

## CHAPTER 130: NET TO GROSS CONVERSION FACTORS

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## 1 PURPOSE AND SCOPE

The Office of the Assistant Secretary of Defense for Health Affairs (ASDHA) has primary responsibility for establishing functional space and equipment planning criteria and standards for all the facilities in the Military Health System (MHS) necessary to fulfill the Secretary of Defense's responsibilities. The purpose of this document is to outline the way the Space and Equipment Planning documents are organized in order to facilitate planning, programming, and budgeting for DoD Medical Facilities for all services. Space Planning Criteria is organized by chapter. A chapter corresponds to a department or departments with similar clinical functions in a healthcare facility. The intent of the Space Planning Criteria chapters and their implemented version in SEPS is to aid the space planner working on an MHS project to create a baseline space program, or a Program for Design (PFD), and a Program Room Contents (PRC) using DoD approved standards.

The Space and Equipment Planning documentation is available on the Whole Building Design Guide (WBDG) website at the following link: <http://www.wbdg.org/ccb>. It is accessible in the Documents Library under DoD Criteria: Military Health System (MHS): DoD Space Planning Criteria for Health Facilities.

## 2 NET TO GROSS CALCULATION METHODOLOGY

Once the net square footages (SF) for each room / space have been established for a project, the Departmental Net to Gross factor is applied to determine the Departmental Gross SF. Each department has a pre-determined DNTG Factor. To determine the Building SF; a second factor is applied to the total sum of the Departmental Gross SF of all the departments in the project..

- A. Net Square Feet (NSF) is the area of an individual room or the usable floor area that is assigned to a function in an open area. Net square feet for each room is measured from the inside finished surface of surrounding partitions or enclosing elements and from the outline of the floor area for a space in an open area. Net areas do not include partitions or structural elements such as columns or column enclosures, or circulation or access spaces.
- B. Department Gross Square Feet (DGSF) is a measurement of an assemblage of rooms and spaces as assigned to a department or service and includes internal departmental and/or service circulation and partitions, columns and projections enclosing the structural elements of the building within the departmental space. The boundary defining DGSF is drawn from the inside finish of the permanent exterior building walls to the centerline of department-separating wall partitions or to the centerline of corridors which separate and provide access to spaces in adjoining departments.
- C. Building Gross Square Feet (BGSF) is the aggregate area of all enclosed floor areas and supporting structure and certain unenclosed areas which support the function of the building. BGSF includes all DGSF space, as well as the area of the exterior wall and structure; common and service spaces not assigned to a department; enclosed mechanical spaces; vertical circulation spaces including elevators, stairs, and escalators, shafts and stacks; and any other areas which make up the entire building.
- D. The following spaces are counted as one-half of the actual gross area:
  1. Covered but not enclosed walkways, passageways, terraces, porches, ramps, and

- ambulance shelters
  - 2. Exterior open stairs
  - 3. Exterior canopies
  - 4. Mechanical equipment spaces which are covered but not fully enclosed (Proposed)
- E. The following multi-story elements are counted once in the gross area per floor:
- 1. Atrium or other multi-story spaces
  - 2. Stairs, escalators, elevators and lifts
  - 3. Mechanical, electrical, or other utility shafts connecting two or more floors
- F. The following spaces are not counted in the gross area:
- 1. Enclosed spaces with a ceiling height of less than seven feet (2134 mm)
  - 2. Exterior uncovered terraces, porches, ramps, stoops, pads, balconies, and courtyards
  - 3. Utility tunnels
- G. The calculation methodology used to apply these values is as follows:
- 1. Departmental Gross SF (DGSF) is calculated by using the Net SF (NSF) value and multiplying by the departmental gross factor included in each criteria chapter.

Departmental Gross Square Feet (DGSF) = Dept. Net Square Feet (DNSF) x Dept. Net-to-Gross Factor  
The departmental grossing factors are also indicated in paragraph 3 of this chapter.

- 2. The Building Gross SF is determined by the One-Step or Two-Step method and indicated below:

One-step method:

Net Square Feet to Building Gross Square Feet.

Define project areas further by calculating the gross components (MEP, Circulation, Walls, Half Areas and Flexibility). There are also percentage guideline values listed in the UFC 4-510-01 – Table 2-3 based on the type of facility (Outpatient Clinic versus Station Hospital versus Regional Medical Center).

Sum of Net SF (NSF) + Sum of the Gross Component SF = Building Gross SF (BGSF).

Two-step method:

Departmental Net Square Feet to Departmental Gross Square Feet to Building Gross Square Feet.

Define project areas and help identify efficiencies in terms of functional characteristic, relationships and adjacencies, and floor plan design.

Dept Net SF (DNSF) x Dept. Conversion factor = Dept Gross SF

(DGSF) x Building Conversion factor of 1.35 = Building Gross SF (BGSF).

The BGSF conversion factor defaults to 1.35 and is adjustable to achieve total BGSF

within facility type guidelines.

**TABLE 1: NET TO DEPARTMENT GROSS FACTORS**

| No | CHAPTER NUMBER |     | CHAPTER NAME   | NTDG |
|----|----------------|-----|--|------|
|    | OLD            | NEW |  |      |
| 1  | 1.1            | 110 | General  | N/A  |
| 2  | 1.2            | 120 | Occupancy Rates  | N/A  |
| 3  | 1.3            | 130 | Net to Gross Conversion Ratios                                   | N/A  |
| 4  | 1.4            | 140 | Medical Mobilization Requirements                                | N/A  |
| 5  | 3.1            | 301 | Primary Care / Family Practice                                   | 1.40 |
| 6  | 3.2            | 320 | Primary Care Optimization Clinic (Air Force)                     | 1.40 |
| 7  | 3.3            | 330 | Pediatrics   | 1.35 |
| 8  | 3.5            | 350 | Emergency and Ambulance Services                                 | 1.45 |
| 9  | 3.6            | 360 | Women's Health Clinic  | 1.35 |
| 10 | 3.8            | 380 | Occupational Therapy Clinic                                      | 1.30 |
| 11 | 3.9            | 390 | Physical Therapy   | 1.35 |
| 12 | 3.1            | 310 | Audiology / Hearing Conservation / Speech Pathology / ENT Clinic | 1.40 |
| 13 | 3.11           | 311 | General and Specialty Surgical Clinics                           | 1.40 |
| 14 | 3.12           | 312 | Orthopedics / Podiatry / Chiropractic / Sports Medicine          | 1.35 |
| 15 | 3.13           | 313 | Ophthalmology / Optometry Clinic                                 | 1.35 |
| 16 | 3.14           | 314 | Urology  | 1.35 |
| 17 | 3.15           | 315 | Specialty Medical Clinics  | 1.40 |
| 18 | 3.16           | 316 | Cardiology / Pulmonary Services                                  | 1.35 |
| 19 | 3.18           | 318 | Behavioral Health  | 1.40 |
| 20 | 3.19           | 319 | Preventive Medicine  | 1.35 |
| 21 | 3.2            | 320 | Dental Clinic  | 1.40 |
| 22 | 4.1            | 410 | Nursing Units  | 1.50 |
| 23 | 4.2            | 420 | Labor and Delivery / Obstetric Unit                              | 1.50 |
| 24 | 4.3            | 430 | Nursery  | 1.45 |
| 25 | 4.4            | 440 | Surgery (Inpatient and Ambulatory)                               | 1.60 |
| 26 | 4.6            | 460 | Psychiatric Units  | 1.50 |
| 27 | 5.4            | 540 | Radiology and Nuclear Medicine                                   | 1.50 |
| 28 | 4.5            | 450 | Central Sterile  | 1.30 |
| 29 | 5.1            | 510 | Food Service   | 1.40 |
| 30 | 5.3            | 530 | Pathology  | 1.30 |
| 31 | 5.5            | 550 | Pharmacy: Inpatient and Outpatient                               | 1.25 |
| 32 | 5.6            | 560 | Veterinary   | 1.35 |
| 33 | 5.7            | 570 | Chapel   | 1.20 |
| 34 | 2.1            | 210 | General Administration   | 1.40 |
| 35 | 2.2            | 220 | Medical and Patient Libraries and Resource Centers               | 1.35 |
| 36 | 2.3            | 230 | Education and Planning   | 1.35 |
| 37 | 2.4            | 240 | Information Management   | 1.35 |
| 38 | 2.5            | 250 | Medical Administration   | 1.35 |
| 39 | 5.2            | 520 | Logistics  | 1.25 |
| 40 | 6.1            | 610 | Common Areas   | 1.20 |

### 3 PLANNING EXAMPLE

#### A. Two-Step Method: Regional Medical Center

Step 1:

Departmental NSF x DNTG Factor = Department Gross SF

**TABLE 2: DEPARTMENTAL GROSS SF CALCULATION**

| DEPARTMENT  | NSF            | DNTG FACTOR | DGSF           |
|---|----------------|-------------|----------------|
| Primary Care / Family Practice  | 54,640         | 1.4         | 76,496         |
| Emergency and Ambulance Services  | 15,600         | 1.45        | 22,620         |
| Women's Health Clinic   | 1,840          | 1.35        | 2,484          |
| Audiology / Hearing Conservation / Speech Pathology / Ear Nose and Throat (ENT) or Otorhinolararyngology Clinic | 3,240          | 1.4         | 4,536          |
| General and Specialty Surgical Clinics  | 16,800         | 1.4         | 23,520         |
| Orthopedics / Podiatry / Chiropractic / Sports Medicine   | 1,840          | 1.35        | 2,484          |
| Ophthalmology / Optometry Clinic  | 1,430          | 1.35        | 1,931          |
| Specialty Medical Clinics   | 6,560          | 1.4         | 9,184          |
| Cardiology / Pulmonary Services   | 3,260          | 1.35        | 4,401          |
| Dental Clinic   | 7,460          | 1.4         | 10,444         |
| Nursing Units   | 84,200         | 1.5         | 126,300        |
| Surgery (Inpatient and Ambulatory)  | 10,340         | 1.6         | 16,544         |
| Radiology and Nuclear Medicine  | 5,400          | 1.5         | 8,100          |
| Central Sterile   | 3,250          | 1.3         | 4,225          |
| Food Service  | 4,500          | 1.4         | 6,300          |
| Pharmacy  | 8,540          | 1.25        | 10,675         |
| General Administration  | 860            | 1.4         | 1,204          |
| Information Management  | 460            | 1.35        | 621            |
| Logistics   | 560            | 1.25        | 700            |
| <b>TOTAL</b>  | <b>230,780</b> | <b>---</b>  | <b>332,769</b> |

Step 2:

Total DGSF x 1.35 = Building Gross NSF

**TABLE 3: BUILDING GROSS SF CALCULATION**

| DEPARTMENTS                 | DGSF    | BG FACTOR | BGSF    |
|-----------------------------|---------|-----------|---------|
| Total Departmental Gross SF | 332,769 | 1.35      | 449,238 |

B. One-Step Method: Regional Medical Center

**TABLE 4: ONE-STEP METHOD CALCULATION**

| <b>DEPARTMENTS</b>        | <b>NSF</b> | <b>BNTG FACTOR (*)</b> | <b>BNSF</b> |
|---------------------------|------------|------------------------|-------------|
| Total Departmental Net SF | 230,780    | 1.93                   | 445,405     |

(\*) Refer to UFC 4-510-01 – Table 2-3