



• August 15-18, 2010 • Dallas, Texas •
• Dallas Convention Center •



VA High Performance Hospitals.

Kurt Knight, PE [Office of Construction and Facilities Management
811 Vermont Ave. NW Washington, DC 20420]

VA Services

- This Year:
 - Inpatients - 900,000 veterans patients treated
 - Outpatients - 79 million visits
 - Compensation - 49 billion
 - Education - Over 700,000 veterans
 - Housing Loan Guarantees - 240,000
 - National Cemeteries - 110,000

VA Facilities Inventory

- 5,500 Buildings
- 1,400 Leases
- 163,000,000
- 34,000 Land acres
- Average age approaching 60 years

VA TECHNICAL INFORMATION LIBRARY (TIL)



“TIL” (the Web Tool) Facilitates
the access to VA Standards

VA Technical Information Library

Design
Guides

Design
Manuals

Design
Alerts

Room
Finish
Schedule

Master
Specs

www.cfm.va.gov/TIL

BIM

(BUILDING INFORMATION MODELING)

- The BIM Execution Guide April 2010
 - The Guide outlines VA's data and model management requirements, with an emphasis on taking the data created during the VA-SEPS planning phase and reusing, refining, and developing it during the Project Execution phase, and ultimately electronically transferring it to the station for use by facility management.



NEW VA

COMMISSIONING DOCUMENT

JULY 2010

- **Commissioning Manual**
- **Master Commissioning Specification**
- **Specification Coordination Guide**
- **Sample Commissioning Plan**
- **Sample Owner's Project Requirements Template**

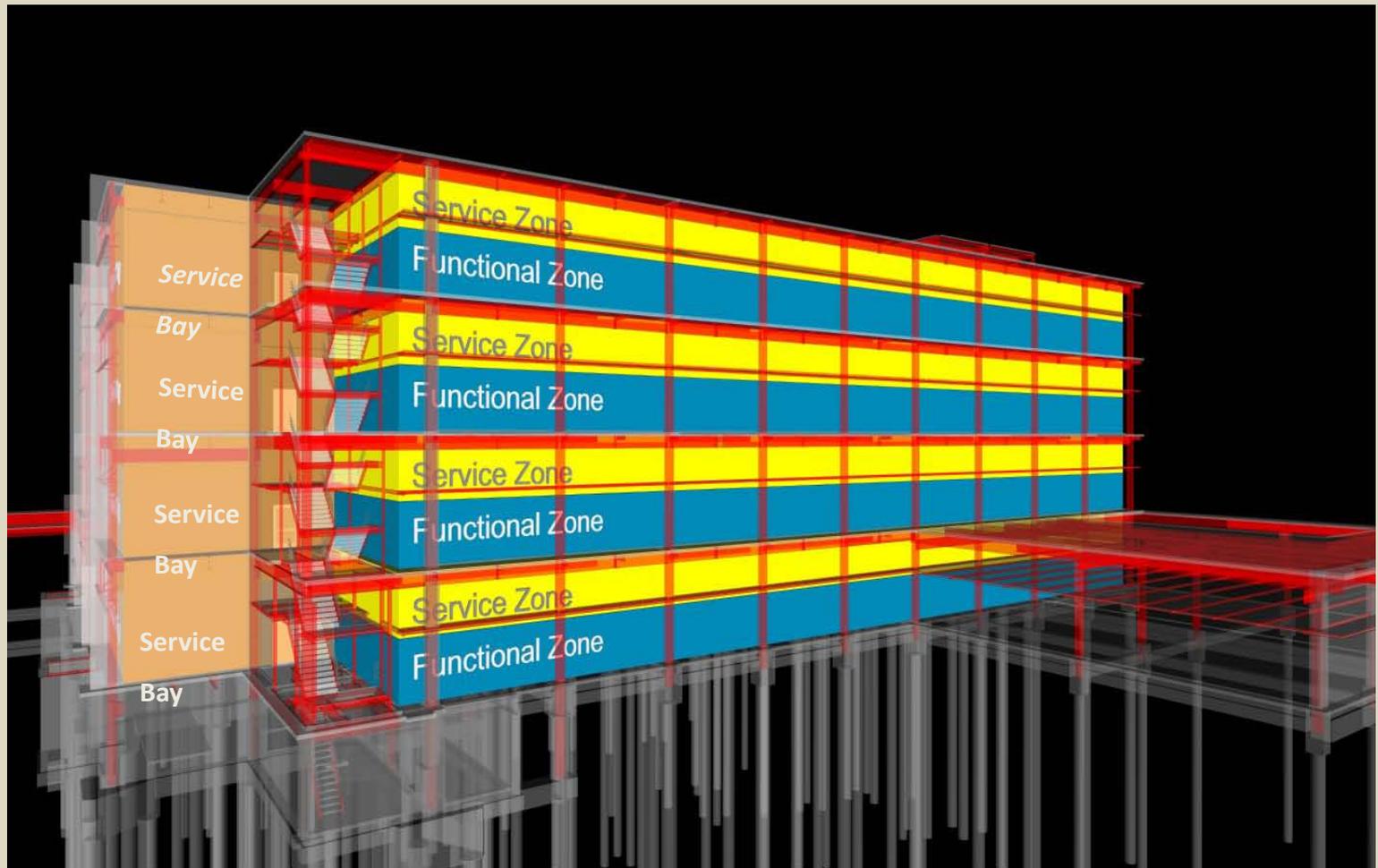
ATTRIBUTES

- Modularity / Flexibility
- Re-Use
- Security
- Sustainability
- Energy Reduction
- Funding Resources

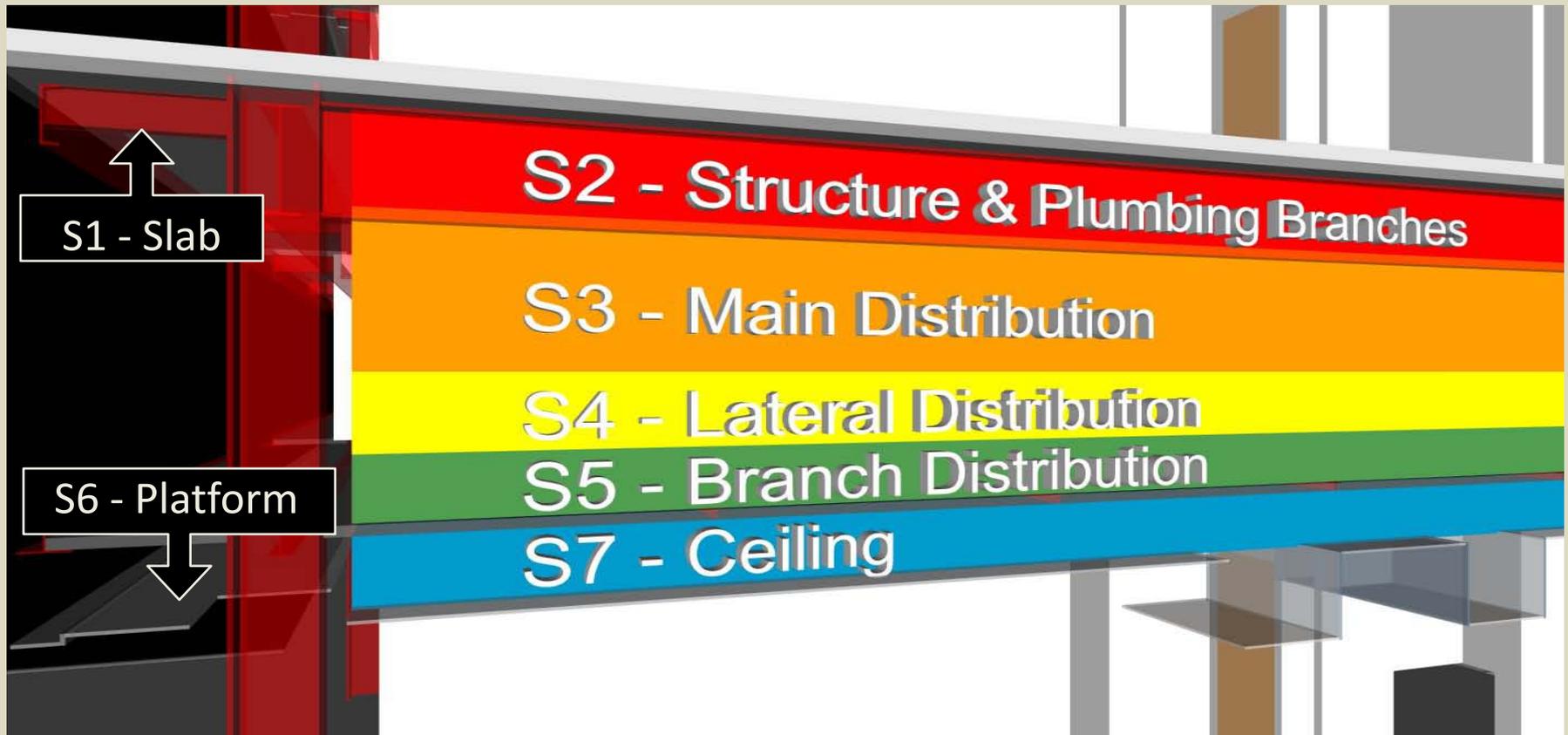
VA Hospital Building System?

The VA Hospital Building System (VAHBS) is primarily an organizational structure that provides a modular framework for designing and constructing the systems in major acute care facilities.

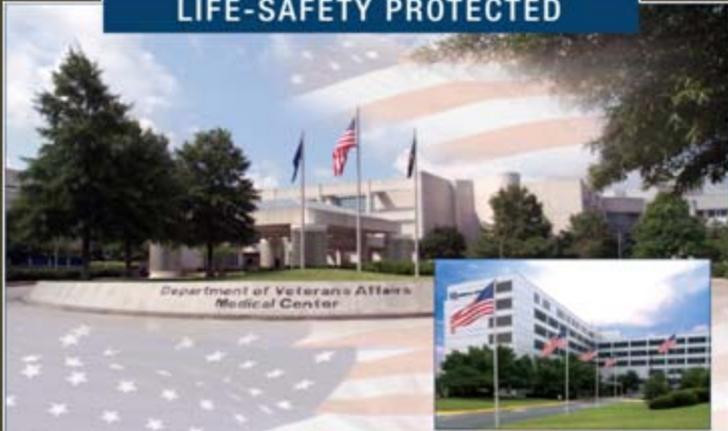
VA Hospital Building System?



VA Hospital Building System?



LIFE-SAFETY PROTECTED



Physical Security Design Manual for VA Facilities



Department of Veterans Affairs
Washington, DC 20420
July 2007

FINAL DRAFT

MISSION CRITICAL FACILITIES



Physical Security Design Manual for VA Facilities



Department of Veterans Affairs
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FINAL DRAFT

Physical Security Design Manuals

PHYSICAL SECURITY DESIGN MANUAL FOR VA FACILITIES

•Authority

- Executive Order 12656
 - Continuity and viability of mission critical infrastructure
- Public Law 107-188 (1988)
 - Public Health Security & Bioterrorism Preparedness & Response Act of 2002 (June 2002)
- Public Law 107-287
 - Department of Veterans Affairs Emergency Preparedness Act of 2002 (November 2002)
- Homeland Security Presidential Directive/HSPD-7
 - VA to protect its critical facilities (December 2003)
- 38 USC Sec. 901
 - Maintenance of law & order; protection of persons & property on VA properties. (Amended 1991)
- Physical Security Strategies for VA Facilities, 2006

PURPOSE

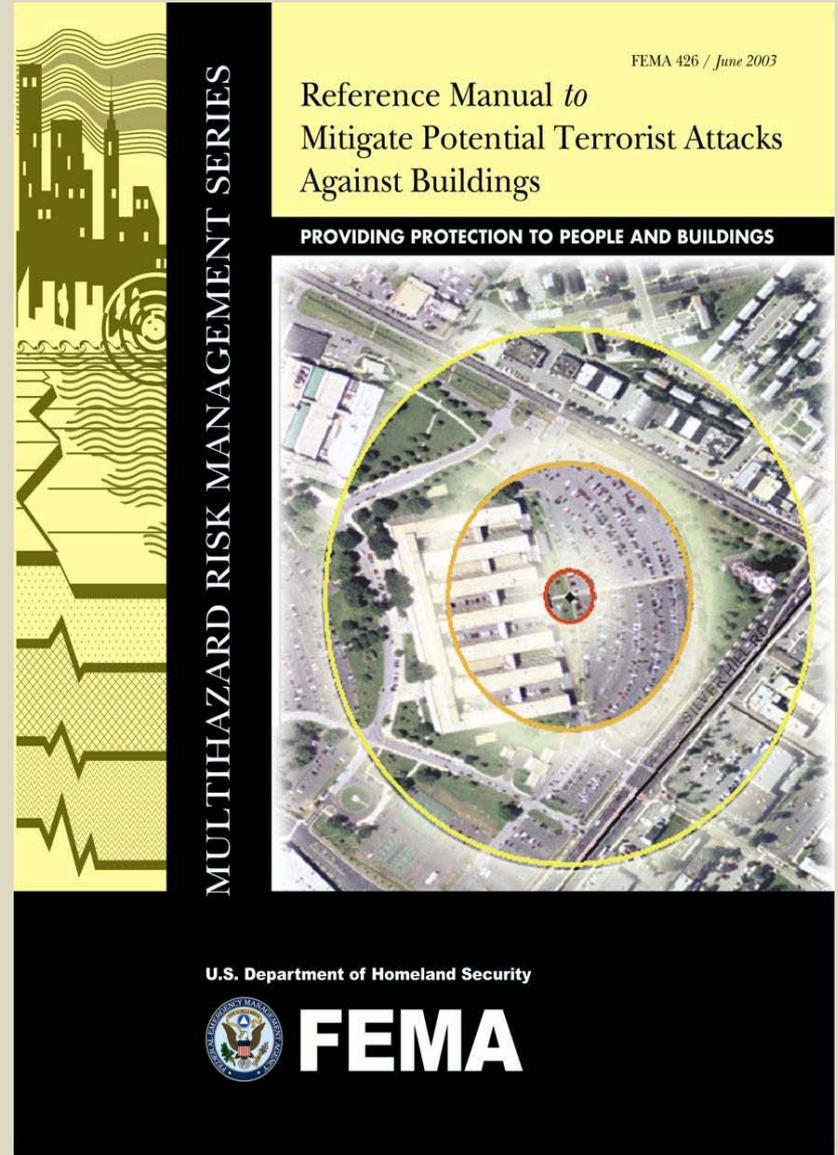
- Improve the protection of VA mission critical and life-safety protected facilities
 - Flood prevention – FEMA flood map
 - Security specialist
 - Structural blast consultant
- Coordination with VHA, VBA, NCA, Office of Policy & Planning, Office of Emergency Management, and Security & Law Enforcement

PHYSICAL SECURITY ASSESSMENTS

- Program approved by Deputy Secretary in May 2003
- Consultant - National Institute of Building Sciences (NIBS)
- Assessments completed for 118 most critical VA facilities by July 2004
- 142 VA facilities assessed
 - 51 with Pre- and Full Assessments
 - 121 with Pre-Assessments

Methodology

- **STEP 1 Identify Threats And Hazards**
- **STEP 2 Conduct Pre-Assessment Risk Analyses**
- **STEP 3 Conduct Vulnerability Assessment**
- **STEP 4 Develop Mitigation Options**



MISSION CRITICAL FACILITIES

- Hospital
 - COOP centers
 - Information technology
 - Security and law enforcement
 - Rehabilitation Medicine
 - Boiler plant
- Acute Care
 - Outpatient Clinic ?
 - Long-Term Care
 - Medical Research
 - Psychiatric Care
 - Rehabilitation/ prosthetics
 - Water Tower, Util. Supply Storage

LIFE-SAFETY PROTECTED FACILITIES

- Parking Garage (Structural exemption)

- Canteen

- CBOC

- General Admin. Office

- Laundry

- Student Housing

- Connecting Corridor Concourse & Bridge
- Quarters
- Warehouse
- Waste Storage

SITE

- Stand-off distance
 - 50 ft. (MC), 25 ft. (LSP)
- Perimeter fences
 - 8 ft. (MC), 6 ft. (LSP)
- Vehicle & pedestrian screening (MC only)
 - Guard house
 - Vehicle screening area

BUILDING ENVELOPE

- Resist blast load
 - Exterior Facade, Roof, Windows
- Air intakes & exhausts
- Hurricane Hardening (Florida Codes)

STRUCTURAL SYSTEM

- Progressive collapse prevention (N)
 - Threat independent
 - Removal of any one exterior column,
- column protection (N)
 - Lobbies
 - Loading docks
 - Mailrooms
 - Below grade parking
- Anti-ram resistance (N&E)
 - 4000-lb vehicle at 30mph

UTILITIES & BUILDING SERVICES

- Energy center
 - Sustained service – 4 days min.
 - Full Stand-by power & NFPA Emergency power
 - CHP consideration
- Water & fuel storage
 - Water – 4 days
 - Potable water, industrial water, wastewater , fire protection water
- Boiler fuel – 10 Jan. days

OTHER BUILDING SYSTEMS

- Plumbing
 - Medical air, oxygen, vacuum
- CCTV
- Intrusion Detection (IDS)
- Physical Access Control (PACS)
- Duress, Security Phones, & Intercom (DSPI)

NEW BUILDINGS

- Integrated Project Development
- Integrated Project Design
- 30% Energy Reduction
- 20% Water Reduction
- Combined Heat and Power
- Day Lighting
- Sustainable Design
- LEED Silver
- Green Globe
- Greening Master Specification

SUSTAINABILITY/ ENERGY REDUCTION

SUPPORTING MANDATES

- EISA 2007
- Executive Order 13423 January 2007
- EPACT 2005
- Federal Leader in High Performance and Sustainable Building Memorandum of understanding



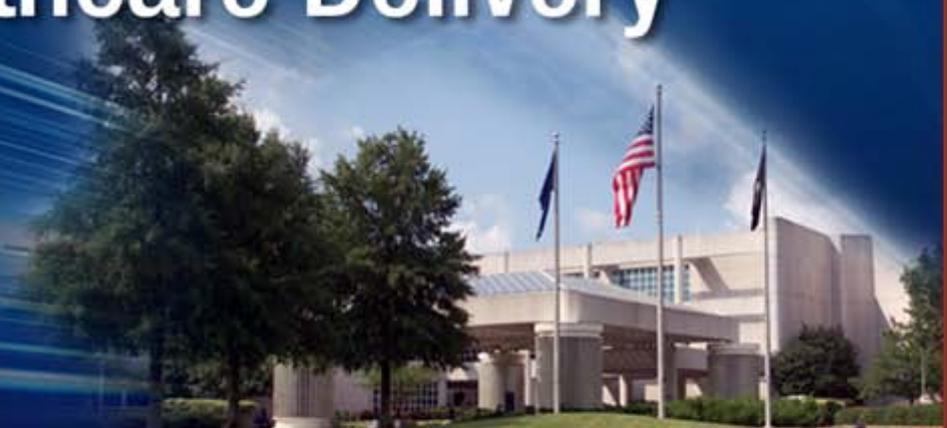
Innovative 21st Century Building Environments for VA Healthcare Delivery

Prepared for:
Department of Veterans Affairs
Office of Construction & Facilities Management

Prepared by:



National Institute of
BUILDING SCIENCES



*Department of Veterans Affairs
Medical Center*

THE TASK GROUP

- Over 25 recognized experts in hospital administration, doctors, healthcare professionals, academics, healthcare architects, engineers, and planners from the public and private sectors
- Advice from over 20 multi-disciplinary VA nationwide staff

Questions?

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