

# Technical Criteria for Soldier Performance Readiness Center

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**MEDIUM SPRC**

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**Developed by:**

**US ARMY CORPS OF ENGINEERS | UNITED STATES ARMY CENTER FOR INITIAL MILITARY TRAINING**

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## EXECUTIVE SUMMARY

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### A. OVERVIEW

Holistic Health and Fitness (H2F) is a comprehensive, integrated, and immersive health and fitness system of governance, personnel, equipment/facilities, program, and leader education that generates lethal Soldiers who are physically ready and mentally tough to engage with and overmatch the enemy in multi-domain operations. H2F is an overarching framework (system) that focuses all aspects of human performance optimization (periodization, recovery, sleep, injury prevention, nutrition, mental training, etc.) to maximize individual and unit readiness. It is a lifecycle system that develops/improves/sustains Soldier readiness from pre-accession training, through an Army career, and as a Soldier for life. One component of this system will be the Soldier Performance Readiness Center (SPRC). The SPRC is a dedicated training facility designed to generate lethal Soldiers who are physically fit and mentally tough to engage with and overmatch the enemy in multi-domain operations.

The SPRC is category code 74044 in the Real Property Categorization System. The definition is as follows: Physical training facilities provide facilities and support services to meet the individual physical fitness, coordination, skills development, and training needs of military personnel. (Category code is under review).

### B. USE OF DOCUMENT

This document will be used, in conjunction with the Army Standard, for the design and construction of new SPRC for the United States Army. Standards for new construction will meet the quality standards described in the Functional Criteria section. Renovation or conversion of existing facilities should be evaluated on a case-by-case basis, but where possible shall conform to the requirements of this standard.

### FUNCTIONAL CRITERIA

#### A. GENERAL

This chapter provides the criteria for the individual spaces and overall building area allowances for SPRC.

1. Comply with UFC 1-200-01 "DoD Building Code" which provides applicability of model building codes and government-unique criteria for typical design disciplines and building systems, as well as for accessibility, antiterrorism, security, high performance and sustainability requirements, and safety.
2. Doors and Windows:
  - a) Aluminum or hollow metal door frames are recommended, unless otherwise specified.
  - b) All vision panels shall be minimum of 5 sq. ft.
3. Plumbing:
  - a) Restrooms shall be provided to accommodate staff.
  - b) Where an electric water cooler unit (EWC) is specified, it shall consist of either two water fountains in a single unit combination, or two separate units side by side to allow for one unit to be mounted at ADA height. Electrically cooled units are required. Water fountains shall be fed from dedicated 120 V, 20A circuits.
  - c) Provide a minimum of 1 EWC that has a bottle filling station. Water from both the spout and the filler shall be refrigerated. Automatic bottle filler is preferred over manual control.
4. Ceiling Requirements:
  - a) Where acoustical lay-in ceilings are provided, the following apply:
    - i) Ceiling tiles shall be 2' x 2' acoustical tile on standard "T" shaped pre-finished metallic grid system.
    - ii) Surface light reflectance: No less than 0.75. Lighting placement and lamping types shall be considered when designing the ceiling.
    - iii) Sound absorption for acoustical panels: No less than .55 noise reduction coefficient (NRC).
  - b) Overstock: Provide 2% for future replacement.
5. Wall Materials:
  - a) Wall throughout the SPRC shall be extremely durable and impact resistant. Where concrete masonry unit (CMU) walls are provided, use bullnose corner units or mechanically fastened corner guards at all outside corners. On gypsum board walls, use mechanically fastened corner guards on outside corners in high traffic areas, or where the potential for impact is significant.
6. Wall Finishes:
  - a) Where paint is used, paint shall be water-based epoxy, semi-gloss finish. Apply one coat compatible primer with two finish coats of 5 to 6 mils dry film thickness (DFT), unless otherwise specified.
  - b) Surface light reflectance: No less than 0.50. Lighting placement and lamping types shall be considered when designing the walls. Increase lighting output with light colors and/or panels with not less than 0.50 light reflectance.
  - c) Ferrous metals (window and door frames): Water based epoxy. Apply one coat primer compatible with finish coat, and as barrier coat to factory primer. Apply two finish coats of 5 to 6 mils DFT.

- 7.** Floor Finishes:
  - a) Surface light reflectance: No less than 0.20. Lighting placement and lamping types shall be considered when designing the floor. Increase lighting output with off-white colors and/or textures with not less than 0.20 light reflectance.
- 8.** Options:
  - a) In high bay spaces consider larger industrial high volume/low speed (HVLS) ceiling fans which are appropriate for commercial applications.

### B. PHYSICAL TRAINING MODULE

1. Function/Description:
  - a) This is the focal point of the facility. The area is divided into four zones: Warm up (Zone 0), Resistance (Zone 1), Accessory (Zone 2), and Work Capacity/Agility (Zone 3).
2. Essential Design Requirements:
  - a) Zone 0 is an outdoor, covered area used to prep the soldiers for entry. Climate should be considered for this zone. Supply heating/cooling devices as necessary to allow for year-round training outside or consider enclosing the space in extreme cases.
  - b) Storage racks for dumbbells, kettle bells, and medicine balls should be used to help separate the zones.
  - c) Structurally, it is preferred this module be clear span. This allows for the most efficient and safe layout and movement through the zones.
3. Ceiling Height:
  - a) 16'-0" minimum. This clear height is to the lowest element.
4. Finishes:
  - a) Ceiling:
    - i) Open structure is preferred; provide acoustical treatment per the "Acoustical Performance" section below.
  - b) Walls:
    - i) Epoxy-painted CMU is acceptable in the Physical Training space. Painted drywall is not recommended due to the nature of the exercises performed in this space. The lower wall in Zone 3 will be used for wall-ball exercises; reinforce as required. Vinyl or rubber cove base up to 6" is acceptable.
  - c) Floor:
    - i) Sub floor to be concrete slab on grade, extended out for zone 0 as well. Shall have a minimum compressive strength of 3000psi.
    - ii) Zone 0 flooring will be brushed finished concrete.
    - iii) Zone 1, 2, and 3 flooring shall be a minimum 3/8" thick permanently adhered resilient athletic flooring consisting of dual-layer natural and synthetic rubber. The top layer is a non-porous, slip resistant, textured surface; the bottom layer is a cushioned performance layer. Avoid the use of interlocking impact flooring tiles. Flooring color/pattern should be used to separate the Zones.
    - iv) Zone 3 will have a synthetic turf section measuring 28'-0" x 82'-0" (25M).
      1. The turf will be laid out in an 8-lane configuration. Each lane shall be a minimum of 3'-6" wide. Buffer space on the start and finish ends shall be a minimum of 10'-0".
        - a) The right-side lane line of each odd-numbered lane shall have intermediate markings at major intervals of 5 meters.
      2. Turf shall be polyethylene monofilament fiber with a minimum yarn thickness of 100-microns, a minimum pile height of 3/4", and have a minimum of 5mm foam backing. It shall include lane markings
    - v) Optional lifting platforms in Zone 1 shall be integrated into the floor to reduce tripping hazards. Final location should be coordinated between equipment supplier and flooring supplier.
5. Windows and Doors:
  - a) Tempered glass should be typical to this module.

- b) Doors should be provided with vision panels. Also consider side lights.
- c) Double doors and roll-up doors are recommended to help egress into this module.
- 6. Plumbing:**
  - a) Electric water coolers: Required within this module. Provide a minimum of two units. It is recommended that water fountains be placed outside high traffic paths if possible.
- 7. Mechanical (HVAC):**
  - a) 68 F minimum, 78 F maximum. Provide temperature controls independent to room, solid state and programmable.
  - b) Provide ventilation in accordance with ANSI/ASHRAE 62.1 requirements for "Health club/weight rooms" and other applicable codes.
  - c) Provide multiple speed high-volume, low-speed (HVLS) ceiling fans, with wall-mounted controls.
- 8. Lighting:**
  - a) Lighting to be switched to allow different levels of lighting.
  - b) 40 ft. candles at the floor, minimum.
  - c) Additional contribution of natural light via windows, clerestories, and/or skylights to utilize daylighting within the space is highly recommended.
- 9. Power:**
  - a) Provide a total of 12 duplex outlets (six per side) equally spaced along the exterior walls of the space for cleaning and utility function. No equipment in the Physical Training module requires any electrical power.
- 10. Communication:**
  - a) Optional at the additional cost to the User.
- 11. Sound:**
  - a) Optional at the additional cost to the User.
- 12. Acoustical Performance:**
  - a) Reverberation time must equal 1.8-2.0 seconds. Provide additional acoustical control with wall baffles or panels, structure mounted acoustical baffles, acoustical structural meatal deck, and/or spray-applied acoustical treatment. Provide noise attenuation measures to mitigate acoustical problems resulting from mechanical systems, plumbing systems, and vibration transmitted through the facility structure.
- 13. Fixed Equipment:**
  - a) Provide self-serve equipment cleaning supply stations throughout that include disinfectant spray bottles and disposable towels.
  - b) Provide small lockers (12'x12") in Zone 0 for staging of belongings. Coordinate with user to determine final size and number.
- 14. Equipment List:**
  - a) Refer to Appendix A.

### C. RECONDITIONING AND COGNITIVE PERFORMANCE MODULE

- 1. Function/Description:**
  - a) This module provides a space to receive rehab from injuries. It includes a Private Injury Management office, three Injury Prevention cubicles, one private Cognitive Performance area, and reconditioning training area.
- 2. Essential Design Requirements:**
  - a) Locate space adjacent to Zone 3 of the Physical Training module.
  - b) Provide privacy curtains for each Injury Prevention cubicle.
  - c) Provide one countertop area with sink and lockable cabinets above and below.
- 3. Ceiling Height:**
  - a) 9'-0" minimum.
- 4. Finishes:**
  - a) Ceiling:
    - i) Acoustical tile.
  - b) Wall:
    - i) Acrylic latex paint with a scrubbable eggshell or sating finish, whichever has higher gloss, is a minimum. Wall covering may be used for the cognitive training space.
  - c) Floor:
    - i) Offices/ cubicles: vinyl flooring. Carpet tiles are not acceptable.
    - ii) Reconditioning space: extend rubberized flooring from Zones 1-3 into the space.
    - iii) Cognitive training space: vinyl flooring. Carpet tiles are not acceptable.
- 5. Windows and Doors:**
  - a) Provide windows for natural light admission in offices, where applicable.
- 6. Plumbing:**
  - a) Ice maker and washing machine are required.
- 7. Mechanical (HVAC):**
  - a) 68 F minimum, 74 F maximum in offices, 78 F maximum in open areas. Provide dedicated controls.
- 8. Lighting:**
  - a) Provide minimum 50 ft. candles in cubicles and offices.
- 9. Power:**
  - a) Provide a minimum of one duplex outlet in closed offices on at least three walls. Gang outlets with data and telephone.
  - b) Provide additional dedicated outlets to accommodate the equipment.
- 10. Communication:**
  - a) Coordinate with MEDCOM to ensure proper medical network connections are provided.
  - b) Provide data and telephone lines for each office and cubicle space.
  - c) For open admin areas or SPRC facilities without dedicated admin space, provide Wi-Fi for VPN access.
- 11. Equipment List:**
  - a) Refer to Appendix A.

### D. CLASSROOM

1. Function/Description:
  - a) Classrooms are not a requirement within the Medium Standard. If need, see the Full SPRC Standard for those requirements.

### E. ADMINISTRATION

- 1.** Function/Description:
  - a) The administrative area is an open seating concept. Provide a minimum of nine working stations.
- 2.** Ceiling Height:
  - a) 9'-0" minimum.
- 3.** Finishes:
  - a) Ceiling:
    - i) Acoustical tile.
  - b) Wall:
    - i) Acrylic latex paint with a scrubbable eggshell or sating finish, whichever has higher gloss, is a minimum. Wall covering may also be used.
  - c) Floor:
    - i) Carpet tile is preferred with a vinyl or rubber base. Other acceptable materials include hard-surface flooring such as seamless vinyl, hard tile, or other durable material.
- 4.** Windows and Doors:
  - a) Provide windows for natural light admission where applicable.
- 5.** Mechanical (HVAC):
  - a) 68 F minimum, 74 F maximum.
  - b) Office temperature controls may be centralized as a minimum.
- 6.** Lighting:
  - a) 50 ft. candles minimum at the desk level.
  - b) Primarily, indirect lighting fixtures, to reduce computer glare, are required.
- 7.** Power:
  - a) Provide one duplex outlet every three feet on walls with countertops. Gang outlets with data and telephone. Mount outlets above counter height.
  - b) Provide minimum of one outlet on all other walls.
  - c) Provide additional outlets as necessary to operate shared equipment.
- 8.** Communication:
  - a) Provide data/phone outlets for NIPR. Provide MEDCOM data outlets. Consult local MEDCOM IT to determine required networks.
  - b) Provide data outlets as necessary for shared equipment.
- 9.** Acoustical Performance:
  - a) Provide a minimum STC of 45.
- 10.** Fixed Equipment:
  - a) Open Admin:
    - i) Solid-surface countertop.

### F. TOILET/JANITOR'S CLOSET

- 1. Function/Description:**
  - a) Support space for staff use. Provide a separate male and female restroom. A staff shower stall, with adjacent private drying booth, is provided in both the men's and women's.
- 2. Essential Design Requirements:**
  - a) Shower stall and drying booth are required.
  - b) Shower stall and drying booth shall be a minimum of 36" wide.
  - c) The net area provided for this function is an estimate. If all required functions can be provided in less area without negatively impacting the function of the spaces (to include circulation through the areas), then the extra area may be utilized for other functions. If more square footage is required to accommodate all the functions, this extra space must come from the miscellaneous area (which includes circulation, structure, mechanical/electrical/communications rooms, etc.)
  - d) There must be no line-of-sight concerns when designing the entrances to the toilet area. Airport style vestibules are acceptable as long as a person cannot see into any part of the toilet area from outside. Even if doors are provided, the entrances must be designed so that a person cannot see into any part of the toilet area from the outside when the doors are opened.
- 3. Ceiling Height:**
  - a) 9'-0" minimum.
- 4. Finishes:**
  - a) Ceiling:
    - i) Provide veneer plaster finish on gypsum board in the shower compartment. Toilet area can use epoxy painted, moisture-resistant gypsum board. None needed for the janitor's closet.
  - b) Wall:
    - i) Recommend providing full height ceramic tile in the shower compartment. A phenolic/solid composite shower insert can also be considered.
    - ii) Toilet area can use epoxy painted, moisture-resistant gypsum board. A ceramic tile wainscot, 4' high minimum, is recommended. Use dark-colored epoxy grout for all ceramic tiles.
  - c) Floor:
    - i) Provide mud set, non-slip ceramic tile in the shower compartment.
    - ii) Toilet area shall be at a minimum non-slip epoxy coated concrete. Ceramic tile with a dark-colored epoxy grout can be considered.
- 5. Windows and Doors:**
  - a) Views into this space is prohibited. Aluminum or hollow metal frames are recommended.
- 6. Plumbing:**
  - a) Provide wall-hung water closets, wall-hung urinals and lavatories based on the applicable code for the calculated occupancy of the facility.
  - b) Provide one floor drain in each shower, and a minimum of one in the toilet area.
- 7. Mechanical (HVAC):**
  - a) Operating range: System able to maintain 68 - 74 degrees (F). Shall meet or exceed ASHRAE 62 for the ventilation rate.

- b) Shower compartment shall be provided with an exhaust to help dry the area and keep air moving.
- 8. Lighting:**
  - a) 50 ft. candles. In the showers provide recessed light fixture with sealed lenses, rated for wet applications.
- 9. Power:**
  - a) Provide outlets per code.
- 10. Fixed Equipment:**
  - a) Solid-surface countertop with either underhung or integral sink.
  - b) Solid composite toilet and urinal partitions.
  - c) Toilet accessories: toilet paper dispensers, paper towel dispenser, garment hooks, grab bars, and soap dispensers. Provide full-width mirrors at the lavatories and a full-length mirror.
  - d) Shower stalls shall be provided with corner shelves for the users' soap, shampoo, etc. Protruding shelves are not allowed due to safety and maintenance concerns.
  - e) Provide shower curtain and rod for each shower between the shower and the dressing booth and provide another shower curtain and rod for each dressing booth between the booth and circulation. Provide a towel pin/hook in each dressing booth, as well as a bench. Dressing booth bench shall be fixed and not movable. Bench in ADA shower stall shall be fold up with front edge support.
- 11. Special Requirements:**
  - a) Provide a Janitor's closet associated with or in proximity of these toilets. This closet includes a floor mop sink with hot and cold water and a hose connection, a floor drain, and storage for pails, mops, vacuums, and related cleaning supplies and equipment. Include a lockable door, (which can be opened from the inside). Provide lockable cabinets for cleaning supplies. Provide exhaust ventilation directly to the outside.

## Appendix A

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A. Physical Training Module Equipment (Under Development)

B. Rehab Module Equipment (Under Development)