands.

(2) Number of Lockers: Peak usage number plus 10 percent, or one locker per 10 users. Peak usage is 10 percent of military personnel population. Approximately 60 percent of the lockers shall be for men and 40 percent for women, although this ratio may vary due to existing base population mix of military personnel by gender. Approximately .5 square meters (5 square feet) of floor area shall be provided for each 304 mm by 304 mm (12 inches by 12 inches) full-size or half-size locker. A minimum of 70 percent of the lockers shall be full-size. Full-size lockers are preferred over half-size lockers.

(3) The sauna and steam rooms shall provide .7 to .9 square meters (8 to 10 square feet) of floor area for each occupant. The size of the cool-down space shall be approximately 50 percent of the sauna and steam rooms combined size.

4.2.2 Family Locker Room

a) Activity Description: Family locker room affords adequate privacy for mothers and/or fathers with small children a place to change clothes and shower. A family locker room can be a dressing stall with a bench inside the main locker room or separate individual rooms with a dressing area, showers and toilets. Recommend a separate family locker area with private oversized stalls for dressing and showering. Provide toilets, sinks and lockers in an adjacent common area within the family locker room.

b) Hours of Use: Daily. Monday through Friday 0600-2200; Saturday/Sunday/Holidays 0900-2000. Coordinate specific hours with local activity.

c) User Groups: Military personnel, family members, reservists, retirees, and eligible DOD civilians.

d) Number of Users: Capacity will vary based on installation demographics and size.

e) Special Finishes Required

(1) Stall enclosures and doors should be a plastic laminate or solid plastic panel.

(2) Shower walls and floors shall be ceramic tile with dark colored grout. Provide scald-proof water valves. Recessed wall area space to accommodate soap and shampoo. Provide shower curtains in lieu of shower doors.

(3) Floor covering must be a non-skid, impervious material. Prefer a monolithic floor with integral cove base. If ceramic or quarry tile is used, provide dark color grout.

(4) Lockers must be installed on a base with an integral bench. The lockers shall be raised a minimum of 1-1/2 inches above the top surface of the bench. The base finish should have the same performance characteristics (not necessarily the same finish characteristics) as the floor finish, and be capable of being hosed down when cleaned.

(5) Specify recessed, wall mounted soap dispensers to help deter vandalizing. Provide nonporous solid surfacing material, such as Corian, counter tops with a 228 to 304 mm (9- to 12-inch) high integral seamless back splash for sink counters. Above the back splash, specify a wall mounted shelf for toiletries. To ensure proper structural support, the counter top should be mounted to three wall sections. An integral counter top and sink are preferred. Sinks may be mounted under

or flush with the counter top. This will prevent constant maintenance around the water seal where the counter and sink come into contact. Provide soffit lighting over each counter top. Provide structural support underneath counter between each sink.

f) Utilities Requirements

(1) The locker room lighting must be 500 lux (50 footcandles).

(2) Fluorescent lighting should be used with translucent, nonbreakable, moisture resistant protective covers.

g) Furnishing, Built-in and Collateral Equipment List: Lockers, hair dryers, clocks, benches, soap dispensers, paper towel dispensers with integral waste receptacles, and mirrors above sink countertops, and diaper changing station.

h) Adjacency Considerations: Family locker rooms shall be adjacent to the men's and women's locker rooms with access from a common corridor. If the complex includes a swimming pool, the family locker room shall have direct access to this area.

i) Special Requirements

(1) The following number of private family stalls for the family locker rooms are recommended by base size: Xsmall - one family stall; Small - two family stalls; Medium - three family stalls; Large - four family stalls; Xlarge - five family stalls.

(2) Dressing area should be sized for two adults or a parent and two children.

(3) A 456 mm by 1219 mm (18 inch by 48 inch) water resistant bench and a minimum of four wall hooks for towel and clothes are recommended for each family changing/dressing stall.

(4) Three full-size lockers per private family stall should be located in the common area of the family locker room.

(5) Restroom should contain a water closet, lavatory with mirror and lighting above, towel hook, soap dispenser, paper towel dispenser, toilet tissue dispenser, and trash receptacle. Outside this room in the common area, recommend location of a mirror with a shelf and hair-drying space.

(6) Stall doors should swing into the dressing areas to minimize impact on the adjacent common circulation area. Provide a minimum 76.2 mm (3-inch) gap at the top and bottom of the stall doors to allow for air circulation through each stall.

(7) Provide floor drain(s) with proper floor slope

(8) Provide hose bibb for cleaning

j) Space Size (square meters (feet), occupancy, or unit of equipment): The following square footage is recommended by base size: Xsmall - 9.3 to 18.6 square meters (100 to 200 square feet); Small - 18.6 to 27.9 square meters (200 to 300 square feet); Medium - 27.9 to 37.1 square meters (300 to 400 square feet); Large - 37.1 to 46.5 square meters (400 to 500 square feet); Xlarge - 46.5 to 55.7 square meters (500 to 600 square feet).

4.3 Staff Spaces

4.3.1 Control Counter and Administrative Area

a) Activity Description: The control counter is often referred to as the front desk or reception desk. It's the focal point of information exchange within the building and is the check-in location for patrons. The control desk provides for direct supervision of the facility as well as greeting and informing patrons and directing them to their particular activity area. Additionally, the control desk serves as the focal point for safety and emergency situations.

(1) Vending can be provided as an over-the-counter service at the control counter and/or within a self-service stand alone space with vending machines. Provide adequate counter space, storage, and utilities to support vending requirements.

(2) The administrative area provides organizational and technical support functions for the recreational sports and fitness section, such as athletic director, fitness coordinator, facility director. The functions of the gear issue and laundry room and the pro shop shall be combined with this area according to the program requirements and facility size.

b) Hours of Use: Daily. Monday through Friday 0600-2200; Saturday/Sunday/Holidays 0900-2000. Coordinate specific hours with local command.

c) User Groups: Staff personnel and patrons needing assistance and/or information.

d) Number of Users: Daily average varies by base population and program.

e) Special Finishes Required

(1) The control area or administrative area shall have a floor-to-writing-surface height of 1062 mm (42 inches) on the patron side of the control counter. Consider overhead storage located above the counter.

(2) Sufficient space must be provided at the control desk for cabinets, computers, cash register and other necessary operating equipment if the area is separate from the administrative spaces.

f) Utilities Requirements

(1) Provide electrical receptacles to support computers, copy machine, PA system, and phone jacks.

(2) Provide controls at the counter for the facility support systems, e.g., lighting system, PA system, security monitor, and AV controls, located throughout the complex.

(3) If vending is provided as another over-the-counter service, provide necessary utilities to support the requirement. If collateral vending equipment is required for over-the-counter service, specify the correct counter heights, cutouts, utility requirements to support the equipment.

g) Furnishing, Built-in and Collateral Equipment List

(1) Provide a bi-level control counter, low for visual monitoring and high for completing paperwork/forms, and have shelving/drawers underneath. Provide stand-up height for patrons and desk height for staff use. The control desk shall have space for optional vending equipment, bulletin boards, chairs(s), waste receptacle, and a mobile laundry cart.

(2) Each individual administrative space must be large enough to accommodate the following items: work desk with chair, computer, filing cabinet, and guest chair. In addition, provide general office space for community equipment, such as copy machine, printer, general office supplies, files and waste receptacles. If a safe is required, provide a location for it in a storage cabinet or closet.

h) Adjacency Considerations

(1) The control desk shall be easily identifiable and locatable upon entering the facility. The control counter should be incorporated as an integral part of the lobby and as a transition between the public and staff spaces. The control desk should be adjacent and readily accessible to the administrative, gear issue, laundry and staff spaces. Staff working at the control desk shall be able to visually monitor the access points

to the activity, support, and public spaces. If equipment and towels are issued from the control desk, provide a separate but adjacent storage room for the equipment and towels.

(2) Adjacent to each other as well as to the control desk and the gear issue and laundry room, the administrative office spaces shall be readily accessible to activity and support areas. Visual monitoring of the control desk and the optional pro shop from the office spaces should be required. The facility director shall have a separate office space.

i) Special Requirements

j) Space Size (square meters (feet), occupancy, or unit of equipment): The following square meter (footage) requirements must be maintained for each control counter/administration area by installation: Xlarge - 93 square meters (1000 square feet); Large - 84 square meters (900 square feet); Medium - 74 square meters (800 square feet); Small - 56 square meters (600 square feet) and Xsmall - 37 square meters (400 square feet).

4.3.2 Gear Issue and Laundry Room

a) Activity Description: An area for patrons to check out athletic gear and recreation equipment for leisure use. Storage and laundry facilities should be located in this area.

b) Hours of Use: Daily. Monday through Friday 0600-2200; Saturday/Sunday/Holidays 0900-2000. Coordinate specific hours with local command.

c) User Groups: Military personnel, family members, reservists, retirees, and eligible DOD civilians. Gear issue and laundry room will be operated by authorized staff members only.

d) Number of Users: Daily average varies by base population and program.

e) Special Finishes Required

(1) The floor of the gear issue area shall be a moisture-proof, non-skid surface that is resistant to detergents and bleaching agents. Additionally, the floor of the laundry area shall be reinforced for the washers and dryers. The floor material and finish should be able to withstand repetitive use by wheeled laundry and equipment carts. The walls and ceiling should be moisture and humidity resistant. Finish suspended ceiling is not a requirement in the laundry room.

(2) Large 1067 mm (42-inch) wide doors. Protect doors and walls from impact by carts and the movement of equipment. Recommend durable finishes and metal/high impact plastic corner guards.

f) Utilities Requirements

(1) The required lighting level is 500 lux (50 footcandles).

(2) Lighting fixtures should have translucent, nonbreakable, and moisture resistant with protective covers.

(3) Coordinate utility requirements and electrical receptacles with a commercial grade washer and dryer extractor.

g) Furnishing, Built-in and Collateral Equipment List

(1) The gear issue shall have adjustable shelving and counters for storage and distribution of athletic gear and recreation equipment.

(2) The laundry area must have the following types of equipment: Washers (commercial grade) - 35- to 50-pound capacity; dryers (commercial grade) - 50- to 120-pound capacity; tables with integral shelf below, ice machine (locate adjacent to utility sink and provide separate floor drain), storage bins, and utility sink.

(3) There shall be a minimum of two dryers per washer.

h) Adjacency Considerations

(1) The gear issue room shall be readily accessible to activity and support spaces. The space shall be adjacent to staff administration spaces and/or the control counter. This space may function with the equipment and towels issued from the control counter and stored in a separate but adjacent room.

(2) The laundry room shall be readily accessible to the gear issue room, and adjacent to the staff administration spaces.

i) Special Requirements

(1) Coordinate door openings and dimensions with room layout and equipment sizes, e.g., laundry carts, washers, dryers, and ice machines.

(2) Provide acoustical measures to control the noise/vibration of the washers and dryers.

(3) Provide floor drain(s) with proper floor slope.

(4) Provide bulk storage for laundry supplies.

(5) Laundry room shall not be visible from lobby area.

j) Space Size (square meters (feet), occupancy, or units of equipment):

(1) The following are the square meter/footage requirements that must be maintained for each gear issue area by installation: Xlarge - 111 square meters (1200 square feet); Large - 93 square meters (1000 square feet); Medium - 74 square meters (800 square feet); Small - 56 square meters (600 square feet); Xsmall - 46 square meters (500 square feet).

(2) The customer service/issue counter must be large enough to accommodate patrons at peak demand times.

(3) A laundry area between 14 to 28 square meters (150 to 300 square feet) of floor space shall be located within the gear issue area.

4.3.3 Gym Equipment Storage Room

a) Activity Description: A room for storage of equipment and supplies, e.g., roll-away basketball goals, volleyball standards, gymnasium floor protective covering, and telescopic platform for maintenance/repair, needed for program support. Coordinate with overhead storage.

b) Hours of Use: Daily. Coordinate specific hours with local command.

c) User Groups: Access by authorized staff members only.

d) Number of Users: Varies by staff size and program.

e) Special Finishes Required: The entry way shall consist of a locking double door size with flush sills and sufficient height to facilitate movement of equipment.

f) Utilities Requirements: Provide electrical receptacles and task lighting utilities at the work bench.

g) Furnishing, Built-in and Collateral Equipment List: There shall be adequate shelving, bins, and open end cubicles for storage of athletic equipment and supplies for both in and out of season.

h) Adjacency Considerations: The storage area should have direct access to the gymnasium and be readily accessible to the gear issue area.

i) Special Requirements

(1) Provide a small 2438 mm by 609 mm (8-foot 0-inch by 2-foot 0-inch) area with a work bench for equipment repair within the storage area.

(2) Provide a secure space for storage of extra resale items, e.g., pro shop and vending merchandise.

(3) In addition to the gym storage room, a separate storage area accessible from the exterior may be provided for exterior sports and athletic equipment, e.g., bleachers and soccer goals.

j) Space Size (square meters (feet), occupancy, or unit of equipment): The following are the square meter/footage requirements that should be maintained for the gym equipment storage area by installation: Xlarge - 116 square meters (1250 square feet); Large - 93 square meters (1000 square feet); Medium - 74 square meters (800 square feet); Small - 56 square meters (600 square feet); Xsmall - 46 square meters (500 square feet).

4.3.4 Multipurpose Activity Room

a) Activity Description: Primarily for classes, seminars, meetings, and special interest groups.

b) Hours of Use: Available Daily. Monday through Friday 0600-2200; Saturday/Sunday/Holidays 0900-2000. Coordinate specific hours with local command.

c) User Groups: Military personnel, family members, reservists, retirees, and eligible DOD civilians.

d) Number of Users: Daily average varies by base population and program.

e) Special Finishes Required

(1) The floor of the room shall be carpet and/or vinyl composition tile with vinyl cove base.

(2) Provide continuous wall guard similar to a chair rail.

f) Utilities Requirements

(1) Recessed fluorescent lighting should be used with translucent, nonbreakable, protective covers in place.

(2) Provide overhead viewing/projection screen to support audio-visual (AV) requirements, e.g., television, VCR, slide projector, and overhead projector.

(3) In addition to wall outlets, provide flush mounted floor outlets to support AV requirements.

g) Furnishing, Built-in and Collateral Equipment List

(1) Bulletin board/marker board.

(2) Pull-down screen for AV equipment.

(3) Electric wall clock/wall receptacle.

(4) AV equipment, e.g., television, VCR, slide projector, and overhead projector.

(5) Stacking chairs and folding tables with mobile storage carts.

(6) Drinking fountain in close proximity.

(7) Counter with sink, cabinets and kitchenette, and coat rack are optional.

(8) Waste receptacle(s).

h) Adjacency Considerations: Provide direct access from the lobby for visibility from the control counter. The room should be adjacent to the staff administration spaces.

i) Special Requirements: A built-in storage room with shelving, lighting, and lock is required for supplies, the sound system, and AV equipment.

j) Space Size (square meters (feet), occupancy, or unit of equipment): The multipurpose activity area must have a minimum of 139 square meters (1500 square feet) with a ceiling height of 3657 mm (12 feet). Space for an extra-small base is 46 square meters (500 square feet) minimum.

4.3.5 Pro Shop (Optional)

a) Use: The pro shop should provide a space for selling athletic/exercise related products, repair, such as restringing rackets, and retail storage for athletic equipment and clothing as well as exercise/fitness related food and beverages.

b) Hours of Use: Daily. Coordinate specific hours with local command.

c) User Groups: Military personnel, family members, reservists, retirees, and eligible DOD civilians.

d) Circulation and Adjacency Considerations: The pro shop shall be adjacent to the control counter area, lobby, and administration offices. Depending on the program requirements, the pro shop may be an integral part of the control desk and administrative office(s) areas, e.g., retail display above/below control counter.

e) Size: Coordinate with activity and program requirements.

f) Equipment and Furnishings: Decorative display wall system paneling, e.g., slat wall systems and storage shelving units, service counter with cash register, work bench with applicable tools/equipment, tack board, and waste receptacle. Provide refrigeration equipment for the cool storage of exercise/fitness related drinks.

g) Materials and Finishes: Recommend ceiling mounted adjustable track lighting be provided to highlight accent retail sales displays walls or other special sales areas in the pro shop.

h) Special Requirements: A separate fitting room space to try-on clothing. Also, chairs or bench for trying on shoes. Provide for a full length, framed mirrors in the retail area and in the dressing room.

i) Ceiling Height: Provide a ceiling height minimum of 3048 mm (10 feet).

4.4 Public and Other Spaces

4.4.1 Lobby

a) Use: The lobby serves as the primary entrance to the facility for patrons, visitors, and spectators. Optional co-use functions that may be provided include vending and spectator seating.

b) Hours of Use: Daily. Monday through Friday 0600-2200; Saturday/Sunday/Holidays 0900-2000. Coordinate specific hours with local command.

c) User Groups: Military personnel, family members, reservists, retirees, and eligible DOD civilians.

d) Circulation and Adjacency Considerations: Direct access from the lobby is required to the control counter and all spectator viewing areas. Also provide convenient access to activity and support spaces.

e) Size: Coordinate with activity and program requirements.

f) Equipment and Furnishings: Tack boards and public pay telephones, concession/vending machines, electric water cooler, waste receptacles, chairs/bench seating (optional), display case (optional).

g) Materials and Finishes: Provide durable floor finish to withstand high traffic area.

h) Special Requirements: Provide recessed, interchangeable walk-off mats in vestibule to reduce tracked-in dirt and debris that will quickly wear the interior floor finishes.

i) Ceiling Height: Provide a ceiling height minimum of 3048 mm (10 feet).

4.4.2 Public Toilets

a) Use: These toilet rooms are used primarily by visitors, spectators, and persons not using the locker and shower rooms. Separate restrooms shall be provided for men and women.

b) Hours of Use: Daily. Monday through Friday 0600-2200; Saturday/Sunday/Holidays 0900-2000. Coordinate specific hours with local command.

c) User Groups: These toilets are to be used primarily by personnel such as visitors and spectators not using the activity spaces.

d) Circulation and Adjacency Considerations: These rooms should be located adjacent to the lobby and be readily accessible to spectator viewing areas.

e) Size: Coordinate with activity and program requirements.

f) Equipment and Furnishings: Provide fold-down diaper changing table/station.

g) Materials and Finishes: Room materials and finishes shall be water and humidity resistant similar to locker room finishes.

h) Special Requirements: Provide floor drains. Do not provide urinal screens in the men's toilet area. Deleting them will reduce daily cleaning and maintenance/repairs, eliminate rusting, provide more width clearance, and reduce vandalizing.

4.4.3 Vending. Vending can be provided as an over-the-counter service at the control counter and/or within a self-service stand alone space with vending machines.

a) Use: This space contains vending machines.

b) Hours of Use: Daily. Monday through Friday 0600-2200; Saturday/Sunday/Holidays 0900-2000. Coordinate specific hours with local command.

c) User Groups: Military personnel, family members, reservists, retirees, and eligible DOD civilians.

d) Circulation and Adjacency Considerations: This space shall be adjacent to the lobby, and shall be readily accessible to spectator viewing areas. The ability to visually monitor access to this space from the control counter should be required to limit consumption of food and beverages to the non-athletic areas. Coordinate the location of this space with the service area where the vendors will park and the path they will travel to service the machines. Locating vending machines in public view also helps discourage vandalizing.

e) Size: Coordinate with activity and program requirements.

f) Equipment and Furnishings: Vending machines for items such as coffee, soft drinks, juices, candy, and snacks; and counter (optional); waste receptacles and recycling containers.

g) Materials and Finishes: Materials and finishes shall be durable, capable of sustaining liquid spills and easily maintained; avoid carpet as floor material.

h) Special Requirements: Provide and coordinate electrical receptacles with vending machine requirements. Consider floor drains for spillage and cleaning. The vending area, if a stand alone space, should be identifiable, visually screened but not totally enclosed, and visually accessible from the control desk in the lobby.

4.4.4 Corridors

a) Use: The corridors provide the means for circulation of patrons, staff, spectators, and visitors.

b) Hours of Use: Daily. Monday through Friday 0600-2200; Saturday/Sunday/Holidays 0900-2000. Coordinate specific hours with local command.

c) User Groups: Military personnel, family members, reservists, retirees, and eligible DOD civilians.

d) Circulation and Adjacency Considerations: The corridors shall link the lobby to all activity, support, staff, and public spaces.

e) Size: Minimum width shall be 2438 mm (8 feet 0 inch). Coordinate with activity and program requirements.

f) Equipment and Furnishings: Provide trash containers and bench seating (optional).

g) Materials and Finishes: Recommend installing hard surface floor finish for durability and ease of maintenance. Carpet is not preferred.

4.4.5 Mechanical Room, Electrical Closet, and Janitor’s Closet

a) Use: The mechanical room and the electrical closet(s) serve as the primary locations for mechanical, electrical, and communication equipment. The janitor’s closet provides storage space for custodial equipment and supplies.

b) Hours of Use: Coordinate specific hours with local command.

c) User Groups: Staff and contractors only.

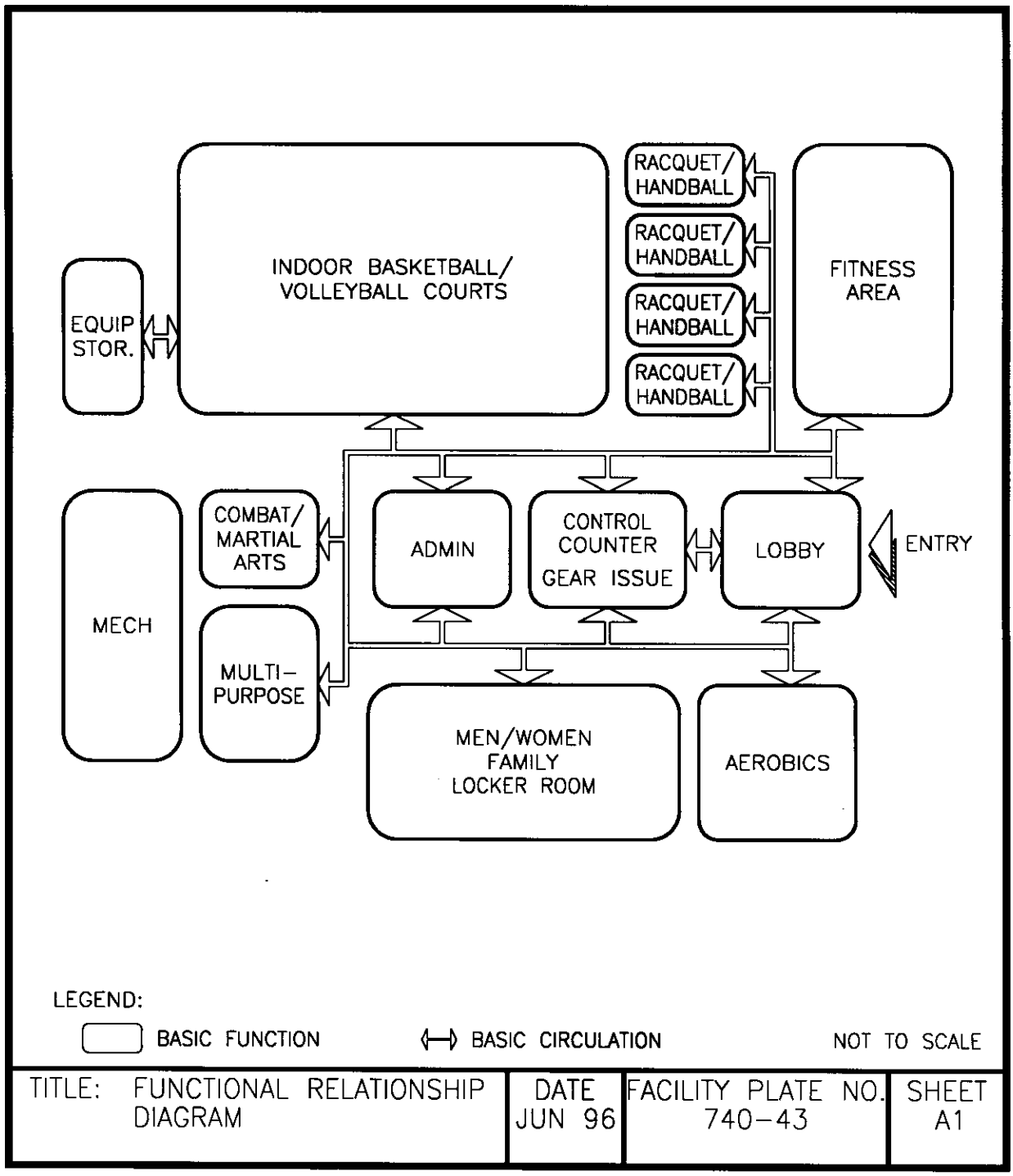
d) Circulation and Adjacency Considerations: The mechanical room shall have direct access to an exterior service area usually through double doors for equipment removal/ replacement. The electrical closet(s) shall be located adjacent to the mechanical room where possible. The janitor’s closet shall be located in close proximity to the locker/shower rooms and toilets with direct access to a corridor. The mechanical room, electrical closet(s), and janitor’s closet shall not be located adjacent to the lobby.

e) Size: Adequate to contain required equipment.

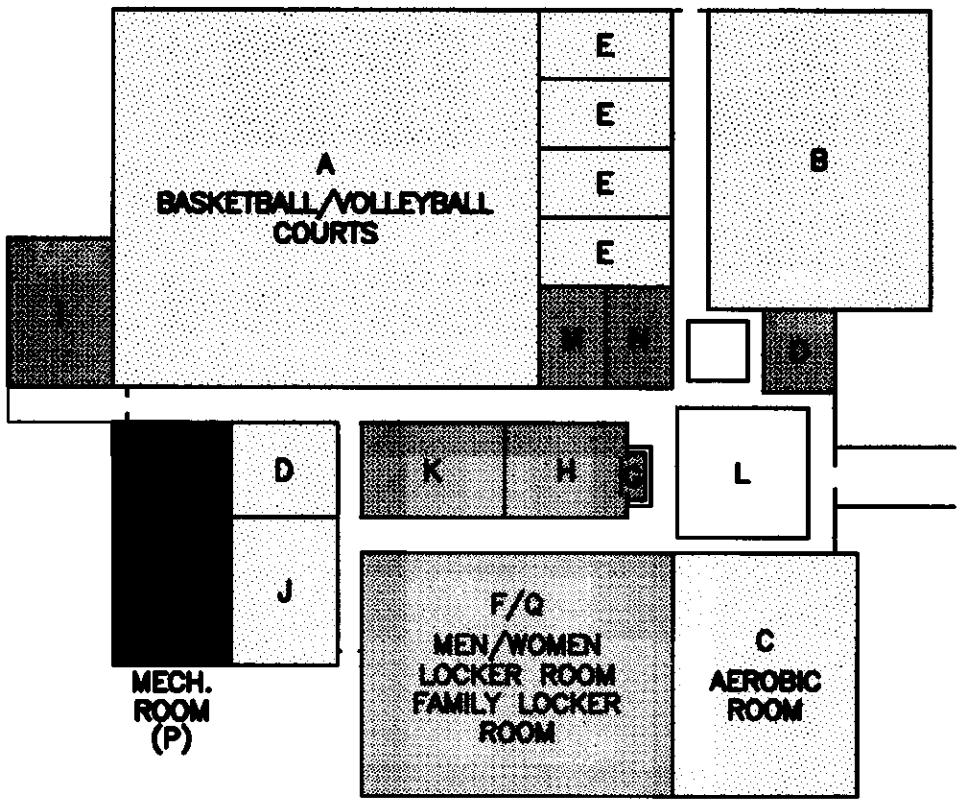
f) Equipment and Furnishings: The janitor’s closet shall include a mop receptor or utility sink, mop rack, lighting and shelving.

g) Materials and Finishes: A concrete floor finish is adequate in the mechanical and electrical rooms. The janitor's closet may be concrete or finished with vinyl composition tile.

h) Special Requirements: Provide adequate floor space in the janitor closet for storage of portable cleaning equipment, e.g., vacuum cleaners and floor buffers. Provide a floor drain in each janitor closet.



TITLE: FUNCTIONAL RELATIONSHIP DIAGRAM	DATE JUN 96	FACILITY PLATE NO. 740-43	SHEET A1

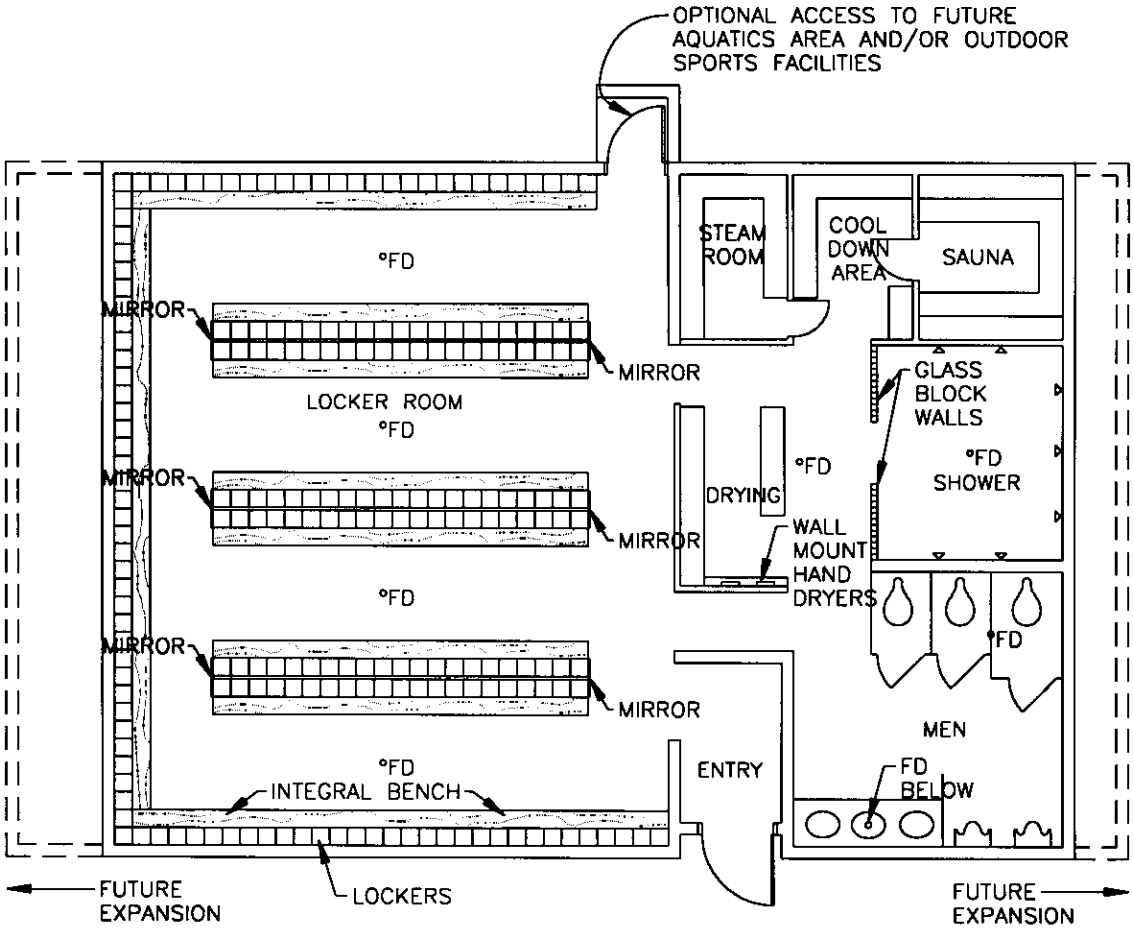


INDOOR FITNESS RECREATIONAL FACILITY (LAYOUT)

A INDOOR BASKETBALL/VOLLEYBALL COURTS
B FITNESS AREA
C AEROBIC ROOM
D COMBATIVE/MARTIAL ARTS ROOM
E RACQUETBALL/HANDBALL COURTS
F MEN'S AND WOMEN'S LOCKER ROOM
G CONTROL COUNTER & GEAR ISSUE (PRO-SHOP OPTIONAL)
H GEAR ISSUE STORAGE & LAUNDRY ROOM
I GYM EQUIPMENT STORAGE ROOM
J MULTI-PURPOSE ACTIVITY ROOM
K ADMINISTRATION AREA
L LOBBY
M MEN
N WOMEN
O VENDING
P MECH. RM, ELECT. CLOS. & JAN. CLOS.
Q FAMILY LOCKER ROOM

NOT TO SCALE

TITLE: INDOOR FITNESS RECREATIONAL FACILITY	DATE JUN 96	FACILITY PLATE NO. 740-43	SHEET A2

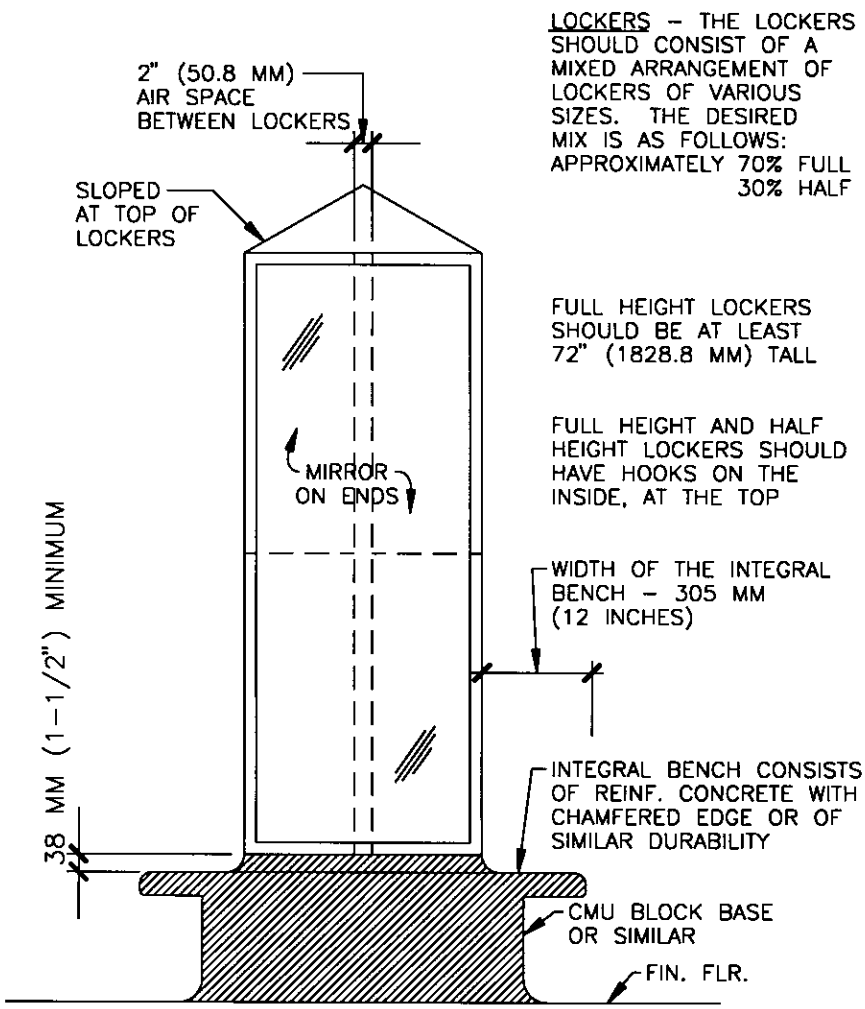


MEN'S LOCKER AREA (LAYOUT)

TOTAL AREA: MEN'S & WOMEN'S LOCKER AREA
XLARGE 650sm (7000sf), LARGE 465sm (5000sf), MEDIUM 232sm (2500sf), SMALL 186sm (2000sf), XSMALL 93sm (1000sf).

NOT TO SCALE

TITLE: MEN'S LOCKER AREA	DATE JUN 96	FACILITY PLATE NO. 740-43	SHEET A3



LOCKERS - THE LOCKERS SHOULD CONSIST OF A MIXED ARRANGEMENT OF LOCKERS OF VARIOUS SIZES. THE DESIRED MIX IS AS FOLLOWS:
APPROXIMATELY 70% FULL HEIGHT
30% HALF HEIGHT

FULL HEIGHT LOCKERS SHOULD BE AT LEAST 72" (1828.8 MM) TALL

FULL HEIGHT AND HALF HEIGHT LOCKERS SHOULD HAVE HOOKS ON THE INSIDE, AT THE TOP

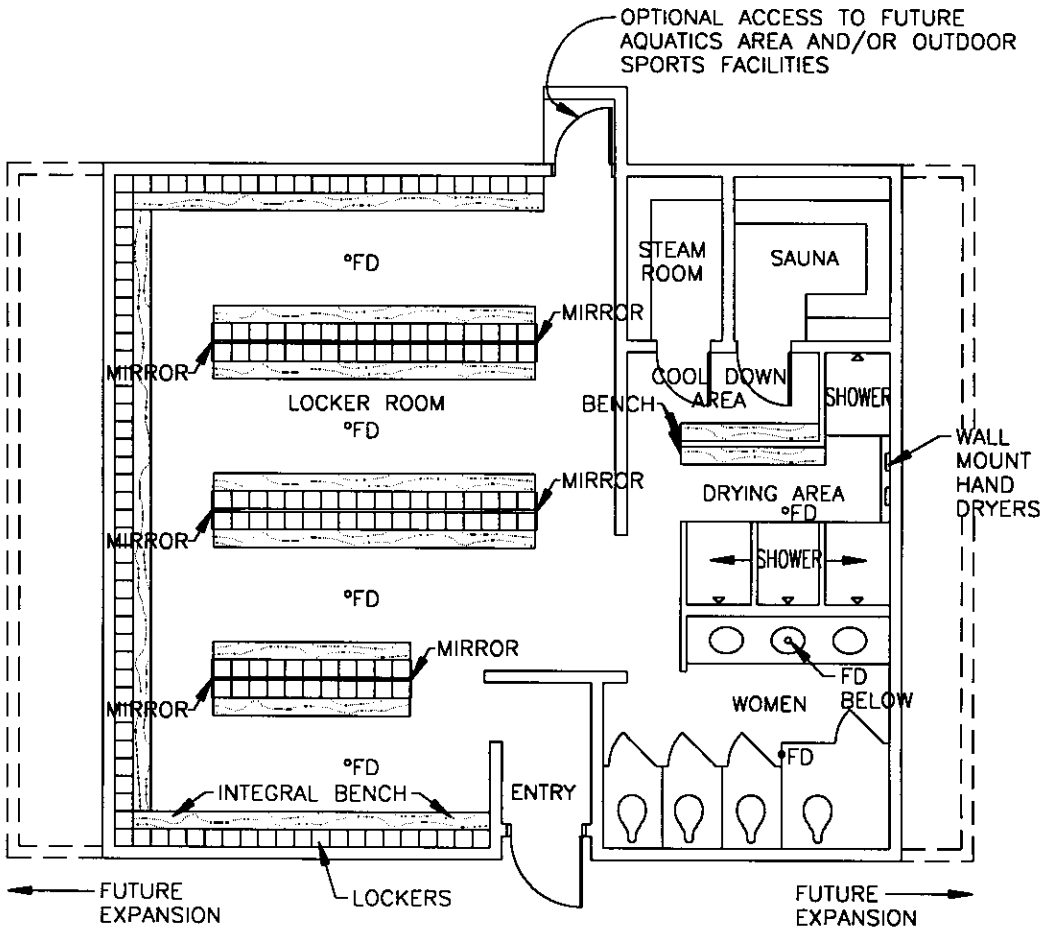
WIDTH OF THE INTEGRAL BENCH - 305 MM (12 INCHES)

INTEGRAL BENCH CONSISTS OF REINF. CONCRETE WITH CHAMFERED EDGE OR OF SIMILAR DURABILITY

LOCKER SECTION
(MEN & WOMEN'S LOCKER AREA)

NOT TO SCALE

TITLE: TYPICAL LOCKER SECTION	DATE JUN 96	FACILITY PLATE NO. 740-43	SHEET A4

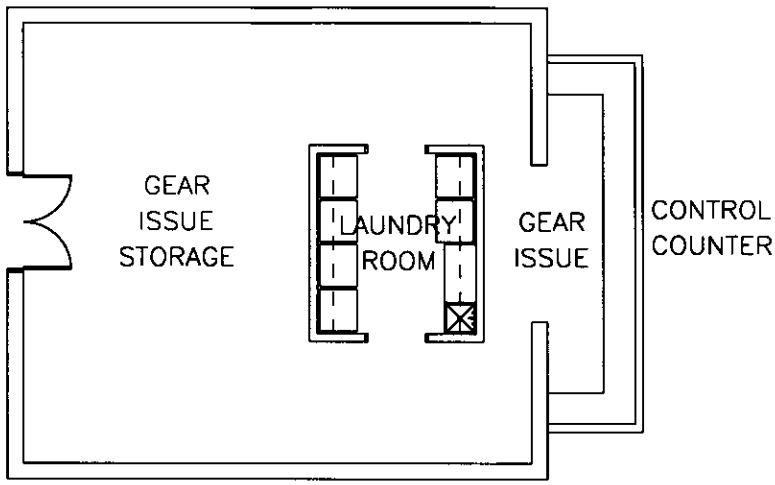


WOMEN'S LOCKER AREA (LAYOUT)

TOTAL AREA: MEN'S & WOMEN'S LOCKER AREA
XLARGE 650sm (7000sf), LARGE 465sm (5000sf), MEDIUM 232sm (2500sf), SMALL 186sm (2000sf), XSMALL 93sm (1000sf).

NOT TO SCALE

TITLE: WOMEN'S LOCKER AREA	DATE JUN 96	FACILITY PLATE NO. 740-43	SHEET A5

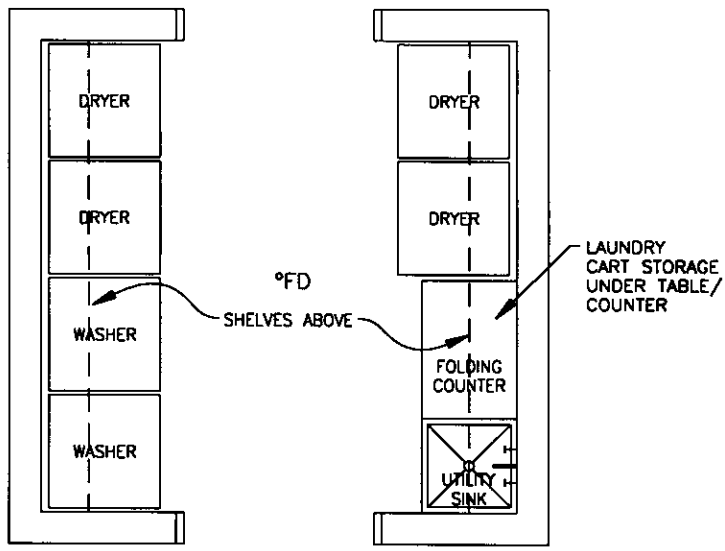


CONTROL COUNTER/GEAR ISSUE (LAYOUT)

GEAR ISSUE AND LAUNDRY ROOM – XLARGE 111sm (1200sf), LARGE 93sm (1000sf), MEDIUM 74sm (800sf), SMALL 56sm (600sf), XSMALL 46sm (500sf).

NOT TO SCALE

TITLE: CONTROL COUNTER AREA, GEAR ISSUE AREA	DATE JUN 96	FACILITY PLATE NO. 740-43	SHEET A6

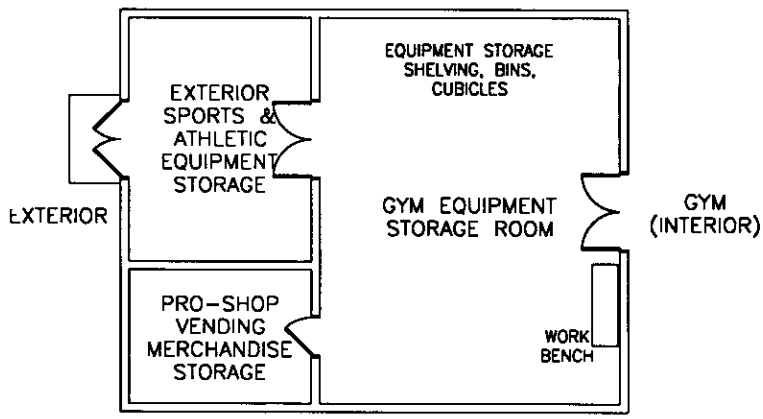


NOTE: PROVIDE A CASED DOUBLE DOOR WIDTH OPENING.

FLOOR PLAN

GRAPHIC SCALE:
0 1 2 3 4 5 6 7 8 FEET
0 1 2 METERS

TITLE: LAUNDRY ROOM	DATE JUN 96	FACILITY PLATE NO. 740-43	SHEET A7

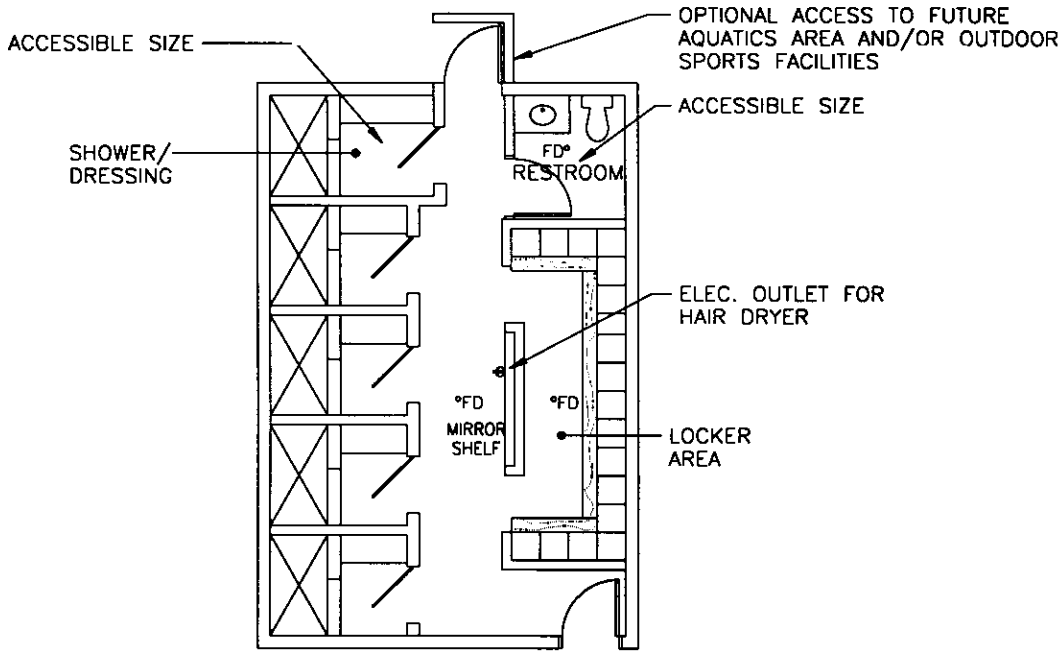


GYM EQUIPMENT STORAGE ROOM (LAYOUT)

CAPACITIES - XLARGE 116sm (1250sf), LARGE 93sm (1000sf), MEDIUM 74sm (800sf), SMALL 56sm (600sf), XSMALL 46sm (500sf).

NOT TO SCALE

TITLE: GYM EQUIPMENT STORAGE ROOM AREA	DATE JUN 96	FACILITY PLATE NO. 740-43	SHEET A8

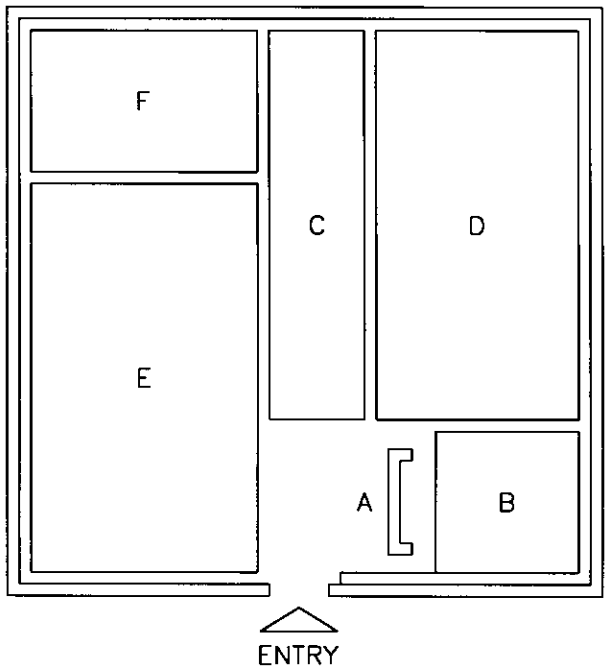


FAMILY LOCKER ROOM (LAYOUT)

FAMILY LOCKER ROOM – XLARGE (5 family stalls/46.5sm to 55.7sm (500sf to 600sf), LARGE (4 family stalls/37.1sm to 46.5sm (400sf to 500sf), MEDIUM (3 family stalls/27.9sm to 37.1sm (300sf to 400sf), SMALL (2 family stalls/18.6sm to 27.9sm (200sf to 300sf), XSMALL (1 family stall/9.3sm to 18.6sm (100sf to 200sf).

NOT TO SCALE

TITLE: FAMILY LOCKER ROOM AREA	DATE JUN 96	FACILITY PLATE NO. 740-43	SHEET A9

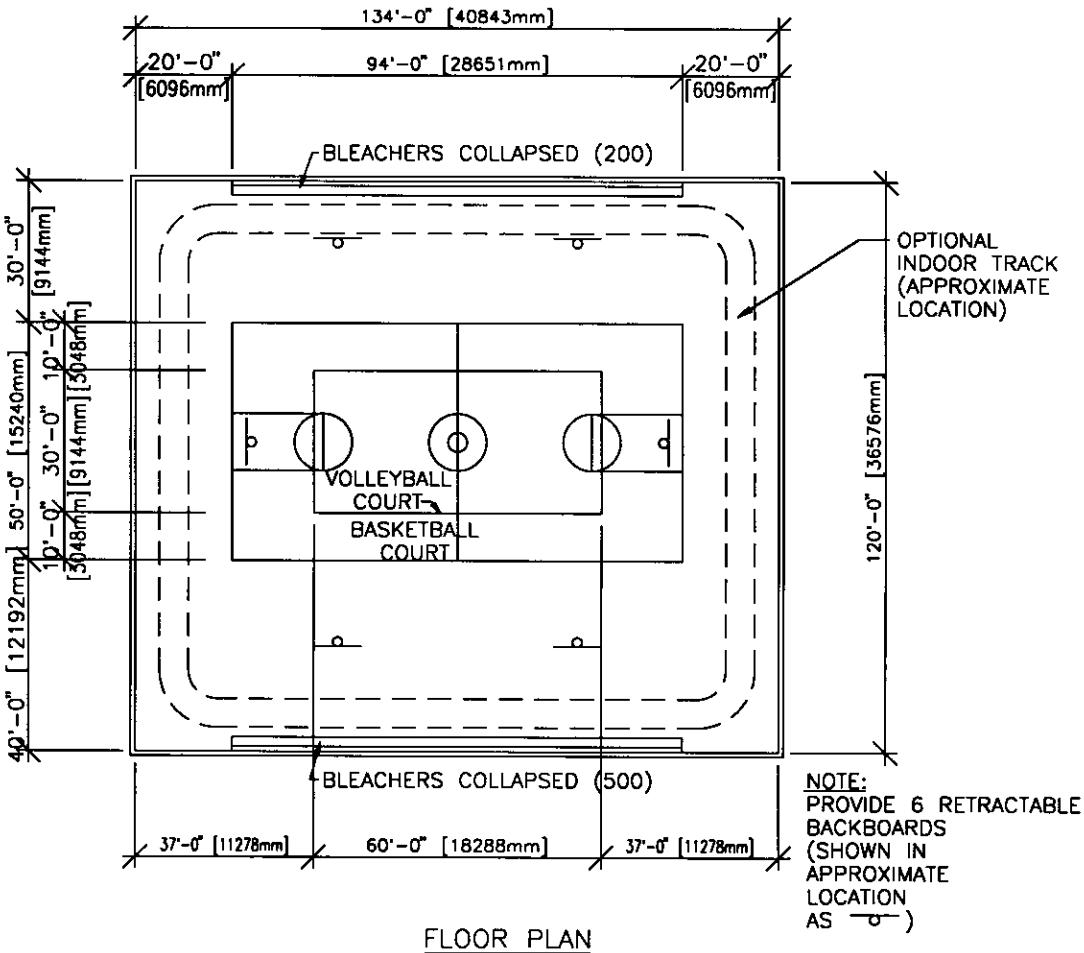


FITNESS AREA (LAYOUT)

A. Control Desk
B. Fitness Specialist Office/ Fitness Testing Room
C. Warm-Up/Cool Area
D. Cardiovascular Equipment Area
E. Circuit Training Machine Area
F. Free Weight Area

NOT TO SCALE

TITLE: FITNESS AREA	DATE JUN 96	FACILITY PLATE NO. 740-45	SHEET B1

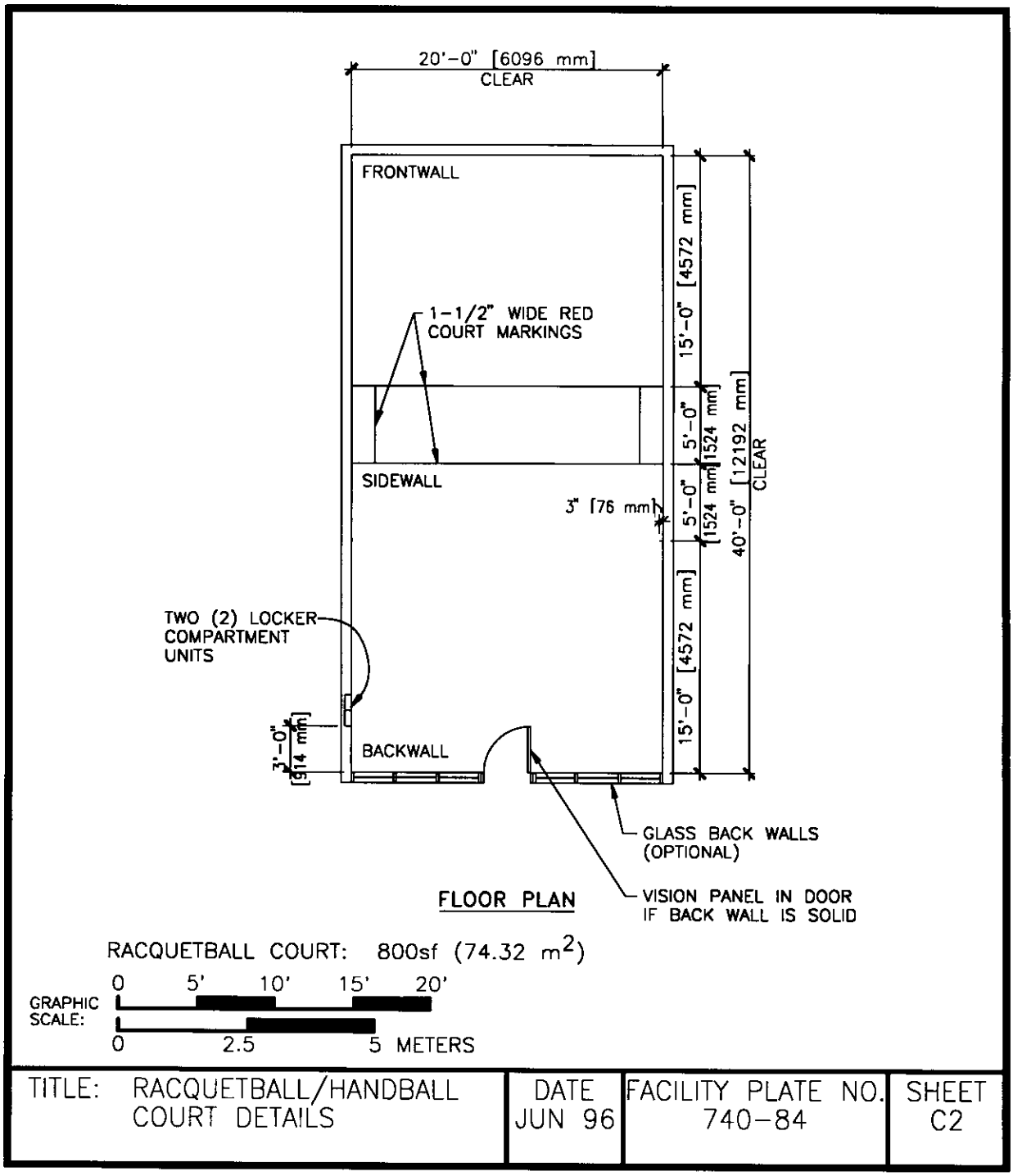


FLOOR PLAN

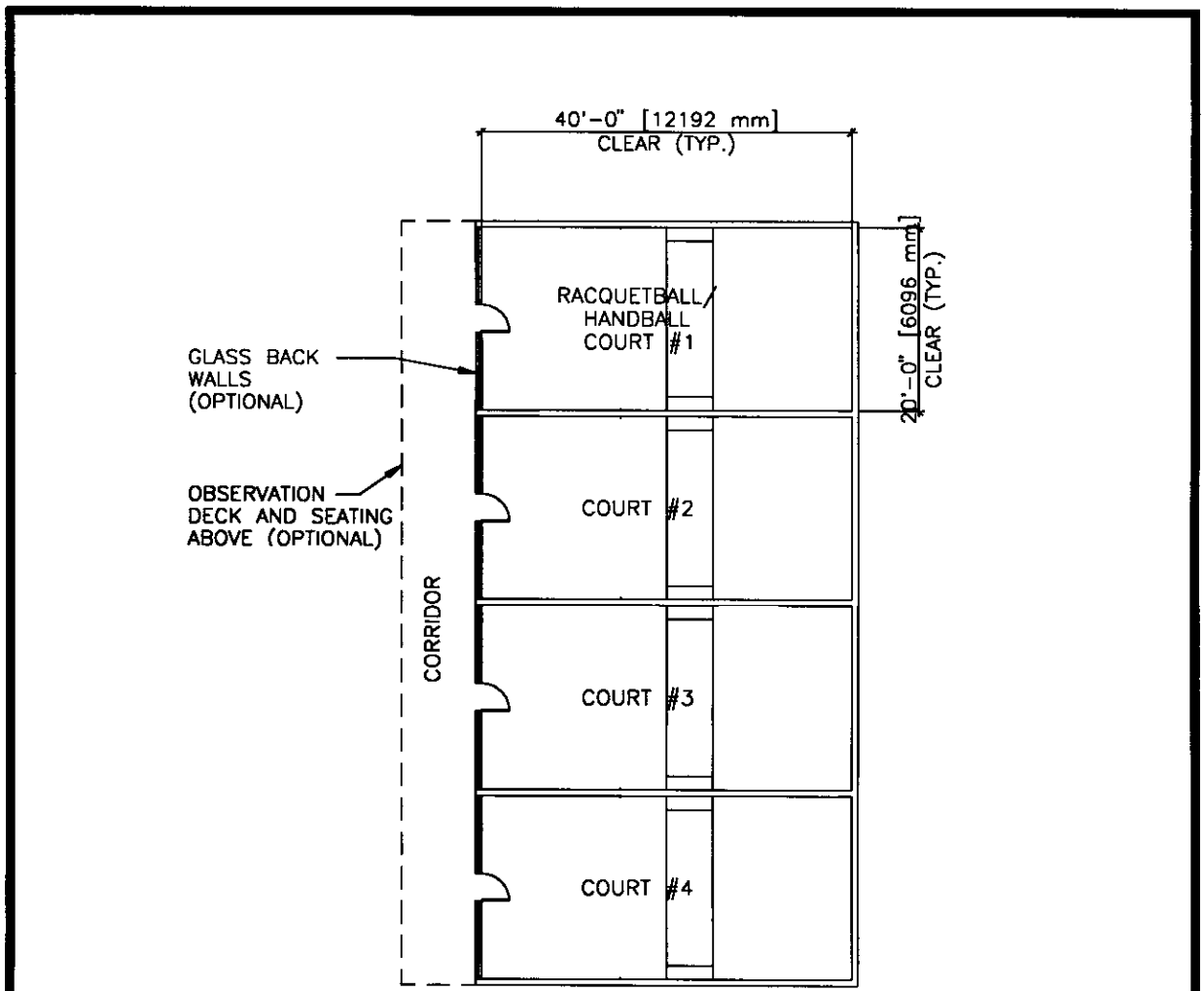
BASKETBALL COURT: 94 FT. x 50 FT.
VOLLEYBALL COURT: 30 FT. x 60 FT.
BLEACHERS (TELESCOPIC): CAPACITIES – XLARGE (700 seats), LARGE (600 seats), MEDIUM (500 seats), SMALL (300 seats), XSMALL (200 seats).

GRAPHIC SCALE:
0 40' 80'
0 10 20 METERS

TITLE: INDOOR BASKETBALL VOLLEYBALL COURTS	DATE JUN 96	FACILITY PLATE NO. 740-84	SHEET C1



TITLE: RACQUETBALL/HANDBALL COURT DETAILS	DATE JUN 96	FACILITY PLATE NO. 740-84	SHEET C2



FLOOR PLAN

TITLE: RACQUETBALL/HANDBALL COURTS	DATE JUN 96	FACILITY PLATE NO. 740-84	SHEET C3

REFERENCES

NOTE: FOLLOWING REFERENCED DOCUMENTS FORM A PART OF THIS HANDBOOK TO THE EXTENT SPECIFIED HEREIN. USERS OF THIS HANDBOOK SHOULD REFER TO THE LATEST REVISIONS OF CITED DOCUMENTS UNLESS OTHERWISE DIRECTED.

FEDERAL/MILITARY SPECIFICATIONS, STANDARDS, BULLETINS, HANDBOOKS AND NAVFAC GUIDE SPECIFICATIONS:

Unless otherwise stated, copies are available from the Naval Publications and Forms Center, Standardization Document Order Desk, Building 4D, 700 Robbins Avenue, Philadelphia, PA 19111-5094.

STANDARDS

FED-STD-795	Uniform Federal Accessibility Standards

HANDBOOKS

MIL-HDBK-1001/1	Basic Architectural Requirements and Design Considerations
MIL-HDBK-1001/5	Roofing and Waterproofing
MIL-HDBK-1002/1	Structural Engineering-General Requirements
MIL-HDBK-1003/3	Heating, Ventilating, Air Conditioning, and Dehumidifying Systems
MIL-HDBK-1004/1	Preliminary Design Considerations
MIL-HDBK-1004/2	Power Distribution Systems
MIL-HDBK-1004/3	Switchgear and Relaying with Change
MIL-HDBK-1004/4	Electrical Utilization Systems with Change
MIL-HDBK-1004/6	Lightning and Cathodic Protection
MIL-HDBK-1004/7	Wire Communications and Signal Systems
MIL-HDBK-1008B	Fire Protection for Facilities Engineering, Design and Construction
MIL-HDBK-1010A	Cost Engineering, Policy and Procedures
MIL-HDBK-1190	Facility Planning and Design Guide

NAVFAC GUIDE SPECIFICATIONS

NFGS-16510	Interior Lighting

DESIGN MANUALS AND NAVFAC P-PUBLICATIONS:

DESIGN MANUALS

NAVFAC DM-3.01	Plumbing Systems
NAVFAC DM-5.04	Pavements

NAVFAC P-PUBLICATIONS

NAVFAC P-68	Contracting Manual
NAVFAC P-80	Facility Planning Criteria for Navy and Marine Corps Shore Installations

For Government/military customers: Government or military activities may order Design Manuals and related P-Publications by using the Military Standard Requisition and Issue Procedures (MILSTRIP) order system using stock control numbers obtained from NAVSUP Publication 2002. (Design Manuals and P-Publications are not available from NPFC on DD Form 1425.) MILSTRIP requests should be forwarded to:

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Telephone: (202) 783-3238

OTHER GOVERNMENT DOCUMENTS AND PUBLICATIONS:

TM 5-803-5	Installation Design
TM 5-822-2	Design for Roads, Streets, Walks, and Open Storage
10 CFR 435	Local Building Standards

36 CFR 1191 Americans with Disabilities Act Accessibility Guidelines

NAVFAC INSTRUCTIONS

OPNAV 4100.5D Navy Energy Management

NON-GOVERNMENT PUBLICATIONS:

Sports Buildings, Architectural Press Ltd.

Time-Saver Standards for Building Types, McGraw-Hill Book Company.

ATHLETIC INSTITUTE AND AMERICAN ASSOCIATION FOR HEALTH PHYSICAL EDUCATION, AND RECREATION

College and University Facilities Guide for Health, Physical Education Recreation and Athletics.

THE ATHLETIC INSTITUTE AND AMERICAN ALLIANCE FOR HEALTH, PHYSICAL EDUCATION, RECREATION, AND DANCE

Planning Facilities for Athletics Physical Education and Recreation

NATIONAL FIRE PROTECTION ASSOCIATION (NFPA)

NFPA 70 National Electrical Code, 1996

INTERNATIONAL CODE COUNCIL, INC.

IPC 1995 International Plumbing Code

AMERICAN INSTITUTE OF ARCHITECTS

Architectural Graphics Standards (latest edition)

CUSTODIAN
NAVY - YD2

PREPARING ACTIVITY
NAVY - YD2

PROJECT NO.
FACR-1153

STANDARDIZATION DOCUMENT IMPROVEMENT PROPOSAL

INSTRUCTIONS

1. The preparing activity must complete blocks 1, 2, 3, and 8. In block 1, both the document number and revision letter should be given.

2. The submitter of this form must complete blocks 4, 5, 6, and 7.

3. The preparing activity must provide a reply within 30 days from receipt of the form.

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I RECOMMEND A CHANGE:	1. DOCUMENT NUMBER MIL-HDBK-1037/8	2. DOCUMENT DATE *(YYMMDD)* *960815*

3. DOCUMENT TITLE INDOOR FITNESS/RECREATIONAL FACILITIES

4. NATURE OF CHANGE *(Identify paragraph number and include proposed rewrite, if possible. Attach extra sheets as needed.)*

5. REASON FOR RECOMMENDATION

6. SUBMITTER

a. NAME *(Last, First, Middle Initial)*	b. ORGANIZATION	
c. ADDRESS *(Include Zip Code)*	d. TELEPHONE *(Include Area Code)* (1) Commercial (2) DSN *(If applicable)*	7. DATE SUBMITTED: *(YYMMDD)*

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a. NAME COMMANDER PACNAVFACENGCOM	b. TELEPHONE (*Include Area Code*) (1) Commercial (2) DSN (808) 471-8417 NONE
c. ADDRESS *(Include Zip Code)* *ATTN CODE 401* *BUILDING 258 MAKALAPA* *PEARL HARBOR HI 96860-7300*	**IF YOU DO NOT RECEIVE A REPLY WITHIN 45 DAYS, CONTACT:** Defense Quality and Standardization Office 5203 Leesburg Pike, Suite 1403, Falls Church, VA 22041-3466 Telephone (703) 756-2340 DSN 289-2340